

# Water Resources Data Colorado Water Year 1999

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

By R.M. Crowfoot, J.W. Unruh, G.F. Ritz, R.D. Steger, and G.B. O'Neill

Water-Data Report CO-99-1

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

UNITED STATES DEPARTMENT OF THE INTERIOR

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2000

# CALENDAR FOR WATER YEAR 1999

**1998**

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7			1	2	3	4	5
4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
25	26	27	28	29	30	31	29	30						27	28	29	30	31		

**1999**

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2		1	2	3	4	5	6		1	2	3	4	5	6
3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27
24	25	26	27	28	29	30	28							28	29	30	31			
31																				
APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3						1			1	2	3	4	5	
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			
							30	31												
JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7				1	2	3	4
4	5	6	7	8	9	10	8	9	10	11	12	13	14	5	6	7	8	9	10	11
11	12	13	14	15	16	17	15	16	17	18	19	20	21	12	13	14	15	16	17	18
18	19	20	21	22	23	24	22	23	24	25	26	27	28	19	20	21	22	23	24	25
25	26	27	28	29	30	31	29	30	31					26	27	28	29	30		

## PREFACE

Volume 1 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.

Volume 1 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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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN  
THIS VOLUME

VII

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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**

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By R.M. Crowfoot, J.W. Unruh, G.F. Ritz, R.D. Steger, and G.B. O'Neill

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**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 142 surface-water stations, peak discharges for 27 partial-record surface-water stations and discharge measurements only for 1 miscellaneous site; (2) stage and contents for 6 lakes and reservoirs; (3) water-quality data for 49 surface-water stations, 4 reservoirs, 14 wells, and miscellaneous surface-water-quality data for 77 gaged sites and 31 miscellaneous sites; and (4) meteorological data for 9 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. Three pertinent stations operated by bordering States 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-99-1.**" 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.

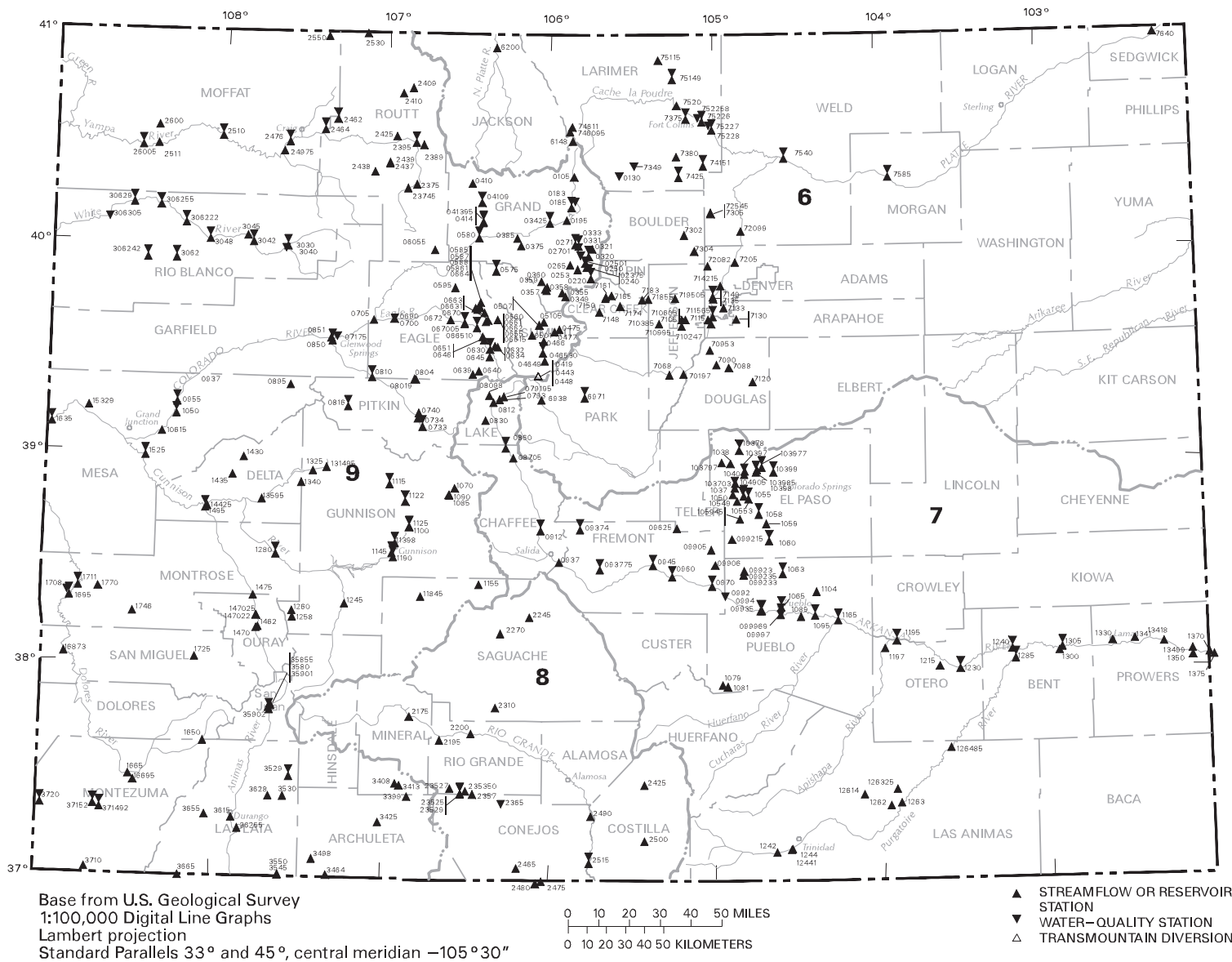


Figure 1.--Map showing locations of lake and surface-water stations and surface-water-quality stations in Colorado.



### 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 **1999 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 Utilities.  
 Colorado Water Conservation Board  
 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.  
 Grand 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.  
 Plum Creek Wastewater Authority.  
 Pueblo Board of Water Works.  
 Pueblo West Metro Water District.  
 Rio Blanco County Board of County Commissioners.  
 Rio Grande Water Conservation District.  
 Roaring Fork Conservancy 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.  
 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.

## 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 SO<sub>2</sub> 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<sub>2</sub> and NO<sub>x</sub> 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](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 1999 water year that began on October 1, 1998, and ended September 30, 1999.** 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.

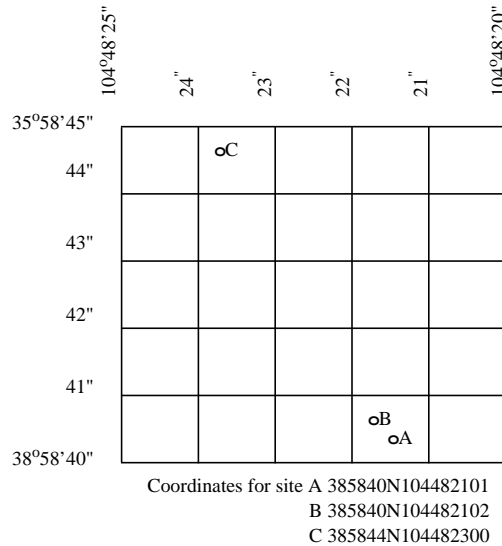
Downstream Order System

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-mi<sup>2</sup> area described by the township and range designation is subdivided into 1-mi<sup>2</sup> 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 ft<sup>3</sup>/s; to the nearest tenth between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures for more than 1,000 ft<sup>3</sup>/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.

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:	$\pm 0.3$ degree C.
*	Specific Conductance:	$\pm 5 \mu\text{S}/\text{cm}$ or $\pm 5\%$ whichever is greater
*	pH:	$\pm 0.2$ 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, most other samples are analyzed in the Geological Survey laboratories in Lakewood, 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
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 :

<a href="http://water.usgs.gov">http://water.usgs.gov</a>	National home page
<a href="http://co.water.usgs.gov">http://co.water.usgs.gov</a>	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.

**Acid neutralizing capacity (ANC)** is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

**Acre-foot (AC-FT, acre-ft)** is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet, 325,851 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 measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

**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.

**Annual runoff** is 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, 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, 325,851 gallons, or 1,233 cubic meters.

**Cubic foot per second per square mile [CFSM, (ft<sup>3</sup>/s)/mi<sup>2</sup>]** is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

**Inch (IN., in.)** as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it.

**Aroclor** is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type and the last two digits represent the weight percent of the hydrogen substituted chlorine.

**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.

**Total coliform bacteria** are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that 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 °C plus or minus 1.0 °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 °C plus or minus 0.2 °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 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 that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

**Enterococcus bacteria** are commonly found in the feces of humans and other warm-blooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants.

**Escherichia coli (E. coli)** are bacteria present in the intestine and feces of warm-blooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium. Their concentrations are expressed as number of colonies per 100 mL of sample.

**Base flow** is flow in a channel sustained by ground-water discharge in the absence of direct runoff.

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

**Benthic organisms** (invertebrates) are the group of animals inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

**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 microorganisms, such as bacteria.

**Biomass** is the amount of living matter present at any given time, expressed as 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. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m<sup>3</sup>), and periphyton and benthic organisms in grams per square meter (g/m<sup>2</sup>).

**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 is 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 ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass.

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

**Biomass pigment ratio** is an indicator of the total proportion of periphyton which are autotrophic (plants). This is also called the Autotrophic Index.

**Bottom material:** See "Bed material."

**Cells/volume** refers to the number of plankton cells or natural units counted using a microscope and grid or counting cell. Results are generally reported as cells or units per milliliter.

**Cells volume (biovolume)** determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (mm<sup>3</sup>) is determined by obtaining critical cell measurements on cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere  $\frac{4}{3} \pi r^3$  cone  $\frac{1}{3} \pi r^2 h$  cylinder  $\pi r^2 h$

From cell volume, total algal biomass expressed as biovolume (mm<sup>3</sup>/mL) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

**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 BOD 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.

**Colloid** is any substance with particles in such a fine state of subdivision dispersed in a medium (for example, water) that they do not settle out; but not in so fine a state of subdivision that they can be said to be truly dissolved.

**Color unit** is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

**Confined aquifer** is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases the water level can rise above the ground surface, yielding a flowing well.

**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.

**Continuous-record station** is a site that meets either of the following conditions:

1. Stage or streamflow are recorded at some interval on a continuous basis. The recording interval is usually 15 minutes, but may be less or more frequent.
2. Water-quality, sediment, or other hydrologic measurements are recorded at least daily.

**Control** designates a feature in the channel downstream from a gaging station that physically influences the water-surface elevation and thereby determines the stage-discharge relation at the station. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, 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 saltwater.

**Cubic foot per second (CFS, ft<sup>3</sup>/s)** is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

**Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft<sup>3</sup>/s)/d])** is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, 646,317 gallons, or 2,447 cubic meters.

**Daily record** is a summary of streamflow, sediment, or water-quality values computed from data collected with sufficient frequency to obtain reliable estimates of daily mean values.

**Daily record station** is a site for which daily records of streamflow, sediment, or water-quality values are computed.

**Datum**, as used in this report, is an elevation above mean sea level to which all gage height readings are referenced.

**Diel** is of or pertaining to a 24-hour period of time; a regular daily cycle.

**Discharge**, or flow, is the volume of water (or more broadly, volume of fluid including solid- and dissolved-phase material), that passes a given point in a given period of time.

**Annual 7-day minimum** is the lowest mean discharge for 7 consecutive days in a 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 discharge** is the discharge at a particular instant of time.

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

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

**Dissolved oxygen** (DO) content of water in equilibrium with air is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved solids, with small temperature changes having the more significant offset. Photosynthesis and respiration may cause diurnal variations in dissolved-oxygen concentration in water from some streams.

**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 that 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 0.4926 to reflect the change. Alternatively, alkalinity concentration (as mg/L CaCO<sub>3</sub>) can be converted to carbonate concentration by multiplying by 0.60.

**Diversity index** is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{j=1}^s \frac{n_j}{n} \log_2 \frac{n_j}{n}$$

where  $n_i$  is the number of individuals per taxon,  $n$  is the total number of individuals, and  $s$  is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

**Drainage area** of a site on a stream is that area, measured in a horizontal plane, that has a common outlet at the site for its surface runoff. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

**Drainage basin** is a part of the Earth's surface that is occupied by a drainage system with a common outlet for its surface runoff (see "Drainage area").

**Dry weight** refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue.

**Flow-duration percentiles** are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

**Gage datum** is the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level (see "Datum"). This elevation is established by a system of levels from known benchmarks, by approximation from topographic maps, or by geographical positioning system.

**Gage height** (G.H.) is the water-surface elevation referenced to the 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 site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

**Gas chromatography/flame ionization detector** (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

**Ground-water level** is the elevation of the water table or another potentiometric surface at a particular location.

**Hardness** of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO<sub>3</sub>).

**Hydrologic benchmark station** is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a benchmark station may be used to separate effects of natural from human-induced changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped benchmark basin.

**Hydrologic unit** is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the U.S. Geological Survey. Each hydrologic unit is identified by an 8-digit number.

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

**Light-attenuation coefficient**, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation

$$I = I_0 e^{-\lambda L}$$

where  $I_0$  is the source light intensity,  $I$  is the light intensity at length  $L$  (in meters) from the source,  $\lambda$  is the light-attenuation coefficient, and  $e$  is the base of the natural logarithm. The light attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_0}$$

**Lipid** is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

**Macrophytes** are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that are usually arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

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

**Membrane filter** is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

**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 (UG/G, mg/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 kilogram (UG/KG, mg/kg)** is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

**Micrograms per liter (UG/L, mg/L)** is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

**Microsiemens per centimeter (US/CM, mS/cm)** is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

**Milligrams per liter (MG/L, mg/L)** is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent 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.

**Miscellaneous site**, or miscellaneous station, is a site where streamflow, sediment, and/or water-quality data are collected once, or more often on a random or discontinuous basis.

**Most probable number (MPN)** is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

**Multiple-plate samplers** are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

**Nanograms per liter (NG/L, ng/L)** is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

**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 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. See NOAA web site: <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>

**Nekton** are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

**Nephelometric turbidity unit (NTU)** is the measurement for reporting turbidity that is based on use of a standard suspension of Formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

**Open or screened interval** is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

**Organic carbon (OC)** is a measure of organic matter present in aqueous solution, suspension, or bottom sediments. May be reported as dissolved organic carbon (DOC), suspended organic carbon (SOC), or total organic carbon (TOC).

**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 area habitat, usually square meter (m<sup>2</sup>), 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.

**Organochlorine compounds** are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

**Parameter Code** is a 5-digit number used in the U.S. Geological Survey computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

**Partial-record station** is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

**Particle size** is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, Sedigraph) determine fall diameter of 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 Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	0.004 - 0.062	Sedimentation
Sand	0.062 - 2.0	Sedimentation/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 or percent of total** 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, weight, or volume.

**Periodic station** is a site where stage, discharge, sediment, chemical, or other hydrologic measurements are made one or more times during a year, but at a frequency insufficient to develop a daily record.

**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. Periphyton are useful indicators of water quality.

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

**pH** of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

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

**Plankton** is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL of sample).

**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** (Cyanophyta) 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.

**Euglenoids** (Euglenophyta) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark.

**Fire algae** (Pyrrhophyta) are a group of algae that are free-swimming unicells characterized by a red pigment spot.

**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 community is dominated by small crustaceans and rotifers.

**Polychlorinated biphenyls (PCB's)** are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

**Polychlorinated naphthalenes (PCN's)** are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCB's) and have been identified in commercial PCB preparations.

**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 (carbon method) by the plants.

**Primary productivity (carbon method)** is expressed as milligrams of carbon per area per unit time [ $\text{mg C}/(\text{m}^2/\text{time})$ ] for periphyton and macrophytes or per volume [ $\text{mg C}/(\text{m}^3/\text{time})$ ] for phytoplankton. Carbon method defines 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.

**Primary productivity (oxygen method)** is expressed as milligrams of oxygen per area per unit time [ $\text{mg O}/(\text{m}^2/\text{time})$ ] for periphyton and macrophytes or per volume [ $\text{mg O}/(\text{m}^3/\text{time})$ ] for phytoplankton. Oxygen method defines 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.

**Radioisotopes** are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

**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.

**Recurrence interval**, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or non-exceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow (7Q10) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the non-exceedances of the 7Q10 occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the 7Q10.

**Replicate samples** are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

**River mile** is the distance of a point on a river measured in miles from the river's mouth along the low-water channel.

**River mileage** is the linear distance along the meandering path of a stream channel determined in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council.

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

**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 the United States and Canada, formerly called Sea Level Datum of 1929. See: [http://www.co-ops.nos.noaa.gov/glossary/gloss\\_n.html#NGVD](http://www.co-ops.nos.noaa.gov/glossary/gloss_n.html#NGVD)

**Sediment** is solid material that is transported by, suspended in, or deposited from water. It originates mostly from disintegrated rocks; it also 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 or very close to the bed. In this report, bed load is considered to consist of particles in transit from the bed to an elevation equal to the top of the bed-load sampler nozzle (usually within 0.25 ft of the streambed).

**Bed-load discharge** (tons per day) is the quantity of sediment moving as bed load, reported as dry weight, that passes a cross section in a given time.

**Suspended sediment** is the sediment that 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). The entire sample is used for the analysis.

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

**Suspended-sediment discharge** (tons/day) is the quantity of sediment moving in suspension, reported as dry weight, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft<sup>3</sup>/s) x 0.0027.

**Suspended-sediment load** is a term that refers to material in suspension. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment 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, reported as dry weight, that passes a cross section in a given time.

**Total sediment load** or total load is a term that refers to the total sediment (bed load plus suspended-sediment load) that is in transport. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with total sediment discharge.

**Seven-day 10-year low flow** (7Q10, 7Q10) is the minimum flow averaged over 7 consecutive days that is expected to occur on average, once in any 10-year period. The 7Q10 has a 10-percent chance of occurring in any given year.

**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 are 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.

**Stable isotope ratio** (per MILL/MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific waters, to evaluate mixing of different waters, as an aid in determining reaction rates, and other chemical or hydrologic processes.

**Stage:** See "Gage height."

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

**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.

**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 plexiglass strips for periphyton collection.

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

**Surface area** of a lake or impoundment is that area encompassed by the boundary of the lake or impoundment as shown on USGS topographic maps, or on other available maps or photographs. The computed surface areas reflect the water levels of the lakes or impoundments at the times when the information for the maps or photographs was obtained.

**Surficial bed material** is the top 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 suspended-sediment sample that is retained on a 0.45-micrometer 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 constituent.

**Suspended, total** is the total amount of a given constituent in the part of a representative suspended-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. 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.

**Synoptic Studies** are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

**Taxonomy** is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical 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	Hexagenia
Species	Hexagenia limbata

**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** is 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, tons/d)** is the rate representing a mass of 1 ton of a constituent in streamflow passing a cross section in 1 day. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

**Total** is the total amount of a given constituent in a representative 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 suspended-sediment mixture and that the analytical method determined all of the constituent in the sample.)

**Total discharge** is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

**Total in bottom material** is the total amount of a given constituent in a representative sample of bottom material. 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 judge when the results should be reported as "total in bottom material."

**Total length (fish)** is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

**Total load** refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

**Total recoverable** is the amount of a given constituent that is in solution after a representative 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.

**Turbidity** is a measurement of the collective optical properties of a water sample that cause light to be scattered and absorbed rather than transmitted in straight lines; the higher the intensity of scattered light, the higher the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU) or Formazin turbidity units (FTU) depending on the method and equipment used.



**Volatile organic compounds** (VOC's) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOC's are manmade chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

**Water level** is the water-surface elevation or stage of the free surface of a body of water above or below any datum (see "Gage height"), or the surface of water standing in a well, usually indicative of the position of the water table or other potentiometric surface.

**Water table** is the surface of a ground-water body at which the water is at atmospheric pressure.

**Water-table aquifer** is an unconfined aquifer within which is found the water table.

**Water year** in U.S. 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, 1999, is called the "1999 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.

**Well** is an excavation (pit, hole, tunnel), generally cylindrical in form and often walled in, drilled, dug, driven, bored, or jetted into the ground to such a depth as to penetrate water-yielding geologic material and allow the water to flow or to be pumped to the surface.

**Wet weight** refers to the weight of animal tissue or other substance including its contained water.

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

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WATER RESOURCES DATA - COLORADO, 1999  
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
Elevenmile Canyon Reservoir	06695500	963	1932-98
South Platte River near Lake George, CO	06696000	963	1929-98
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
Cheesman Lake	06701000	1,752	1900-98
South Platte River below Cheesman Lake, CO	06701500	1,752	1924-98
South Platte River above North Fork at South Platte, CO	06702000	2,098	1905-12

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

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Station name	Station number	Drainage area (sq mi)	Period of record (water years)
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 below Geneva Creek, at Grant, CO	06706000	127	1908-13, 1942-98
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
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
Chatfield Lake near Littleton, CO	06709600	3,018	1975-98
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
Cherry Creek Lake near Denver, CO	06712990	385	1960-98
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, <sup>a</sup>
South Saint Vrain Creek above Lyons, CO	06723400	81.4	1971-80
St. Vrain Creek at Lyons, CO	06724000	212	1887-1895 1895-1998
Lefthand Creek near Boulder, CO	06724500	52.0	1929-31, 1947-53, 1976-80

WATER RESOURCES DATA - COLORADO, 1999  
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)
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
St. Vrain Creek at Mouth near Platteville, CO	06731000	976	1904-06, 1915, 1927-98
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, <sup>a</sup>
Big Thompson River at Estes Park, CO	06733000	137	1946-98
Fish Creek near Estes Park, CO	06734500	15.8	1947-55
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
Cache La Poudre River near Greeley, CO	06752500	1,877	1903-04, 1914-19, 1924-98
Lonetree Creek at Carr, CO	06753400	167	1993-95
Lonetree Creek near Nunn, CO	06753500	199	1951-57
Lonetree Creek near Greeley	06753900	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

## 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)
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 Cooper Bridge near Balzac, CO	06759910	16,852	1987-98
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
Lake Creek above Twin Lakes Reservoir, CO	07084500	75	1946-98
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
Chalk Creek near Nathrop, CO	07091000	97.0	1910, 1949-56, <sup>a</sup>
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

WATER RESOURCES DATA - COLORADO, 1999  
DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE ONLY STATIONS (Continued)

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Station name	Station number	Drainage area (sq mi)	Period of record (water years)
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 Colorado City, CO	07108050	29.6	1974-79
Saint Charles River near Pueblo, CO	07108500	467	1941-53,
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, 1978-81
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 <sup>a</sup>
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



## 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)
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 <sup>a</sup>
Red Rock Canyon Creek at Mouth, near Thatcher, CO	07126415	48.8	1983-90 <sup>a</sup>
Chacuaco Creek at Mouth, near Timpas, CO	07126470	424	1983-92 <sup>a</sup>
Bent Canyon Creek at Mouth near Timpas, CO	07126480	56.2	1983-90 <sup>a</sup>
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
Two Butte Creek near Holly	07135000	817	1942-46, 1995-99
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
Rio Grande at Thirtymile Bridge near Creede, CO	08213500	163	1909-23 1925-98
North Clear Creek below Continental Reservoir, CO	08214500	51.7	1929-98
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, 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
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
Rio Grande above Mouth of Trinchera Creek near Lasausas, CO	08240000	5,740	1936-98
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

WATER RESOURCES DATA - COLORADO, 1999  
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)
Sangre De Cristo Creek near Fort Garland, CO	08241500	190	1916, 1923-30, 1931-82
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 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.

## 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 at Fort Collins	06752260	1,127	Temp., S.C., pH	1987-99
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 <sup>a</sup>
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

WATER RESOURCES DATA - COLORADO, 1999  
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)
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 <sup>a</sup>
Chacuaco Creek at Mouth near Timpas, CO	07126470	424	Temp., S.C., Sed.	1983-92
Bent Canyon Creek at Mouth near Timpas, CO	07126480	56.2	Temp., S.C.	1983-90 <sup>a</sup>
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
Wightman Fork below Cropsy Creek at Summitville, CO	08235270	4.44	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
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

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### 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, chap. 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, chap. 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, chap. D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. 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, chap. E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. 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, chap. 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, chap. 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, chap. A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3. chap. A5. 1967. 29 pages.

- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 pages.
- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. 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, chap. A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. 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, chap. 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, chap. A12. 1986. 34 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 pages.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI book 3, chap. 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, chap. A18. 1989. 52 pages.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. 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, chap. A20. 1993. 38 pages.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI book 3, chap. 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, chap. 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, chap. 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, chap. B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. 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, chap. 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, chap. 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, chap. 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, chap. B7. 1992. 190 pages.

**Section C. Sedimentation and Erosion Techniques**

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI book 3, chap. 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, chap. C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI book 3, chap. 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, chap. A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 pages.

**Section B. Surface Water**

- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI book 4, chap. 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, chap. 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, chap. 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, chap. 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, chap. A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greenson, editors: USGS–TWRI book 5, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. 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, chap. A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. 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, chap. B2. 1968. 15 pages.

## **Book 9. Handbooks for Water-Resources Investigations**

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

- 9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.
- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.
- 9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.
- 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, chap. A6. 1998. Variously paginated.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. 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, chap. 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 S<sup>1</sup>/<sub>2</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1	.59	.40	.45	.32	.30	.42	6.9	17	4.3	2.3
2	1.3	1.1	.59	.40	.42	.32	.30	.41	7.9	17	3.6	2.4
3	1.4	1.1	.57	.40	.42	.32	.30	.37	10	16	3.2	2.2
4	1.4	1.1	.55	.40	.42	.32	.31	.38	12	15	3.8	2.2
5	1.1	1.0	.55	.40	.42	.32	.32	.40	12	14	4.4	1.9
6	e1.3	1.0	.55	.38	.42	.31	.32	.41	11	13	4.1	1.7
7	e1.7	.97	.55	.45	.42	.30	.32	.42	9.5	12	3.6	1.5
8	1.6	.94	.55	.50	.42	.30	.32	.46	11	12	3.3	1.4
9	1.6	.94	.55	.55	.41	.30	.33	.63	12	10	3.1	1.3
10	1.6	.94	.53	.61	.40	.30	.34	.69	13	8.9	3.3	1.3
11	1.5	.87	.57	.67	.40	.30	.33	.62	13	8.0	3.2	1.3
12	1.4	.59	.59	.69	.40	.30	.32	.55	12	7.5	3.0	1.2
13	1.4	.55	.59	.65	.40	.30	.32	.53	13	7.0	2.8	1.1
14	1.5	.78	.55	.61	.40	.30	.32	.63	13	6.8	2.5	1.0
15	1.4	.84	.52	.59	.38	.30	.32	.62	13	7.3	2.4	1.0
16	1.3	.80	.48	.57	.37	.30	.32	.57	12	6.6	2.2	.99
17	1.4	.75	.45	.55	.34	.30	.33	.52	14	6.4	2.1	.95
18	1.3	.75	.44	.58	.34	.30	.34	.65	19	5.5	2.0	.94
19	1.3	.75	.44	.63	.34	.30	.37	1.0	20	5.6	2.7	1.2
20	1.2	.75	.45	.62	.34	.30	.35	1.7	20	5.6	3.6	1.5
21	1.2	.72	.45	.62	.34	.30	.30	2.4	21	5.0	3.1	1.6
22	1.2	.71	.45	.62	.34	.30	.31	2.8	24	4.7	3.0	1.5
23	1.1	.71	.45	.60	.34	.30	.31	4.0	30	4.4	2.6	1.4
24	1.1	.69	.45	.56	.34	.29	.32	4.9	26	4.8	2.4	1.3
25	1.1	.66	.45	.59	.33	.28	.34	4.9	27	5.3	2.4	1.1
26	1.1	.65	.45	.59	.32	.28	.34	5.0	24	4.4	2.4	1.1
27	1.1	.62	.43	.59	.32	.29	.35	4.9	22	3.9	2.8	1.1
28	1.1	.61	.42	.57	.32	.29	.40	5.6	20	4.1	2.5	1.2
29	1.1	.59	.42	.55	---	.27	.41	6.6	18	3.8	2.3	1.4
30	e1.1	.59	.42	.52	---	.28	.42	7.3	15	3.8	2.3	1.3
31	e1.1	---	.41	.48	---	.29	---	6.9	---	4.3	2.5	---
TOTAL	40.1	24.17	15.46	16.94	10.56	9.28	9.98	67.28	481.3	249.7	91.5	42.38
MEAN	1.29	.81	.50	.55	.38	.30	.33	2.17	16.0	8.05	2.95	1.41
MAX	1.7	1.1	.59	.69	.45	.32	.42	7.3	30	17	4.4	2.4
MIN	1.1	.55	.41	.38	.32	.27	.30	.37	6.9	3.8	2.0	.94
AC-FT	80	48	31	34	21	18	20	133	955	495	181	84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.92	.57	.44	.36	.32	.33	.41	3.73	16.7	9.36	2.88	1.45
MAX	2.25	1.11	.88	.57	.55	.86	.80	9.50	27.1	24.8	6.83	4.82
(WY)	1998	1996	1996	1988	1986	1986	1994	1974	1990	1995	1983	1997
MIN	.32	.20	.25	.17	.16	.17	.22	.70	10.9	2.06	1.20	.49
(WY)	1980	1979	1979	1991	1977	1974	1982	1995	1992	1994	1988	1988

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1974 - 1999
ANNUAL TOTAL	1040.46	1058.65	
ANNUAL MEAN	2.85	2.90	3.12
HIGHEST ANNUAL MEAN			4.61
LOWEST ANNUAL MEAN			1.97
HIGHEST DAILY MEAN	22 Jun 27	30 Jun 23	69 Jul 14 1995
LOWEST DAILY MEAN	.32 Mar 27	.27 Mar 29	.08 Nov 16 1989
ANNUAL SEVEN-DAY MINIMUM	.32 Mar 27	.28 Mar 24	.14 Jan 9 1979
INSTANTANEOUS PEAK FLOW		49 Jun 23	a,b115 Jul 12 1995
INSTANTANEOUS PEAK STAGE		3.61 Jun 23	b,c3.69 Jul 12 1995
ANNUAL RUNOFF (AC-FT)	2060	2100	2260
10 PERCENT EXCEEDS	8.0	9.7	10
50 PERCENT EXCEEDS	1.0	.75	.61
90 PERCENT EXCEEDS	.37	.32	.26

e Estimated

a From rating curve extended above 82 ft<sup>3</sup>/s.

b Also occurred Jul 13, 1995.

c Maximum gage height, 3.70 ft, Jun 20, 1997.

## PLATTE RIVER BASIN

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO

LOCATION.--Lat 40°56'15", long 106°20'16", in NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.11, T.11 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 1,000 ft downstream from bridge on State Highway 125, 0.7 mi upstream from Camp Creek, 4.2 mi northwest of Northgate, and 4.4 mi south of Colorado-Wyoming State line.

DRAINAGE AREA.--1,431 mi<sup>2</sup>.

PERIOD OF RECORD.--May to November 1904 (published as "near Pinkhampton"), May 1915 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1916-21, 1929(M), 1930-32. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,810.39 ft above sea level. See WSP 1730 for history of changes prior to Apr. 8, 1918. Apr. 8, 1918, to Aug. 21, 1961, water-stage recorder at site 0.7 mi downstream at datum 3.36 ft lower. Aug. 22, 1961, to Sept. 18, 1984, at site 650 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 130,000 acres of hay meadows upstream from station. Transbasin diversions upstream from station to Cache la Poudre River basin. National Weather Service data collection platform with satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	177	203	e140	e120	e170	577	839	1470	1010	530	175
2	137	188	200	e130	e120	e170	504	848	1400	888	465	166
3	153	222	179	e120	e120	e170	442	874	1260	880	394	173
4	172	258	160	e120	e130	e170	347	785	1250	863	342	181
5	190	239	e120	e130	e130	e160	398	669	1170	841	336	170
6	187	216	e110	e130	e130	e150	381	560	1150	800	354	145
7	181	189	e110	e120	e140	e150	390	502	1120	756	353	129
8	172	199	e120	e120	e140	e160	459	464	910	747	327	112
9	164	191	e130	e120	e140	e170	464	463	732	820	301	108
10	158	146	e120	e120	e130	e170	386	587	743	809	288	104
11	150	e180	e130	e130	e120	e170	331	736	836	789	268	106
12	148	e240	e140	e130	e120	e170	344	657	846	717	241	108
13	143	e290	e140	e120	e130	e170	388	561	876	643	235	108
14	133	268	e140	e120	e140	e170	453	607	903	586	218	103
15	135	310	e140	e130	e150	e170	455	815	1110	636	198	98
16	131	286	e150	e130	e150	e175	373	777	1450	739	196	94
17	132	279	e150	e120	e150	e180	300	665	1880	778	187	96
18	135	261	e150	e120	e150	e190	335	568	1940	702	190	90
19	132	238	e140	e130	e150	e220	366	505	1780	628	190	95
20	131	186	e130	e123	e140	e280	400	504	1810	652	189	116
21	131	178	e120	e120	e130	e320	460	556	1870	604	200	145
22	127	304	e110	e110	e140	e340	551	631	1930	539	219	146
23	129	216	e110	e120	e140	e400	555	707	1910	516	207	133
24	131	270	e110	e120	e150	e480	526	802	1810	503	191	126
25	129	223	e120	e120	e160	e600	557	962	1670	451	180	115
26	129	220	e130	e120	e160	e740	620	1090	1510	439	176	108
27	134	227	e130	e120	e150	e840	613	1100	1480	420	176	93
28	138	220	e130	e110	e160	e800	643	1190	1320	402	183	96
29	154	236	e130	e100	---	e677	695	1160	1180	473	201	104
30	169	230	e140	e100	---	e560	766	1210	1050	505	195	112
31	167	---	e140	e110	---	592	---	1350	---	546	179	---
TOTAL	4541	6887	4232	3753	3890	9884	14079	23744	40366	20682	7909	3655
MEAN	146	230	137	121	139	319	469	766	1346	667	255	122
MAX	190	310	203	140	160	840	766	1350	1940	1010	530	181
MIN	119	146	110	100	120	150	300	463	732	402	176	90
AC-FT	9010	13660	8390	7440	7720	19600	27930	47100	80070	41020	15690	7250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1999, BY WATER YEAR (WY)

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
MEAN	163	154	104	84.1	89.3	177	757	1147	1491	647	269	151
MAX	538	366	215	177	199	722	2444	3649	3296	2367	763	712
(WY)	1962	1962	1998	1984	1986	1986	1962	1984	1983	1957	1983	1997
MIN	31.7	54.2	33.9	27.5	35.7	47.8	131	212	89.4	26.7	38.5	23.8
(WY)	1935	1935	1977	1977	1933	1964	1981	1981	1934	1934	1934	1934

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1904 - 1999
ANNUAL TOTAL	153340	143622	
ANNUAL MEAN	420	393	437
HIGHEST ANNUAL MEAN			878
LOWEST ANNUAL MEAN			117
HIGHEST DAILY MEAN	2500	Mar 27	1940
LOWEST DAILY MEAN	e110	Dec 6	90
ANNUAL SEVEN-DAY MINIMUM	119	Dec 20	98
INSTANTANEOUS PEAK FLOW		2030	Jun 17
INSTANTANEOUS PEAK STAGE		4.82	Jun 17
ANNUAL RUNOFF (AC-FT)	304100	284900	316900
10 PERCENT EXCEEDS	996	875	1220
50 PERCENT EXCEEDS	203	190	164
90 PERCENT EXCEEDS	131	120	70

e Estimated

a Maximum gage height, 9.65 ft, Apr 25, 1980, backwater from ice jam.

06693800 MOSQUITO CREEK NEAR ALMA, CO

LOCATION.--Lat 39°16'12", long 106°03'02", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.13, T.9 S., R.78 W., Park County, Hydrologic Unit 10190001, on left bank 0.1 mi upstream from confluence with Middle Fork South Platte River, and 1.2 mi south of Alma.

DRAINAGE AREA.--16.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1998 to September 1999.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 10,220 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 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e12	8.5	e5.8	e4.0	e3.9	e4.1	e5.1	7.5	73	121	47	24
2	e13	e8.9	e5.8	e4.0	e3.9	e4.2	e5.0	5.3	81	122	52	23
3	11	e8.6	e5.6	e4.0	e3.9	e4.2	e5.0	5.8	89	107	61	21
4	12	e8.6	e5.2	e4.0	e3.9	e4.3	e5.2	6.6	88	102	49	20
5	10	e8.6	e5.2	e4.0	e3.9	e4.3	e5.3	e6.4	80	97	50	18
6	13	e8.6	e5.0	e4.0	e3.9	e4.3	e5.2	6.1	73	103	63	17
7	12	e8.6	e4.9	e4.0	e3.9	e4.3	e5.5	e6.6	84	93	48	16
8	11	e8.3	e4.8	e4.0	e3.9	e4.3	e5.0	7.9	109	88	42	15
9	11	e8.1	e4.8	e4.0	e3.9	e4.2	e5.0	9.2	122	85	40	15
10	10	e8.2	e4.7	e4.0	e3.9	e4.3	e5.3	9.3	122	79	41	15
11	9.8	e8.0	e4.5	e3.9	e3.9	e4.2	e5.3	8.0	111	72	37	17
12	9.7	e8.2	e4.3	e3.9	e3.9	e4.4	e5.3	7.8	114	60	31	16
13	9.5	e8.2	e4.3	e3.9	e4.0	e4.3	e5.2	11	108	59	28	14
14	9.5	e8.2	e4.3	e3.9	e4.0	e4.2	e4.9	15	121	61	26	13
15	9.3	e8.0	e4.0	e3.9	e4.0	e4.2	e4.9	17	117	56	25	15
16	9.1	e8.0	e4.0	e3.9	e4.0	e4.2	e5.3	19	105	54	24	16
17	8.8	e7.6	e4.0	e3.9	e4.0	e4.2	e5.4	18	111	60	23	15
18	11	e7.6	e4.0	e3.9	e4.0	e4.2	e5.1	21	113	50	23	14
19	10	e7.0	e4.0	e3.9	e4.0	e4.2	e5.3	27	147	53	21	15
20	8.7	e6.8	e4.0	e3.9	e4.0	e4.3	e5.7	32	139	48	20	17
21	8.6	e7.0	e4.0	e3.9	e4.0	e4.3	e5.8	40	131	53	24	15
22	8.5	e7.0	e4.0	e3.9	e4.0	e4.3	e5.7	46	136	57	25	14
23	8.4	e7.2	e4.0	e3.9	e4.1	e4.5	e5.5	55	147	52	21	13
24	8.2	e6.8	e4.0	e3.9	e4.1	e4.6	e5.7	75	161	50	20	15
25	8.3	e6.4	e4.0	e3.9	e4.1	e4.8	e5.6	80	153	44	20	15
26	9.4	e6.4	e4.0	e3.9	e4.1	e5.0	e5.1	59	145	42	21	14
27	9.8	e6.4	e4.0	e3.9	e4.1	e5.0	e5.0	57	133	43	32	14
28	8.9	e6.2	e4.0	e3.9	e4.1	e5.0	e5.7	59	125	42	39	13
29	e9.9	e6.2	e4.0	e3.9	---	e5.0	e5.8	77	120	38	29	13
30	8.9	e6.0	e4.0	e3.9	---	e5.0	e6.0	80	117	39	26	12
31	8.7	---	e4.0	e3.8	---	e5.2	---	81	---	49	25	---
TOTAL	308.0	228.2	137.2	121.8	111.4	137.6	159.9	955.5	3475	2079	1033	474
MEAN	9.94	7.61	4.43	3.93	3.98	4.44	5.33	30.8	116	67.1	33.3	15.8
MAX	13	8.9	5.8	4.0	4.1	5.2	6.0	81	161	122	63	24
MIN	8.2	6.0	4.0	3.8	3.9	4.1	4.9	5.3	73	38	20	12
AC-FT	611	453	272	242	221	273	317	1900	6890	4120	2050	940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MEAN	9.94	7.61	4.43	3.93	3.98	4.44	5.33	30.8	116	67.1	33.3	15.8
MAX	9.94	7.61	4.43	3.93	3.98	4.44	5.33	30.8	116	67.1	33.3	15.8
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	9.94	7.61	4.43	3.93	3.98	4.44	5.33	30.8	116	67.1	33.3	15.8
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

ANNUAL TOTAL	9220.6
ANNUAL MEAN	25.3
HIGHEST DAILY MEAN	161 Jun 24
LOWEST DAILY MEAN	e3.8 Jan 31
ANNUAL SEVEN-DAY MINIMUM	3.9 Jan 25
INSTANTANEOUS PEAK FLOW	217 Jun 23
INSTANTANEOUS PEAK STAGE	6.34 Jun 23
ANNUAL RUNOFF (AC-FT)	18290
10 PERCENT EXCEEDS	81
50 PERCENT EXCEEDS	8.2
90 PERCENT EXCEEDS	4.0

e Estimated

PLATTE RIVER BASIN

06697100 TARRYALL CREEK BELOW PARK GULCH NEAR COMO, CO

LOCATION.--Lat 39°16'54", long 105°47'13", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>, of which 3.2 mi<sup>2</sup> 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	12	e10	e4.5	e4.0	e4.2	e7.0	25	86	74	93	25
2	20	14	e9.0	e4.5	e4.0	e4.2	e6.8	27	87	72	72	25
3	14	13	e9.0	e4.5	e4.0	e4.5	e7.4	29	91	71	51	23
4	14	11	e8.0	e4.5	e4.0	e4.5	e6.8	24	93	66	44	22
5	13	9.8	e7.0	e4.5	e4.0	e5.0	e6.8	14	96	70	62	20
6	12	11	e6.6	e4.5	e4.0	e5.0	e6.8	12	87	88	95	19
7	12	11	e6.5	e4.5	e4.0	e5.0	e7.0	11	80	75	67	19
8	12	10	e6.0	e4.5	e4.0	e5.0	e7.0	20	86	61	56	18
9	11	e12	e6.0	e4.5	e4.0	e5.0	e6.8	29	93	59	48	17
10	11	e11	e6.0	e4.5	e4.0	e5.2	e6.8	31	105	53	47	17
11	11	e11	e5.6	e4.5	e3.9	e5.2	e6.8	20	112	50	44	18
12	10	e11	e5.0	e4.5	e3.9	e5.6	e7.0	17	111	47	37	18
13	10	e11	e5.0	e4.5	e3.8	e5.8	e6.8	18	107	42	34	17
14	10	e12	e5.0	e4.3	e4.5	e6.0	e6.8	28	104	42	33	16
15	9.8	e12	e5.0	e4.3	e4.1	e6.2	e7.0	32	112	43	32	17
16	9.6	e12	e5.0	e4.3	e4.0	e6.4	e7.2	37	133	40	30	20
17	9.8	e13	e5.0	e4.3	e4.0	e6.7	e7.2	34	134	60	29	18
18	10	e12	e5.0	e4.2	e4.0	e7.0	7.2	30	129	67	29	17
19	10	e12	e5.0	e4.2	e4.0	e7.0	7.6	32	124	60	27	18
20	9.9	e11	e4.5	e4.2	e4.0	e7.0	7.7	36	129	52	29	23
21	10	e12	e4.5	e4.2	e4.1	e7.2	8.1	48	133	51	41	19
22	10	e12	e4.5	e4.0	e4.0	e7.0	7.5	57	129	52	35	17
23	9.8	e14	e4.5	e4.0	e4.0	e7.0	7.3	63	124	49	28	15
24	9.4	e13	e4.5	e4.0	e4.0	e7.0	6.8	70	123	44	26	15
25	9.6	e12	e4.5	e4.0	e4.0	e6.8	7.7	98	136	43	27	16
26	12	e12	e4.5	e4.0	e4.0	e7.0	9.1	103	125	43	27	14
27	14	e11	e4.5	e4.0	e4.0	e7.2	27	77	107	41	27	13
28	18	e11	e4.5	e4.0	e4.0	e7.0	31	73	97	42	29	13
29	12	e10	e4.5	e4.0	---	e7.0	46	71	88	46	28	13
30	12	e10	e4.4	e4.0	---	e7.0	41	76	80	48	25	13
31	13	---	e4.5	e4.0	---	e7.0	---	83	---	66	24	---
TOTAL	371.9	348.8	173.6	132.5	112.3	187.7	332.0	1325	3241	1717	1276	535
MEAN	12.0	11.6	5.60	4.27	4.01	6.05	11.1	42.7	108	55.4	41.2	17.8
MAX	23	14	10	4.5	4.5	7.2	46	103	136	88	95	25
MIN	9.4	9.8	4.4	4.0	3.8	4.2	6.8	11	80	40	24	13
AC-FT	738	692	344	263	223	372	659	2630	6430	3410	2530	1060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	10.9	9.84	5.31	3.91	3.71	6.17	10.3	31.6	77.2	38.2	31.7	17.1
MAX	12.0	11.6	5.60	4.27	4.01	6.28	11.1	42.7	108	55.4	41.2	20.2
(WY)	1999	1999	1999	1999	1999	1998	1999	1999	1999	1999	1999	1997
MIN	9.83	8.04	5.03	3.55	3.41	6.05	9.49	20.5	21.5	27.0	23.0	13.4
(WY)	1998	1998	1998	1998	1998	1999	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1997 - 1999

ANNUAL TOTAL	4810.9	9752.8	
ANNUAL MEAN	13.2	26.7	19.7
HIGHEST ANNUAL MEAN			26.7
LOWEST ANNUAL MEAN			12.7
HIGHEST DAILY MEAN	58	Jul 10	136
LOWEST DAILY MEAN	e2.5	Mar 9	e3.8
ANNUAL SEVEN-DAY MINIMUM	2.7	Mar 8	3.9
INSTANTANEOUS PEAK FLOW			143
INSTANTANEOUS PEAK STAGE			5.64
ANNUAL RUNOFF (AC-FT)	9540	19340	14260
10 PERCENT EXCEEDS	25	78	58
50 PERCENT EXCEEDS	11	12	13
90 PERCENT EXCEEDS	3.3	4.1	4.0

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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE 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 19...	1435	9.3	215	8.4	5.8	8.9	95	29	5.3	3.4	.2
NOV 23...	1335	14	226	8.2	.2	10.1	110	35	6.4	4.1	.2
DEC 15...	1030	4.0	226	8.1	.2	9.4	110	34	6.4	3.5	.1
JAN 26...	0945	3.7	221	8.0	.3	9.7	110	33	6.3	3.6	.2
FEB 24...	0930	4.0	193	8.1	.3	--	100	31	5.6	3.0	.1
MAR 16...	0945	6.5	213	8.2	.1	10.1	100	30	6.0	3.9	.2
APR 20...	0910	8.0	232	8.0	2.7	10.6	110	31	6.8	6.1	.3
MAY 12...	0910	16	379	8.3	1.6	9.3	170	45	13	16	.5
JUN 14...	1030	102	224	8.4	8.6	8.6	100	31	6.5	5.5	.2
JUL 20...	0845	51	224	8.1	11.0	9.1	110	33	6.1	4.1	.2
AUG 10...	0945	47	255	8.4	11.3	7.1	120	37	7.6	6.4	.3
SEP 16...	1150	20	205	8.4	9.3	8.6	97	30	5.5	3.7	.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD TIT 4.5 LAB AS (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)
OCT 19...	.8	93	2	80	92	15	.6	<.1	7.5	128	110
NOV 23...	.9	106	--	87	101	16	.5	<.1	8.4	142	123
DEC 15...	1	106	--	87	104	17	.5	.1	8.4	147	124
JAN 26...	1.2	129	--	106	101	17	.7	<.1	8.6	139	135
FEB 24...	.9	112	--	92	94	15	.4	<.1	7.7	125	119
MAR 16...	1.2	115	--	95	--	18	1	<.1	2.4	131	120
APR 20...	1	112	--	93	--	26	1.4	.1	6.4	135	135
MAY 12...	1.7	140	12	137	--	72	2.9	.2	9.7	258	242
JUN 14...	1.0	93	4	83	--	16	E.2	<.1	10	154	--
JUL 20...	.7	117	--	97	--	13	.9	<.1	9.8	148	125
AUG 10...	.9	112	10	109	--	18	.9	.1	11	163	147
SEP 16...	.8	103	4	91	--	16	.5	<.1	8.4	128	120

E Estimated

## PLATTE RIVER BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	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 19...	.17	3.21	<.01	<.05	<.02	--	.2	<.1	<.05	<.05	<.01
NOV 23...	.19	5.37	<.01	<.05	.02	--	.1	<.1	.02	.01	.01
DEC 15...	.20	1.59	<.01	.13	.03	--	<.1	<.1	.02	.07	.01
JAN 26...	.19	1.39	<.01	<.05	<.02	--	.1	E.09	.0126	.0046	<.01
FEB 24...	.17	1.35	<.01	<.05	<.02	--	E.08	E.07	.009	<.004	<.01
MAR 16...	.18	2.30	<.01	<.05	<.02	--	.2	.1	.015	.005	<.01
APR 20...	.18	2.91	<.01	.08	.02	--	.2	E.09	.016	<.004	<.01
MAY 12...	.35	10.9	<.01	<.05	<.02	--	.4	.3	.02	.014	.02
JUN 14...	--	--	<.01	<.05	<.02	--	.3	.3	.023	.007	<.01
JUL 20...	.20	20.5	<.01	<.05	<.02	--	.3	.3	.03	.013	.01
AUG 10...	.22	20.7	<.01	<.05	<.02	--	.3	.2	.024	.01	<.01
SEP 16...	.17	6.91	.003	<.005	.01	.09	.3	.1	.025	<.004	.001

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	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)	BARIIUM, 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)
OCT 19...	2.2	1.4	<1	<1	<1	72	<1	<1	1	<1
NOV 23...	3.3	1.3	4	<1	<1	79	<1	<1	<1	<1
DEC 15...	1.3	1.0	<1	<1	<1	87	<1	<1	1	<1
JAN 26...	2.6	1.8	3	<1	1	90	<1	<1	<1.0	<1
FEB 24...	1.0	.8	<1	<1	<1	81	<1	<1	<1.0	<1
MAR 16...	3.2	2.2	1	<1	<1	79	<1	<1	--	<1
APR 20...	1.7	1.5	1	<1	<1	72	<1	<1	<1.0	<1
MAY 12...	5.8	5.0	3	<1	<1	69	<1	<1	<1.0	<1
JUN 14...	6.3	5.9	2	<1	<1	61	<1	<1	<1.0	<1
JUL 20...	5.2	4.2	2	<1	<1	75	<1	<1	<1.0	<1
AUG 10...	4.6	3.9	2	<1	1	74	<1	<1	<1.0	<1
SEP 16...	3.3	2.1	6	<1	<1	79	<1	<1	<1.0	<1

E Estimated

PLATTE RIVER BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	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)	URIANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
OCT 19...	<1	71	<1	10	<1	<1	<1	<1	<1	<1
NOV 23...	<1	140	<1	23	<1	<1	<1	<1	<1	1
DEC 15...	<1	15	<1	9	1	<1	<1	<1	<1	<1
JAN 26...	<1	71	<1	17	1	<1	1	<1	<1	<1
FEB 24...	<1	22	<1	9	<1	<1	<1	<1	<1	<1
MAR 16...	2	86	<1	19	1	<1	<1	<1	<1	<1
APR 20...	2	82	<1	18	1	<1	<1	<1	1	<1
MAY 12...	1	72	<1	25	1	1	<1	<1	2	2
JUN 14...	<1	39	<1	8	1	<1	<1	<1	<1	1
JUL 20...	<1	69	<1	11	<1	<1	<1	<1	<1	<1
AUG 10...	<1	77	<1	16	<1	<1	<1	<1	1	<1
SEP 16...	<1	76	<1	22	<1	<1	<1	<1	<1	<1

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 19...	1435	9.3	5	.13	86
DEC 15...	1030	4.0	5	.05	91
JAN 26...	0945	3.7	4	.04	92
FEB 24...	0930	4.0	4	.04	83
MAR 16...	0945	6.5	7	.12	80
APR 20...	0910	8.0	10	.22	96
MAY 12...	0910	16	12	.51	88
JUN 14...	1030	102	21	5.8	53
JUL 20...	0845	51	19	2.6	81
AUG 10...	0945	47	14	1.8	76
SEP 16...	1150	20	17	.92	78

## 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 SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 SEASONAL RECORD.--Maximum daily rainfall, 1.75 inches, May 25, 1999.

EXTREMES FOR CURRENT SEASON.--Maximum daily rainfall, 1.75 inches, May 25.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	---	---	---	---	---	---	.29	.00	.00	.01	.01
2	.00	---	---	---	---	---	---	.01	.00	.00	.00	.00
3	.00	---	---	---	---	---	---	.00	.00	.03	.00	.00
4	.16	---	---	---	---	---	---	.00	.00	.00	1.50	.00
5	.00	---	---	---	---	---	---	.00	.00	.00	.12	.00
6	.00	---	---	---	---	---	---	.00	.00	.00	.11	.00
7	.00	---	---	---	---	---	---	.00	.00	.00	.01	.00
8	.00	---	---	---	---	---	---	.00	.00	.07	.31	.00
9	.00	---	---	---	---	---	---	.00	.46	.00	.03	.00
10	.00	---	---	---	---	---	---	.00	.34	.00	.06	.00
11	.00	---	---	---	---	---	---	.00	.13	.60	.00	.00
12	.00	---	---	---	---	---	---	.00	.05	.00	.00	.00
13	.00	---	---	---	---	---	---	.00	.01	.00	.00	.00
14	.00	---	---	---	---	---	---	.00	.01	.06	.00	.00
15	.00	---	---	---	---	---	---	.00	.21	.08	.23	.00
16	.02	---	---	---	---	---	---	.18	.03	.03	.01	.00
17	.00	---	---	---	---	---	---	.00	.10	.23	.32	.12
18	.00	---	---	---	---	---	---	.00	.02	.02	.01	.00
19	.00	---	---	---	---	---	---	.00	.00	.05	.00	.28
20	.00	---	---	---	---	---	---	.05	.00	.00	.09	.00
21	.00	---	---	---	---	---	---	.01	.00	.00	.08	.00
22	.00	---	---	---	---	---	---	.01	.00	.13	.00	.00
23	.01	---	---	---	---	---	---	.09	.00	.00	.00	.00
24	.01	---	---	---	---	---	---	.25	.00	.00	.00	.00
25	.00	---	---	---	---	---	---	1.75	.00	.03	.52	.00
26	.00	---	---	---	---	---	.00	.01	.00	.00	.00	.00
27	.22	---	---	---	---	---	.00	.39	.00	.00	.21	.00
28	.15	---	---	---	---	---	.41	.00	.00	1.12	.03	.11
29	.00	---	---	---	---	---	.74	.02	.00	1.09	.02	.00
30	.01	---	---	---	---	---	.50	.00	.00	.47	.00	.00
31	.04	---	---	---	---	---	---	.00	---	.77	.05	---
TOTAL	0.88	---	---	---	---	---	---	3.06	1.36	4.78	3.72	0.52



06701970 SPRING CREEK ABOVE MOUTH NEAR SOUTH PLATTE, CO

LOCATION.--Lat 39°23'37", long 105°11'01", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 SEASONAL RECORD.--Maximum discharge 6,380 ft<sup>3</sup>/s, Aug. 31, 1997, gage height, 13.45 ft, from slope-area measurement of peak flow; minimum daily, 0.64 ft<sup>3</sup>/s, Oct. 30, 1997.

EXTREMES FOR CURRENT SEASON.--Maximum discharge, 229 ft<sup>3</sup>/s, July 29, gage height, 5.91 ft; minimum daily, 0.91 ft<sup>3</sup>/s, Mar. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.95	4.3	3.2	2.0	3.1	3.8
2	---	---	---	---	---	---	1.0	4.7	3.2	1.9	3.4	3.9
3	---	---	---	---	---	---	1.0	5.5	3.2	2.0	2.9	4.1
4	---	---	---	---	---	---	1.0	5.3	3.2	2.2	5.4	3.4
5	---	---	---	---	---	---	1.0	5.7	3.3	1.9	9.1	4.2
6	---	---	---	---	---	---	.99	6.0	3.4	1.7	7.8	3.3
7	---	---	---	---	---	---	.97	5.8	3.3	2.0	6.9	2.6
8	---	---	---	---	---	---	.99	4.3	3.3	1.6	6.7	2.7
9	---	---	---	---	---	---	1.0	3.7	3.5	2.8	6.2	3.2
10	---	---	---	---	---	---	1.1	3.1	4.2	1.9	5.9	3.3
11	---	---	---	---	---	---	1.1	3.0	3.9	1.7	5.3	2.3
12	---	---	---	---	---	---	1.0	2.7	3.6	1.6	5.2	2.1
13	---	---	---	---	---	---	1.1	2.7	4.1	1.9	5.2	1.8
14	---	---	---	---	---	---	1.2	2.6	4.9	1.7	5.1	2.0
15	---	---	---	---	---	---	1.3	2.7	e4.7	1.4	5.0	2.2
16	---	---	---	---	---	---	1.3	2.9	e4.5	1.4	5.3	2.1
17	---	---	---	---	---	---	1.3	2.9	e4.3	1.5	5.5	1.8
18	---	---	---	---	---	---	1.2	2.7	e4.2	1.9	5.0	1.5
19	---	---	---	---	---	---	1.2	2.6	e4.1	1.9	4.6	1.8
20	---	---	---	---	---	---	1.2	2.7	4.1	1.7	4.5	1.7
21	---	---	---	---	---	---	1.2	2.6	3.5	1.7	4.6	2.2
22	---	---	---	---	---	---	1.6	2.6	3.3	1.7	4.9	2.2
23	---	---	---	---	---	e1.0	2.0	2.6	e3.2	2.0	5.5	1.8
24	---	---	---	---	---	e1.0	1.8	2.8	e3.1	1.9	5.1	2.0
25	---	---	---	---	---	e1.0	1.9	4.6	e3.0	2.0	7.5	1.5
26	---	---	---	---	---	1.0	1.7	4.9	e2.8	2.1	4.9	2.0
27	---	---	---	---	---	1.0	1.3	4.6	e2.6	2.3	4.2	2.0
28	---	---	---	---	---	.94	1.3	3.6	e2.4	2.4	5.4	1.8
29	---	---	---	---	---	.91	4.4	3.2	e2.8	9.4	4.8	1.8
30	---	---	---	---	---	.91	5.2	3.2	2.8	5.6	4.5	1.5
31	---	---	---	---	---	.91	---	3.2	---	5.4	4.2	---
TOTAL	---	---	---	---	---	---	44.30	113.8	105.7	73.2	163.7	72.6
MEAN	---	---	---	---	---	---	1.48	3.67	3.52	2.36	5.28	2.42
MAX	---	---	---	---	---	---	5.2	6.0	4.9	9.4	9.1	4.2
MIN	---	---	---	---	---	---	.95	2.6	2.4	1.4	2.9	1.5
AC-FT	---	---	---	---	---	---	88	226	210	145	325	144

e Estimated

## PLATTE RIVER BASIN

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 SEASONAL RECORD.--Maximum daily rainfall, 1.89 inches, Aug. 31, 1997.

EXTREMES FOR CURRENT SEASON.--Maximum daily rainfall, 1.61 inches, May 25.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	---	---	---	---	---	---	.08	.00	.00	.00	.00
2	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
3	.00	---	---	---	---	---	---	.00	.00	.04	.00	.00
4	.10	---	---	---	---	---	---	.00	.00	.00	1.18	.00
5	.00	---	---	---	---	---	---	.00	.00	.00	.09	.00
6	.00	---	---	---	---	---	---	.00	.00	.00	.04	.00
7	.00	---	---	---	---	---	---	.00	.00	.00	.29	.00
8	.00	---	---	---	---	---	---	.00	.00	.51	.03	.00
9	.00	---	---	---	---	---	---	.00	.41	.00	.01	.00
10	.00	---	---	---	---	---	---	.00	.21	.00	.05	.00
11	.00	---	---	---	---	---	---	.00	.18	.03	.00	.00
12	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
13	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	.00	---	---	---	---	---	---	.00	.10	.00	.00	.00
15	.00	---	---	---	---	---	---	.00	.08	.04	.05	.00
16	.00	---	---	---	---	---	---	.16	.00	.00	.00	.00
17	.00	---	---	---	---	---	---	.00	.02	.72	.32	.00
18	.00	---	---	---	---	---	---	.00	.00	.01	.00	.00
19	.00	---	---	---	---	---	---	.00	.00	.04	.01	.18
20	.00	---	---	---	---	---	---	.00	.00	.00	.01	.00
21	.00	---	---	---	---	---	---	.00	.00	.00	.03	.00
22	.00	---	---	---	---	---	---	.00	.00	.11	.00	.00
23	.00	---	---	---	---	---	---	.03	.00	.00	.00	.00
24	.00	---	---	---	---	---	---	.09	.00	.00	.00	.03
25	.00	---	---	---	---	---	---	1.61	.00	.00	.21	.00
26	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
27	.13	---	---	---	---	---	.00	.27	.00	.00	.09	.00
28	.10	---	---	---	---	---	.32	.00	.00	.08	.05	.07
29	.00	---	---	---	---	---	.59	.01	.00	.07	.07	.00
30	.00	---	---	---	---	---	.19	.00	.00	.13	.00	.00
31	.07	---	---	---	---	---	---	.00	---	.43	.02	---
TOTAL	0.50	---	---	---	---	---	---	2.25	1.00	2.21	2.55	0.28

PLATTE RIVER BASIN

392133105184401 BUFFALO CREEK RAIN GAGE AT MORRISON CREEK, CO

PRECIPITATION RECORDS

LOCATION.--Lat 39°21'33", long 105°18'44", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 SEASONAL RECORD.--Maximum daily rainfall, 1.67 inches, June 6, 1997.

EXTREMES FOR CURRENT SEASON.--Maximum daily rainfall, 0.64 inches, May 25.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	---	---	---	---	---	---	.04	.00	.00	.00	.01
2	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
3	.00	---	---	---	---	---	---	.00	.00	.05	.00	.00
4	.09	---	---	---	---	---	---	.00	.00	.00	.30	.00
5	.00	---	---	---	---	---	---	.00	.00	.00	.11	.00
6	.00	---	---	---	---	---	---	.00	.00	.00	.06	.00
7	.00	---	---	---	---	---	---	.00	.00	.00	.01	.00
8	.12	---	---	---	---	---	---	.00	.00	.07	.13	.00
9	.00	---	---	---	---	---	---	.00	.38	.00	.03	.00
10	.00	---	---	---	---	---	---	.00	.33	.00	.00	.02
11	.00	---	---	---	---	---	---	.00	.03	.06	.00	.01
12	.00	---	---	---	---	---	---	.00	.27	.00	.00	.00
13	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	.00	---	---	---	---	---	---	.00	.05	.00	.00	.00
15	.00	---	---	---	---	---	---	.00	.04	.09	.22	.00
16	.00	---	---	---	---	---	---	.14	.04	.05	.00	.00
17	.00	---	---	---	---	---	---	.01	.02	.25	.00	.00
18	.00	---	---	---	---	---	---	.00	.00	.05	.00	.00
19	.00	---	---	---	---	---	---	.00	.00	.05	.00	.25
20	.00	---	---	---	---	---	---	.01	.00	.00	.01	.01
21	.00	---	---	---	---	---	---	.00	.00	.00	.07	.00
22	.00	---	---	---	---	---	---	.07	.00	.07	.00	.00
23	.00	---	---	---	---	---	---	.21	.00	.01	.00	.00
24	.00	---	---	---	---	---	---	.54	.00	.01	.00	.00
25	.00	---	---	---	---	---	---	.64	.00	.02	.12	.00
26	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
27	.22	---	---	---	---	---	.00	.22	.00	.03	.20	.00
28	.04	---	---	---	---	---	.22	.00	.00	.18	.07	.06
29	.00	---	---	---	---	---	.36	.06	.00	.22	.01	.01
30	.00	---	---	---	---	---	.04	.00	.00	.20	.00	.00
31	.07	---	---	---	---	---	---	.00	---	.59	.33	---
TOTAL	0.82	---	---	---	---	---	---	1.94	1.16	2.00	1.67	0.37

## PLATTE RIVER BASIN

06706800 BUFFALO CREEK AT MOUTH AT BUFFALO CREEK, CO

LOCATION.--Lat 39°23'27", long 105°16'15", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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.--No estimated daily discharges. Records fair. 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 SEASONAL RECORD.--Maximum discharge 3,400 ft<sup>3</sup>/s, gage height, 10.80 ft, July 31, 1998, from high water marks; minimum daily, 3.9 ft<sup>3</sup>/s, Mar. 31, 1999.

EXTREMES FOR CURRENT SEASON.--Maximum discharge 185 ft<sup>3</sup>/s, gage height, 5.90 ft, May 25; minimum daily, 3.9 ft<sup>3</sup>/s, Mar. 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	22	---	---	---	---	4.0	36	94	26	30	18
2	12	36	---	---	---	---	4.1	37	74	25	28	18
3	11	34	---	---	---	---	4.1	40	66	24	28	18
4	11	15	---	---	---	---	4.0	41	60	23	26	17
5	11	10	---	---	---	---	4.3	42	51	22	38	19
6	10	9.8	---	---	---	---	4.3	41	46	21	37	19
7	10	9.5	---	---	---	---	4.3	39	42	21	34	18
8	10	9.1	---	---	---	---	4.4	37	40	21	33	17
9	11	8.7	---	---	---	---	4.4	38	38	22	33	16
10	10	7.5	---	---	---	---	4.4	39	37	20	34	16
11	10	8.1	---	---	---	---	4.4	38	35	21	33	16
12	11	8.0	---	---	---	---	4.5	37	35	20	32	16
13	11	7.5	---	---	---	---	4.7	37	35	20	31	16
14	11	7.5	---	---	---	---	5.0	36	34	20	29	16
15	9.8	7.4	---	---	---	---	5.0	34	36	20	28	15
16	9.4	7.3	---	---	---	---	4.9	32	36	20	27	15
17	9.2	7.4	---	---	---	---	5.0	32	36	19	26	14
18	9.2	6.9	---	---	---	---	5.2	33	34	17	28	14
19	9.0	---	---	---	---	---	5.3	29	33	17	28	15
20	8.9	---	---	---	---	---	5.5	24	32	18	28	15
21	8.8	---	---	---	---	---	5.7	20	32	17	30	14
22	8.3	---	---	---	---	---	6.8	21	31	18	30	14
23	8.1	---	---	---	---	---	7.1	20	30	17	26	13
24	9.9	---	---	---	---	---	8.4	24	29	17	26	13
25	14	---	---	---	---	---	9.6	151	29	17	26	12
26	14	---	---	---	---	4.3	10	140	28	17	26	12
27	13	---	---	---	---	5.0	11	118	28	17	27	13
28	17	---	---	---	---	4.6	13	119	27	17	27	13
29	19	---	---	---	---	4.7	20	131	27	21	26	13
30	18	---	---	---	---	4.6	28	122	26	25	25	12
31	18	---	---	---	---	3.9	---	102	---	30	24	---
TOTAL	354.6	---	---	---	---	---	211.4	1690	1181	630	904	457
MEAN	11.4	---	---	---	---	---	7.05	54.5	39.4	20.3	29.2	15.2
MAX	19	---	---	---	---	---	28	151	94	30	38	19
MIN	8.1	---	---	---	---	---	4.0	20	26	17	24	12
AC-FT	703	---	---	---	---	---	419	3350	2340	1250	1790	906

06706800 BUFFALO CREEK 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 SEASONAL RECORD.--Maximum daily rainfall, 1.63 inches, May 25, 1999.

EXTREMES FOR CURRENT SEASON.--Maximum daily rainfall, 1.63 inches, May 25.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	---	---	---	---	---	---	.32	.00	.00	.00	.00
2	.00	---	---	---	---	---	---	.00	.00	.00	.32	.00
3	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
4	.00	---	---	---	---	---	---	.00	.00	.00	.76	.00
5	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
6	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
7	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
8	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
9	.00	---	---	---	---	---	---	.00	.64	.00	.00	.00
10	.00	---	---	---	---	---	---	.00	.27	.00	.00	.00
11	.00	---	---	---	---	---	---	.00	.00	.38	.00	.00
12	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
13	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
15	.00	---	---	---	---	---	---	.00	.23	.00	.00	.00
16	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
17	.00	---	---	---	---	---	---	.00	.00	.38	.00	.00
18	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	---	.00	.00	.00	.00	.27
20	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
21	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
23	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
24	.00	---	---	---	---	---	---	.50	.00	.00	.00	.00
25	.00	---	---	---	---	---	---	1.63	.00	.00	.00	.00
26	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
27	.00	---	---	---	---	---	.00	.18	.00	.00	.33	.00
28	.00	---	---	---	---	---	.51	.00	.00	.22	.00	.00
29	.00	---	---	---	---	---	.81	.00	.00	.80	.00	.00
30	.00	---	---	---	---	---	.47	.00	.00	.19	.00	.00
31	.00	---	---	---	---	---	---	.00	---	.45	1.00	---
TOTAL	0.24	---	---	---	---	---	---	2.63	1.14	2.42	2.41	0.27

## PLATTE RIVER BASIN

06708800 EAST PLUM CREEK BELOW HASKINS GULCH NEAR CASTLE ROCK, CO

LOCATION.--Lat 39°25'28", long 104°54'27", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.20, T.7 S., R.67 W., Douglas County, Hydrologic Unit 10190002, on right bank at the Plum Creek Wastewater Treatment Plant, 0.1 mi southeast of Happy Canyon Road, 3.0 mi east of Sedalia, and 3.6 mi northwest of Castle Rock.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--April to September 1999.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,940 ft above sea level, from topographic map.

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April to September, 666 ft<sup>3</sup>/s, Apr. 30, gage height 7.13 ft; minimum daily, 1.7 ft<sup>3</sup>/s, Sept. 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	394	95	34	50	12
2	---	---	---	---	---	---	---	277	96	28	34	4.4
3	---	---	---	---	---	---	---	184	90	25	26	7.5
4	---	---	---	---	---	---	---	155	83	27	34	7.8
5	---	---	---	---	---	---	---	132	80	17	38	13
6	---	---	---	---	---	---	---	e121	80	16	54	e14
7	---	---	---	---	---	---	---	e113	68	17	43	e13
8	---	---	---	---	---	---	---	104	61	18	46	9.7
9	---	---	---	---	---	---	---	102	60	27	46	7.2
10	---	---	---	---	---	---	---	105	106	25	36	10
11	---	---	---	---	---	---	---	103	78	26	39	13
12	---	---	---	---	---	---	---	102	65	31	29	18
13	---	---	---	---	---	---	---	94	76	19	26	29
14	---	---	---	---	---	---	---	88	61	14	24	34
15	---	---	---	---	---	---	---	85	67	13	28	25
16	---	---	---	---	---	---	---	80	67	12	18	17
17	---	---	---	---	---	---	---	82	69	13	16	21
18	---	---	---	---	---	---	---	67	64	18	16	19
19	---	---	---	---	---	---	---	58	58	32	17	31
20	---	---	---	---	---	---	---	53	54	32	e41	28
21	---	---	---	---	---	---	e14	49	48	23	e33	26
22	---	---	---	---	---	---	40	39	42	24	27	21
23	---	---	---	---	---	---	35	37	35	18	e22	11
24	---	---	---	---	---	---	31	36	32	16	e13	4.0
25	---	---	---	---	---	---	36	109	39	17	15	2.1
26	---	---	---	---	---	---	39	79	38	16	24	1.7
27	---	---	---	---	---	---	32	80	29	7.2	20	2.1
28	---	---	---	---	---	---	30	176	33	11	42	e8.6
29	---	---	---	---	---	---	126	98	31	15	20	e15
30	---	---	---	---	---	---	410	95	32	28	12	12
31	---	---	---	---	---	---	---	94	---	e49	11	---
TOTAL	---	---	---	---	---	---	---	3391	1837	668.2	900	437.1
MEAN	---	---	---	---	---	---	---	109	61.2	21.6	29.0	14.6
MAX	---	---	---	---	---	---	---	394	106	49	54	34
MIN	---	---	---	---	---	---	---	36	29	7.2	11	1.7
AC-FT	---	---	---	---	---	---	---	6730	3640	1330	1790	867

e Estimated

06709000 PLUM CREEK NEAR SEDALIA, CO

LOCATION.--Lat 39°26'18", long 104°58'57", in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.15, T.7 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on right bank, on south side of County Road No. 20 bridge over Plum Creek, 1.0 mi west of Sedalia, and 1.4 mi downstream from the confluence of East and West Plum Creeks.

DRAINAGE AREA.--274 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1942 to September 1947. August 1990 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,720 ft above sea level, from topographic map. Aug. 1942 to Sept. 1947, water-stage recorder at site 150 ft upstream at different datum. Prior to Aug. 1942, nonrecording gage at bridge.

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.

COOPERATION.--U.S. Army Corps of Engineers.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	12	7.5	12	14	13	14	409	253	41	85	18
2	8.5	10	e7.5	9.8	14	13	16	339	247	48	52	22
3	8.6	9.8	e7.9	11	14	14	14	321	222	43	48	24
4	9.9	15	e8.4	11	14	14	13	315	190	37	65	22
5	9.0	24	e8.8	13	14	14	17	310	158	31	80	19
6	8.6	29	e9.7	13	14	13	14	301	143	32	82	21
7	9.4	32	10	12	13	13	16	287	124	30	58	21
8	9.1	30	7.7	12	13	14	20	274	98	41	68	19
9	7.6	27	7.6	11	13	13	20	271	85	36	63	18
10	8.8	21	7.7	12	14	14	15	273	188	20	59	16
11	7.6	20	7.3	12	13	13	15	269	160	18	59	15
12	7.3	17	8.9	12	10	13	15	238	117	26	49	14
13	7.2	16	9.8	9.4	13	14	15	173	106	16	47	15
14	7.4	16	11	8.7	14	13	29	149	87	19	45	18
15	6.7	16	9.7	12	13	13	17	158	86	27	42	17
16	7.3	15	9.8	12	11	13	16	154	86	48	42	17
17	8.3	15	10	11	14	13	18	157	97	52	39	10
18	8.3	14	11	9.9	14	13	17	120	100	52	39	11
19	8.0	14	11	12	14	13	19	92	80	46	42	20
20	6.9	12	e11	12	14	13	20	75	79	49	53	25
21	7.0	11	e11	12	14	13	17	66	65	44	37	21
22	7.5	9.6	e11	13	14	12	43	55	67	49	34	19
23	7.5	8.0	e11	11	13	13	44	56	58	56	33	15
24	8.2	7.2	e11	13	13	13	35	55	57	44	35	15
25	7.3	6.7	e12	12	13	13	41	226	65	40	31	21
26	7.7	7.6	e12	13	13	13	43	271	61	42	37	17
27	8.8	7.2	e12	13	13	13	38	239	58	41	35	16
28	13	7.7	e12	13	13	13	39	304	59	41	91	21
29	10	7.8	e12	14	---	13	242	280	55	49	47	23
30	8.7	7.4	e12	14	---	13	479	276	57	69	31	20
31	9.8	---	12	14	---	14	---	269	---	79	28	---
TOTAL	255.4	445.0	310.3	369.8	373	409	1361	6782	3308	1266	1556	550
MEAN	8.24	14.8	10.0	11.9	13.3	13.2	45.4	219	110	40.8	50.2	18.3
MAX	13	32	12	14	14	14	479	409	253	79	91	25
MIN	5.4	6.7	7.3	8.7	10	12	13	55	55	16	28	10
AC-FT	507	883	615	733	740	811	2700	13450	6560	2510	3090	1090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	8.50	15.1	12.7	12.2	16.1	18.9	54.4	115	43.5	17.0	21.0	6.35
MEAN	8.50	15.1	12.7	12.2	16.1	18.9	54.4	115	43.5	17.0	21.0	6.35
MAX	31.8	30.6	29.1	23.0	27.8	38.5	155	332	134	71.2	147	18.3
(WY)	1943	1943	1943	1943	1944	1998	1998	1944	1947	1947	1945	1999
MIN	1.32	3.34	5.00	4.09	5.71	6.62	15.7	5.06	2.70	1.59	.020	.000
(WY)	1945	1945	1944	1997	1997	1995	1943	1946	1946	1996	1996	1943

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1942 - 1999

ANNUAL TOTAL	18116.3	16985.5	
ANNUAL MEAN	49.6	46.5	28.5
HIGHEST ANNUAL MEAN			58.3
LOWEST ANNUAL MEAN			10.6
HIGHEST DAILY MEAN	422	May 6	915
LOWEST DAILY MEAN	3.5	Jul 21	a.00
ANNUAL SEVEN-DAY MINIMUM	4.0	Sep 24	.00
INSTANTANEOUS PEAK FLOW			b,c7700
INSTANTANEOUS PEAK STAGE			d6.52
ANNUAL RUNOFF (AC-FT)	35930	33690	20670
10 PERCENT EXCEEDS	140	118	56
50 PERCENT EXCEEDS	18	15	13
90 PERCENT EXCEEDS	7.3	8.6	1.6

- e Estimated
- a No flow many days, also during most years.
- b Site and datum then in use, from rating curve extended above 350 ft<sup>3</sup>/s on basis of slope-area determination of peak flow.
- c Highest flood of actual record probably occurred Jun 16, 1965. Discharge computed at Plum Creek near Louviers was 154,000 cfs.
- d Maximum gage height, 7.07 ft, Jan 15, 1993, backwater from ice.

## PLATTE RIVER BASIN

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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.8	e18	e12	e14	e15	e17	13	1060	275	49	e90	17
2	8.3	e15	e10	e14	e15	e17	24	e700	219	41	e43	13
3	7.2	e15	e11	e14	e15	e18	26	e620	192	33	e39	20
4	e15	e20	e11	e14	e15	e18	27	e570	155	30	e56	e18
5	e12	e22	e13	e14	e15	e18	26	e530	138	31	e80	e15
6	7.3	e27	e13	e14	e15	e16	30	e490	131	30	68	e17
7	e8.1	e36	e12	e13	e14	e16	28	e460	133	24	65	e17
8	e7.8	e34	e12	e13	e14	e17	26	e430	128	28	57	e15
9	e6.3	e36	e11	e13	e15	e16	36	e415	135	36	54	e14
10	e7.5	e27	e12	e14	e16	e17	40	e410	248	41	63	e12
11	e6.3	e19	e12	e13	e15	e15	27	e400	255	36	86	e11
12	e6.0	e15	e12	e10	e12	e16	28	308	178	35	58	e9.0
13	e5.9	14	e9.4	e13	e16	e17	33	252	e150	25	33	e10
14	e6.1	e14	e8.7	e14	e17	e16	243	286	e115	20	25	e13
15	e5.4	e14	e12	e13	e16	15	287	147	e109	18	33	e10
16	e6.0	e13	e12	e11	e15	15	153	153	e105	e35	48	e10
17	e7.0	e13	e11	e14	e18	e15	144	235	e120	e39	60	e3.0
18	e7.0	e12	e9.9	e14	e18	e15	171	236	e130	e39	55	e4.0
19	e6.7	e12	e12	e14	e18	e15	97	217	e105	e36	45	e13
20	e5.6	e10	e12	e14	e18	e15	93	157	e98	e39	70	e18
21	e5.7	e9.0	e12	e14	e19	e15	84	119	75	e36	55	e14
22	e6.2	e8.0	e13	e14	e19	e14	194	99	64	e39	76	e12
23	e6.2	e7.0	e11	e13	e18	e15	247	142	52	e44	65	e8.0
24	e6.9	e6.8	e13	e13	18	e15	214	91	59	e38	42	e8.0
25	e6.0	e6.5	e12	e13	e18	e15	190	348	68	e33	28	e14
26	e6.4	e7.4	e13	e13	e18	e15	198	726	74	e35	35	e10
27	e7.5	e7.0	e13	e13	e18	e15	164	523	57	e34	38	e9.0
28	e21	e7.5	e13	e13	e18	e15	129	1080	60	e34	100	e14
29	e15	e7.6	e14	e14	---	e15	323	683	63	e40	42	e16
30	e9.0	e7.2	e14	e14	---	e15	1430	526	59	e60	20	e13
31	e9.5	---	e14	e14	---	e16	---	357	---	e79	25	---
TOTAL	244.7	460.0	370.0	415	458	489	4725	12770	3750	1137	1654	377.0
MEAN	7.89	15.3	11.9	13.4	16.4	15.8	158	412	125	36.7	53.4	12.6
MAX	21	36	14	14	19	18	1430	1080	275	79	100	20
MIN	3.8	6.5	8.7	10	12	14	13	91	52	18	20	3.0
AC-FT	485	912	734	823	908	970	9370	25330	7440	2260	3280	748

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	12.5	17.3	14.7	14.0	16.9	26.8	75.1	180	53.3	18.3	18.2	6.27				
MAX (WY)	71.8	75.9	44.3	32.1	42.7	62.1	184	779	135	66.5	63.4	31.1				
MIN (WY)	.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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1984 - 1999
ANNUAL TOTAL	24526.76	26849.7	
ANNUAL MEAN	67.2	73.6	
HIGHEST ANNUAL MEAN			73.6
LOWEST ANNUAL MEAN			7.84
HIGHEST DAILY MEAN	887	May 6	1430
LOWEST DAILY MEAN	.00	Jul 18	e3.0
ANNUAL SEVEN-DAY MINIMUM	.01	Jul 18	6.1
INSTANTANEOUS PEAK FLOW			b2900
INSTANTANEOUS PEAK STAGE			c8.05
ANNUAL RUNOFF (AC-FT)	48650	53260	24290
10 PERCENT EXCEEDS	230	193	74
50 PERCENT EXCEEDS	28	17	14
90 PERCENT EXCEEDS	5.0	8.1	.00

e Estimated

a No flow many days, most years.

b From rating curve extended above 450 ft<sup>3</sup>/s.

c Maximum gage height, 10.63 ft, Jun 28, 1995, datum then in use.



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

LOCATION.--Lat 39°37'57", long 105°00'52", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--No estimated daily discharges. Records fair. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	85	14	12	24	45	30	1120	1740	716	345	90
2	106	63	16	12	25	55	65	1190	1740	816	206	63
3	106	35	16	11	28	54	40	1380	1430	622	76	52
4	116	34	12	14	26	55	35	1450	1070	561	317	48
5	141	21	15	13	29	43	34	1330	952	480	739	44
6	229	23	16	14	24	36	48	1110	964	433	659	43
7	187	56	17	12	27	38	68	782	717	446	881	40
8	116	37	14	12	26	39	69	536	507	551	1120	43
9	121	48	14	13	19	53	76	394	663	806	1190	62
10	134	34	16	12	21	55	65	224	924	954	1330	66
11	133	43	15	13	31	54	65	318	912	996	1080	108
12	131	42	16	11	19	62	61	514	1040	782	855	64
13	124	23	15	13	15	63	34	477	1030	483	774	68
14	105	27	16	12	15	61	203	435	1100	473	586	55
15	91	23	14	11	13	59	189	351	1150	472	525	50
16	66	26	14	16	16	60	179	357	1400	440	547	59
17	78	18	16	12	12	54	78	272	1890	424	528	62
18	78	18	15	14	15	48	59	174	1940	514	446	54
19	87	14	10	12	12	48	40	168	1750	732	349	79
20	131	18	12	11	11	49	41	160	1560	573	349	161
21	131	18	13	11	14	47	90	163	1330	384	352	343
22	118	20	14	55	13	47	379	164	1370	424	345	89
23	67	17	13	74	15	47	530	186	1400	491	346	67
24	80	17	28	76	9.4	48	495	281	1370	531	289	32
25	77	16	11	69	11	49	405	630	1300	530	201	32
26	82	16	14	24	13	48	203	761	1230	471	141	31
27	123	16	16	22	37	48	175	1180	1160	342	79	37
28	176	16	15	23	41	47	193	1660	1110	316	115	108
29	81	16	14	23	---	49	502	1900	1100	424	89	113
30	76	16	13	25	---	75	897	1720	817	424	82	68
31	74	---	12	26	---	122	---	1710	---	443	82	---
TOTAL	3451	856	456	678	561.4	1658	5348	23097	36666	17054	15023	2231
MEAN	111	28.5	14.7	21.9	20.1	53.5	178	745	1222	550	485	74.4
MAX	229	85	28	76	41	122	897	1900	1940	996	1330	343
MIN	66	14	10	11	9.4	36	30	160	507	316	76	31
AC-FT	6850	1700	904	1340	1110	3290	10610	45810	72730	33830	29800	4430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	1996	1997	1998	1999
MEAN	74.6	56.4	38.2	36.1
MAX	111	83.5	76.4	73.6
(WY)	1999	1998	1998	1998
MIN	30.5	28.5	14.7	12.7
(WY)	1997	1999	1999	1997

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1996 - 1999

ANNUAL TOTAL	96196	107079.4		
ANNUAL MEAN	264	293		237
HIGHEST ANNUAL MEAN				293
LOWEST ANNUAL MEAN				148
HIGHEST DAILY MEAN	1730	May 8	1940	Jun 18
LOWEST DAILY MEAN	10	Dec 19	9.4	Feb 24
ANNUAL SEVEN-DAY MINIMUM	13	Dec 17	12	Jan 9
INSTANTANEOUS PEAK FLOW			2150	May 28
INSTANTANEOUS PEAK STAGE			14.19	May 28
ANNUAL RUNOFF (AC-FT)	190800		212400	172000
10 PERCENT EXCEEDS	699		1030	586
50 PERCENT EXCEEDS	112		68	80
90 PERCENT EXCEEDS	17		14	14

## PLATTE RIVER BASIN

06710385 BEAR CREEK ABOVE EVERGREEN, CO

LOCATION.--Lat 39°37'58", long 105°19'59", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	26	e18	e15	e12	e13	e14	108	269	123	130	74
2	39	27	e19	e14	e12	e13	e9.9	109	245	118	121	69
3	34	26	e19	e13	e11	e12	e16	125	233	114	102	67
4	34	e22	e18	e13	e11	e13	16	125	216	110	105	64
5	32	e20	e18	e13	e13	e12	15	114	199	105	226	61
6	32	e24	e18	e14	e12	e12	14	105	170	105	230	58
7	33	e24	e18	e14	e11	e12	16	99	163	108	200	55
8	32	e21	e18	e15	e12	e13	17	104	168	106	209	53
9	31	e24	e18	e14	e12	e14	14	124	166	102	188	52
10	30	e25	e18	e15	e12	e15	13	143	181	91	190	50
11	29	e25	e18	e15	e12	e16	13	125	171	87	168	52
12	28	e25	e18	e16	e11	e16	14	111	166	87	153	50
13	28	e26	e17	e15	e11	e15	15	113	153	78	143	48
14	27	e29	e17	e15	e12	e16	18	129	154	76	136	46
15	27	e26	e17	e16	e13	e17	13	133	185	75	130	45
16	27	e24	e17	e16	e12	e18	16	137	190	81	123	44
17	28	e23	e17	e16	e11	e18	16	121	197	112	122	42
18	25	e22	e17	e16	e11	e16	17	113	193	84	116	41
19	27	e19	e16	e16	e10	e15	18	117	196	79	108	44
20	27	e17	e16	e16	e10	e15	20	121	197	78	111	49
21	26	e21	e16	e15	e10	e16	22	123	189	72	113	46
22	28	e21	e15	e14	e11	e16	21	128	185	72	106	42
23	27	e21	e15	e14	e10	e17	18	139	193	76	94	39
24	27	e20	e15	e15	e11	e16	22	168	191	67	90	38
25	26	e19	e14	e14	e12	e15	29	398	186	70	92	37
26	26	e20	e14	e14	e12	e15	26	417	172	65	91	35
27	27	e20	e16	e14	e12	e15	29	417	156	64	85	35
28	34	e19	e15	e13	e12	e15	37	401	144	68	86	37
29	26	e19	e15	e13	---	e13	98	372	134	76	83	36
30	27	e18	e15	e12	---	e14	115	327	127	89	76	39
31	27	---	e15	e12	---	e14	---	297	---	125	73	---
TOTAL	911	673	517	447	321	457	721.9	5563	5489	2763	4000	1448
MEAN	29.4	22.4	16.7	14.4	11.5	14.7	24.1	179	183	89.1	129	48.3
MAX	40	29	19	16	13	18	115	417	269	125	230	74
MIN	25	17	14	12	10	12	9.9	99	127	64	73	35
AC-FT	1810	1330	1030	887	637	906	1430	11030	10890	5480	7930	2870

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1999, BY WATER YEAR (WY)

MEAN	29.4	24.3	17.1	14.1	12.9	16.4	37.7	105	114	63.9	56.7	35.7
MAX (WY)	85.1	56.2	32.8	19.6	18.2	26.7	89.7	238	280	134	129	54.2
MIN (WY)	1985	1985	1985	1998	1996	1992	1987	1998	1995	1995	1999	1997
MIN (WY)	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1985 - 1999
ANNUAL TOTAL	25128	23310.9	
ANNUAL MEAN	68.8	63.9	44.0
HIGHEST ANNUAL MEAN			70.5
LOWEST ANNUAL MEAN			22.5
HIGHEST DAILY MEAN	285	May 7	421
LOWEST DAILY MEAN	e14	Dec 25	e9.9
ANNUAL SEVEN-DAY MINIMUM	15	Dec 22	10
INSTANTANEOUS PEAK FLOW			472
INSTANTANEOUS PEAK STAGE			4.40
ANNUAL RUNOFF (AC-FT)	49840	46240	31910
10 PERCENT EXCEEDS	175	167	98
50 PERCENT EXCEEDS	39	27	26
90 PERCENT EXCEEDS	17	13	11

e Estimated

06710500 BEAR CREEK AT MORRISON, CO

LOCATION.--Lat 39°39'11", long 105°11'43", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	33	19	e12	e12	17	15	243	378	129	137	81
2	48	34	21	e12	e14	17	17	236	323	122	115	76
3	40	33	17	e12	e15	10	9.9	231	282	117	100	75
4	41	31	18	e12	e13	16	15	217	230	112	103	71
5	38	25	16	e13	e14	e14	20	180	196	106	279	65
6	34	28	15	e13	e16	12	18	150	174	106	279	58
7	37	32	e12	e13	e15	12	21	135	166	109	205	53
8	36	23	e12	e13	e16	19	22	133	171	110	213	51
9	36	36	e12	e13	e16	13	15	157	173	109	190	51
10	34	22	e12	e14	e19	16	15	201	200	99	200	48
11	33	30	e12	e15	e11	15	6.3	158	187	95	181	50
12	31	30	e12	e17	e13	16	14	136	181	99	164	50
13	31	31	e12	e17	e17	13	16	e158	168	84	144	49
14	31	38	e12	e14	e19	18	30	175	169	82	141	46
15	31	33	e12	e17	e17	23	25	177	183	82	134	45
16	31	30	e12	e14	e15	20	19	180	197	83	126	44
17	32	29	e12	e14	e15	19	22	159	203	116	130	41
18	30	28	e12	e16	e14	18	28	143	212	93	122	40
19	30	21	e12	e16	e13	20	28	139	203	87	113	43
20	32	17	e12	e16	e10	21	30	142	199	85	113	52
21	32	23	e12	e15	e10	20	31	140	190	77	115	49
22	31	32	e12	e13	e11	20	44	146	187	73	113	42
23	31	25	e12	e13	e11	18	39	155	190	84	102	40
24	33	23	e12	e13	16	18	37	188	194	69	96	39
25	31	25	e12	e13	16	18	52	630	185	77	95	38
26	30	24	e12	e13	15	18	52	629	176	70	99	37
27	32	24	e12	e13	11	20	62	656	164	71	97	37
28	44	24	e12	e13	14	18	65	658	146	80	98	39
29	33	25	e12	e13	---	15	209	569	139	82	94	38
30	31	20	e12	e13	---	15	250	428	133	97	83	41
31	33	---	e12	e13	---	15	---	388	---	136	79	---
TOTAL	1065	829	406	428	398	524	1227.2	8037	5899	2941	4260	1489
MEAN	34.4	27.6	13.1	13.8	14.2	16.9	40.9	259	197	94.9	137	49.6
MAX	48	38	21	17	19	23	250	658	378	136	279	81
MIN	30	17	12	12	10	10	6.3	133	133	69	79	37
AC-FT	2110	1640	805	849	789	1040	2430	15940	11700	5830	8450	2950

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1900 - 1999, 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	1999
MEAN	31.3	23.7	17.1	13.9	14.4	20.3	53.9	150	139	73.1	65.3	44.1																																																																																								
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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1900 - 1999
ANNUAL TOTAL	30600	27503.2	
ANNUAL MEAN	83.8	75.4	53.5
HIGHEST ANNUAL MEAN			125
LOWEST ANNUAL MEAN			14.6
HIGHEST DAILY MEAN	455	May 7	1410
LOWEST DAILY MEAN	e11	Feb 26	a.80
ANNUAL SEVEN-DAY MINIMUM	12	Dec 7	3.0
INSTANTANEOUS PEAK FLOW			e8600
INSTANTANEOUS PEAK STAGE		6.18	May 25
ANNUAL RUNOFF (AC-FT)	60700	54550	38730
10 PERCENT EXCEEDS	210	187	122
50 PERCENT EXCEEDS	46	33	26
90 PERCENT EXCEEDS	17	12	11

e Estimated  
a Result of freezepup.

PLATTE RIVER BASIN

06710605 BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO

LOCATION.--Lat 39°39'08", long 105°10'23", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e50	33	e22	e18	e20	e9.0	2.1	350	313	123	138	65
2	e50	e17	e22	e18	e20	e8.0	2.0	325	288	116	116	60
3	e42	e17	e21	e18	e20	e5.0	1.8	292	268	111	91	60
4	e42	e15	e20	e18	e20	e7.0	1.7	258	250	109	102	60
5	e40	e13	e19	e18	e20	e9.0	2.5	217	228	101	257	55
6	e35	e8.0	e18	e18	e20	e5.0	2.0	196	201	100	253	51
7	e38	e8.0	e18	e18	e21	e5.0	3.1	175	183	94	216	48
8	e38	e6.0	e18	e18	e21	e8.0	8.2	167	184	88	216	e43
9	e37	e11	e18	e18	e21	e6.0	8.5	201	183	95	193	e37
10	e36	e8.0	e18	e19	e21	e5.2	6.9	223	212	85	192	33
11	e35	e10	e18	e19	e21	5.4	6.5	201	205	79	177	36
12	e33	e4.0	e18	e19	e21	5.8	7.2	169	195	86	154	35
13	e33	e4.1	e18	e19	e21	4.5	7.0	155	175	67	136	36
14	e33	e9.0	e18	e19	e21	6.6	11	174	173	60	129	32
15	e33	e28	e18	e20	e21	6.5	8.8	177	197	60	123	31
16	e32	e26	e18	e20	e21	2.1	7.4	183	203	61	116	31
17	e33	e24	e18	e20	e21	.91	8.3	155	207	103	121	28
18	e32	e28	e18	e20	e22	e.73	9.5	137	202	74	116	27
19	e31	e26	e18	e20	e21	1.1	5.7	139	192	67	103	30
20	32	e25	e18	e20	e17	1.4	3.0	138	194	69	102	41
21	32	27	e18	e20	e15	1.1	4.2	136	189	62	104	40
22	32	e36	e18	e20	17	1.7	38	141	185	57	100	35
23	32	e30	e18	e20	16	2.2	44	151	189	64	85	32
24	34	e28	e18	e20	19	2.2	41	176	188	55	79	30
25	33	e30	e18	e20	18	2.2	55	614	180	59	76	27
26	32	e29	e18	e20	e18	2.2	54	647	173	55	83	26
27	33	e29	e18	e20	e14	2.1	67	634	157	55	76	25
28	44	e29	e18	e20	e17	1.7	73	573	146	63	80	31
29	33	e30	e18	e20	---	2.3	270	497	136	66	76	29
30	31	e25	e18	e20	---	2.5	346	429	128	81	67	35
31	33	---	e18	e20	---	2.0	---	361	---	128	64	---
TOTAL	1104	613.1	572	597	545	124.44	1105.4	8391	5924	2493	3941	1149
MEAN	35.6	20.4	18.5	19.3	19.5	4.01	36.8	271	197	80.4	127	38.3
MAX	50	36	22	20	22	9.0	346	647	313	128	257	65
MIN	31	4.0	18	18	14	.73	1.7	136	128	55	64	25
AC-FT	2190	1220	1130	1180	1080	247	2190	16640	11750	4940	7820	2280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1999, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	17.0	17.6	18.6	16.5	15.9	20.1	54.8	142	128	49.3	40.8	22.4		
MAX	38.8	44.9	33.8	32.3	25.1	47.0	191	382	512	216	127	58.7		
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1995	1995	1999	1997		
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		

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1986 - 1999

ANNUAL TOTAL	33545.1	26558.94		
ANNUAL MEAN	91.9	72.8	46.4	
HIGHEST ANNUAL MEAN			96.1	1995
LOWEST ANNUAL MEAN			10.4	1989
HIGHEST DAILY MEAN	643	May 7	684	Jun 18 1995
LOWEST DAILY MEAN	4.0	Nov 12	.10	Feb 23 1995
ANNUAL SEVEN-DAY MINIMUM	7.3	Nov 7	1.3	Mar 16 1995
INSTANTANEOUS PEAK FLOW			834	May 25 1995
INSTANTANEOUS PEAK STAGE			6.38	May 25 1995
ANNUAL RUNOFF (AC-FT)	66540	52680	33580	
10 PERCENT EXCEEDS	216	193	103	
50 PERCENT EXCEEDS	41	31	20	
90 PERCENT EXCEEDS	18	6.0	4.0	

e Estimated

06710995 TURKEY CREEK AT MOUTH OF CANYON NEAR MORRISON, CO

LOCATION.--Lat 39°37'13", long 105°11'41", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1998 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,050 ft above sea level, from topographic map.

REMARKS.--Records poor. Natural flow of stream affected by several diversions for irrigation, upstream of 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	2.3	1.4	1.2	.85	1.5	.96	177	42	4.7	18	14
2	.08	2.9	1.6	1.0	.70	1.4	.57	174	39	3.3	5.4	9.3
3	.08	3.0	1.3	.99	.80	1.6	1.2	152	35	3.2	1.3	8.6
4	.07	2.4	1.5	.97	1.2	1.4	1.8	134	30	3.4	12	6.7
5	.05	1.9	1.5	.91	1.4	1.2	3.0	112	25	2.8	47	5.6
6	.05	2.4	e1.5	.96	1.3	1.4	3.7	91	23	1.5	28	4.8
7	.07	2.3	e1.5	1.0	1.6	2.8	5.9	84	23	.84	24	2.3
8	.08	2.5	e1.5	1.0	2.1	1.5	4.9	78	21	.46	23	1.3
9	.08	2.4	e1.5	.88	2.6	1.1	1.8	79	17	.54	22	1.1
10	.09	8.6	e1.5	.90	3.0	1.4	1.0	72	20	.48	20	1.2
11	.09	32	e1.5	1.1	e3.1	1.5	1.0	57	17	.33	21	1.2
12	.07	24	e1.3	1.2	e3.1	.81	1.5	54	22	.65	15	.85
13	.08	3.0	1.1	2.0	e3.2	1.3	1.9	57	14	2.3	13	.50
14	.10	3.9	1.1	2.6	3.3	2.2	8.6	51	16	1.5	12	.53
15	.10	4.0	1.1	.81	2.2	2.6	2.9	48	20	.83	11	.55
16	.10	3.5	1.1	.96	2.2	1.3	1.6	44	17	.47	10	.52
17	.09	3.2	1.2	.95	1.5	.82	3.8	43	17	.75	11	.59
18	.08	2.9	1.3	e1.0	2.2	.48	5.7	36	20	.49	9.7	.61
19	.09	2.4	1.0	1.1	e1.6	.93	9.1	34	17	.57	5.4	.74
20	.09	2.7	.71	1.2	e1.5	.98	12	32	16	.62	3.1	.85
21	.11	2.4	.52	e1.2	e1.2	1.4	9.8	34	14	.79	2.9	.41
22	.13	2.4	.51	e1.0	1.1	1.1	8.6	29	13	.43	3.0	.35
23	.15	1.9	.50	e1.0	2.4	.87	2.3	28	12	.88	1.9	.49
24	.14	2.1	.46	1.0	1.4	1.2	2.5	27	11	.72	1.5	.99
25	.15	2.2	.50	1.3	1.7	1.2	6.7	130	5.3	.81	1.2	1.4
26	.20	1.7	.62	1.1	1.9	1.4	12	104	2.5	1.2	1.3	.93
27	1.3	2.2	.76	e1.1	2.8	1.7	27	93	6.4	1.3	5.9	.45
28	3.5	2.4	.80	1.1	2.2	1.1	43	85	5.6	1.4	20	.28
29	2.4	2.5	.84	2.6	---	.90	166	71	4.7	1.2	9.5	.18
30	1.7	1.5	1.1	1.2	---	.55	175	60	3.8	1.7	7.5	.25
31	1.8	---	1.2	1.2	---	.28	---	50	---	14	7.5	---
TOTAL	13.19	133.6	34.02	36.53	54.15	39.92	525.83	2320	529.3	54.16	374.1	67.57
MEAN	.43	4.45	1.10	1.18	1.93	1.29	17.5	74.8	17.6	1.75	12.1	2.25
MAX	3.5	32	1.6	2.6	3.3	2.8	175	177	42	14	47	14
MIN	.05	1.5	.46	.81	.70	.28	.57	27	2.5	.33	1.2	.18
AC-FT	26	265	67	72	107	79	1040	4600	1050	107	742	134

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1999, BY WATER YEAR (WY)

	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
MEAN	.43	4.45	1.10	1.18	1.93	1.29	59.4	77.6	15.1	1.77	8.43	1.38
MAX	.43	4.45	1.10	1.18	1.93	1.29	101	80.4	17.6	1.78	12.1	2.25
(WY)	1999	1999	1999	1999	1999	1999	1998	1998	1999	1998	1999	1999
MIN	.43	4.45	1.10	1.18	1.93	1.29	17.5	74.8	12.6	1.75	4.79	.51
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1998	1999	1998	1998

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1998 - 1999

ANNUAL TOTAL	4182.37	
ANNUAL MEAN	11.5	11.5
HIGHEST ANNUAL MEAN		11.5 1999
LOWEST ANNUAL MEAN		11.5 1999
HIGHEST DAILY MEAN	177	177 May 1 1999
LOWEST DAILY MEAN	.05	.01 Jul 21 1998
ANNUAL SEVEN-DAY MINIMUM	.07	.05 Sep 15 1998
INSTANTANEOUS PEAK FLOW	248	248 May 25 1999
INSTANTANEOUS PEAK STAGE	6.16	6.16 May 25 1999
ANNUAL RUNOFF (AC-FT)	8300	8300
10 PERCENT EXCEEDS	31	72
50 PERCENT EXCEEDS	1.6	2.4
90 PERCENT EXCEEDS	.46	.35

e Estimated

PLATTE RIVER BASIN

06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO

LOCATION.--Lat 39°39'08", long 105°01'57", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--Records good except for estimated daily discharges, which are poor. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	44	32	30	e25	24	8.3	566	450	127	197	91
2	55	43	32	29	e24	18	15	532	360	120	148	85
3	47	33	33	29	e25	13	9.8	434	322	111	114	82
4	46	27	30	27	e24	11	9.1	388	296	108	235	78
5	45	23	31	28	e25	13	8.9	314	268	102	409	67
6	40	21	28	28	e25	12	10	269	244	99	324	59
7	39	33	26	28	e26	12	8.5	263	217	99	284	53
8	39	23	19	27	e26	12	8.3	237	203	82	287	48
9	38	28	22	25	e26	13	8.0	236	201	95	261	45
10	37	21	26	25	e29	13	6.8	262	230	86	254	43
11	35	17	26	26	e28	13	5.5	256	253	81	244	43
12	35	16	25	27	e20	15	6.7	221	236	93	203	46
13	34	15	30	25	e24	15	16	192	208	77	181	46
14	35	15	34	e24	e27	14	41	195	200	68	162	43
15	34	18	33	e25	e26	14	38	198	232	69	152	42
16	35	29	34	e25	e24	13	26	229	246	67	144	43
17	37	31	35	e25	e22	11	24	229	240	98	143	39
18	37	32	34	e24	e23	8.9	20	193	255	92	146	36
19	37	34	31	e26	e23	7.9	16	175	235	93	120	95
20	35	30	e25	e25	e23	7.5	15	160	226	85	116	74
21	38	28	e26	e25	e23	7.3	14	161	223	74	118	25
22	38	37	e28	e27	e25	7.4	91	166	218	60	116	29
23	36	38	25	e24	e22	7.6	113	189	214	65	103	38
24	37	34	29	e26	e23	6.8	71	188	211	59	90	37
25	36	34	35	e26	23	6.3	75	460	195	58	82	34
26	38	35	35	e24	25	6.9	73	606	187	55	86	33
27	38	35	32	e22	25	7.7	70	622	172	51	100	36
28	53	35	31	e22	24	7.5	108	629	155	59	114	53
29	47	35	30	e20	---	7.3	402	625	144	63	98	46
30	40	35	30	e23	---	7.7	547	616	136	91	81	43
31	40	---	30	e24	---	7.5	---	600	---	139	77	---
TOTAL	1222	879	917	791	685	340.3	1864.9	10411	6977	2626	5189	1532
MEAN	39.4	29.3	29.6	25.5	24.5	11.0	62.2	336	233	84.7	167	51.1
MAX	55	44	35	30	29	24	547	629	450	139	409	95
MIN	34	15	19	20	20	6.3	5.5	160	136	51	77	25
AC-FT	2420	1740	1820	1570	1360	675	3700	20650	13840	5210	10290	3040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1999, BY WATER YEAR (WY)

	23.7	23.7	21.9	19.9	19.3	22.5	54.7	157	107	38.3	40.2	25.4
MEAN	23.7	23.7	21.9	19.9	19.3	22.5	54.7	157	107	38.3	40.2	25.4
MAX	151	99.8	61.3	46.3	43.5	94.4	394	859	630	238	255	256
(WY)	1985	1985	1985	1970	1942	1960	1942	1973	1949	1983	1984	1938
MIN	1.52	3.53	8.21	3.85	5.09	5.35	3.33	1.16	1.67	1.77	3.05	1.82
(WY)	1955	1955	1951	1945	1945	1935	1935	1963	1966	1963	1954	1956

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1927 - 1999

ANNUAL TOTAL	44088	33434.2	
ANNUAL MEAN	121	91.6	46.6
HIGHEST ANNUAL MEAN			157
LOWEST ANNUAL MEAN			6.53
HIGHEST DAILY MEAN	684	May 9	4020
LOWEST DAILY MEAN	15	Nov 13	.00
ANNUAL SEVEN-DAY MINIMUM	19	Nov 9	.33
INSTANTANEOUS PEAK FLOW			745
INSTANTANEOUS PEAK STAGE			b4.90
ANNUAL RUNOFF (AC-FT)	87450	66320	33760
10 PERCENT EXCEEDS	300	236	100
50 PERCENT EXCEEDS	47	37	17
90 PERCENT EXCEEDS	28	14	6.0

e Estimated

a Present datum, from floodmarks, from rating curve extended above 3400 ft<sup>3</sup>/s.

b Maximum gage height, 4.94 ft., May 27.

PLATTE RIVER BASIN

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO

LOCATION.--Lat 39°39'54", long 105°00'13", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 good except for estimated daily discharges, which are fair. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	156	59	55	58	73	57	1840	2530	869	634	208
2	202	125	60	56	57	81	113	1780	2370	1040	376	182
3	169	88	e63	54	61	75	81	1870	1980	780	189	151
4	188	86	e60	55	58	75	67	1890	1510	707	661	138
5	198	61	e66	57	61	67	65	1730	1320	614	1560	125
6	285	61	e67	57	57	57	68	1470	1290	555	1060	117
7	252	116	e68	55	63	58	86	1100	946	573	1310	109
8	171	84	e62	54	60	58	87	777	633	704	1660	103
9	177	106	e58	52	57	74	101	638	855	1050	1710	116
10	192	79	57	51	59	77	82	519	1360	1220	1840	115
11	191	71	58	53	75	77	81	600	1300	1280	1520	159
12	192	75	57	53	55	91	80	764	1460	990	1200	121
13	183	57	59	53	55	88	72	683	1390	557	1080	126
14	163	59	64	51	55	83	358	644	1500	545	816	111
15	151	56	61	50	53	82	280	558	1620	545	720	106
16	120	69	61	54	53	82	243	605	1870	506	747	114
17	139	64	63	52	48	75	132	542	2410	499	732	113
18	136	65	60	51	50	67	107	382	2490	597	631	102
19	140	60	58	51	45	65	75	364	2240	977	483	193
20	184	63	67	50	44	62	68	357	2030	835	475	256
21	188	60	64	51	46	60	109	362	1770	450	479	385
22	177	69	82	95	50	61	592	365	1820	517	474	129
23	119	69	70	114	48	61	724	422	1890	645	460	117
24	136	65	98	116	44	61	533	492	1830	714	398	83
25	133	63	68	110	45	62	492	1230	1710	714	299	80
26	137	63	77	62	46	61	308	1410	1600	619	249	75
27	180	63	76	57	67	61	265	1980	1490	413	197	86
28	262	63	69	57	70	61	319	2640	1410	386	280	207
29	141	61	63	55	---	62	939	3020	1390	564	202	182
30	129	64	59	58	---	79	1640	2740	1050	625	181	128
31	133	---	57	60	---	142	---	2700	---	765	176	---
TOTAL	5319	2241	2011	1899	1540	2238	8224	36474	49064	21855	22799	4237
MEAN	172	74.7	64.9	61.3	55.0	72.2	274	1177	1635	705	735	141
MAX	285	156	98	116	75	142	1640	3020	2530	1280	1840	385
MIN	119	56	57	50	44	57	57	357	633	386	176	75
AC-FT	10550	4450	3990	3770	3050	4440	16310	72350	97320	43350	45220	8400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1999, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	160	167	97.9	81.2	86.1	134	390	914	814	584	455	165					
MAX (WY)	1050	733	268	216	166	261	1074	2576	2479	2337	1574	724					
MIN (WY)	1985	1985	1985	1985	1985	1983	1984	1987	1995	1995	1984	1984					
MIN (WY)	44.8	39.3	48.9	45.4	35.5	51.7	123	209	243	79.0	98.8	43.7					
	1993	1990	1995	1991	1991	1991	1991	1989	1990	1994	1994	1992					

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1983 - 1999

ANNUAL TOTAL	143196	157901															
ANNUAL MEAN	392	433															
HIGHEST ANNUAL MEAN										313							
LOWEST ANNUAL MEAN										692							1984
HIGHEST DAILY MEAN	2320	May 7				3020	May 29		4010							Jun 28	1995
LOWEST DAILY MEAN	56	Nov 15				44	Feb 20		20							Sep 13	1994
ANNUAL SEVEN-DAY MINIMUM	59	Dec 9				46	Feb 19		24							Sep 13	1994
INSTANTANEOUS PEAK FLOW						3310	Aug 5		a9710							Jun 4	1995
INSTANTANEOUS PEAK STAGE						4.75	Aug 5		7.21							Jun 4	1995
ANNUAL RUNOFF (AC-FT)	284000					313200			226800								
10 PERCENT EXCEEDS	942					1430			828								
50 PERCENT EXCEEDS	188					121			142								
90 PERCENT EXCEEDS	65					57			51								

e Estimated  
a From rating curve extended above 3800 ft<sup>3</sup>/s.







## PLATTE RIVER BASIN

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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





PLATTE RIVER BASIN

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	18.1	15.5	16.6	---	---	---	---	5.5	---	---	2.7	---
2	17.8	14.5	16.0	---	---	---	---	5.6	---	---	1.4	---
3	16.7	14.7	15.6	---	---	---	---	5.1	---	---	.7	---
4	16.3	13.1	14.6	---	6.7	---	---	5.4	---	---	.5	---
5	15.3	---	---	---	6.9	---	---	4.7	---	---	2.2	---
6	---	---	---	---	---	---	---	4.1	---	---	2.1	---
7	---	---	---	---	---	---	---	2.6	---	---	3.3	---
8	17.0	12.2	14.5	---	---	---	---	1.9	---	---	2.6	---
9	17.0	12.1	14.5	---	---	---	---	2.0	---	---	1.7	---
10	16.8	12.1	14.4	---	---	---	---	1.2	---	---	---	---
11	16.2	11.5	13.8	---	---	---	---	.9	---	---	---	---
12	15.3	11.1	13.1	---	4.7	---	---	1.8	---	5.6	3.5	4.5
13	16.0	10.9	13.4	---	5.4	---	---	1.7	---	3.5	2.3	2.8
14	---	---	---	---	7.1	---	---	2.5	---	---	1.1	---
15	---	---	---	---	8.1	---	---	2.8	---	---	2.6	---
16	---	---	---	---	8.6	---	---	2.8	---	4.5	2.8	3.7
17	---	---	---	---	7.4	---	---	2.4	---	4.5	2.4	3.2
18	---	---	---	---	6.5	---	---	2.3	---	5.4	1.6	3.5
19	---	---	---	---	5.8	---	---	.3	---	7.0	3.8	5.1
20	---	9.9	---	---	4.7	---	---	.3	---	6.2	3.6	4.9
21	---	9.9	---	---	4.4	---	---	.4	---	4.7	2.4	3.8
22	---	9.7	---	---	6.2	---	---	.0	---	---	1.7	---
23	---	10.8	---	---	6.0	---	---	.3	---	---	1.6	---
24	---	10.5	---	---	5.8	---	---	.4	---	---	3.7	---
25	---	10.3	---	---	5.9	---	---	.5	---	---	2.5	---
26	---	11.4	---	---	5.2	---	---	.5	---	---	2.4	---
27	---	10.7	---	---	6.0	---	---	.3	---	4.4	2.0	3.5
28	---	10.4	---	---	6.8	---	---	.6	---	5.5	2.7	3.9
29	---	9.4	---	---	6.7	---	4.2	1.4	2.7	4.8	1.8	3.4
30	---	9.6	---	---	5.8	---	5.1	2.4	3.7	4.2	2.6	3.5
31	---	8.8	---	---	---	---	---	3.2	---	5.7	2.3	3.9
MONTH	---	---	---	---	---	---	---	.0	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4.3	2.7	3.3	---	7.0	---	11.4	5.2	8.6	9.2	8.1	8.6
2	5.3	1.3	3.2	---	7.4	---	5.2	3.4	4.1	10.5	8.0	9.0
3	6.8	3.2	4.9	---	5.1	---	8.6	2.0	5.5	11.0	8.6	9.6
4	---	2.6	---	---	6.7	---	11.5	4.9	8.2	11.6	8.9	9.9
5	---	4.6	---	---	5.8	---	13.4	6.7	9.9	11.4	8.6	9.7
6	---	4.1	---	---	5.1	---	15.1	7.4	11.6	11.9	8.3	9.6
7	---	4.1	---	---	4.7	---	15.9	9.4	12.7	13.1	8.3	10.1
8	---	5.2	---	---	7.1	---	14.5	9.6	12.2	14.2	9.0	11.2
9	---	4.3	---	10.5	5.4	8.1	13.1	8.9	11.1	15.1	9.9	12.1
10	---	4.3	---	10.6	5.9	8.4	11.9	6.2	9.1	11.6	9.4	10.6
11	---	2.0	---	10.0	6.7	8.3	13.8	7.4	10.7	12.9	8.4	10.3
12	---	.5	---	8.2	5.2	6.0	14.4	9.3	12.0	14.4	9.2	11.2
13	---	2.7	---	10.0	4.0	7.0	15.6	9.4	12.2	15.2	9.9	11.9
14	---	3.6	---	12.2	6.0	9.2	---	---	---	15.3	10.5	12.5
15	---	3.3	---	11.0	8.4	9.6	8.4	3.3	5.7	16.6	10.9	13.0
16	---	1.7	---	12.9	7.2	10.1	7.8	4.3	6.0	13.5	11.3	12.2
17	---	2.5	---	12.3	7.2	9.5	11.7	2.4	6.9	16.0	10.1	12.7
18	---	2.2	---	9.9	6.2	8.4	13.4	7.1	10.4	17.1	10.6	13.6
19	---	3.2	---	13.0	7.0	10.0	15.9	9.0	12.4	16.4	11.8	14.1
20	---	2.5	---	14.0	7.7	11.0	14.9	10.7	13.1	16.1	11.6	13.9
21	---	2.6	---	14.5	8.5	11.7	14.8	11.5	13.0	18.0	12.4	14.9
22	---	3.0	---	12.8	8.5	10.9	11.5	4.0	6.2	17.2	12.8	14.8
23	---	3.9	---	13.9	7.5	10.8	6.7	4.0	5.2	16.9	13.7	15.1
24	---	5.7	---	15.1	9.5	12.2	12.5	6.3	8.9	16.5	13.6	14.7
25	---	6.3	---	15.3	9.1	12.2	10.3	8.1	9.1	14.2	12.7	13.6
26	---	4.7	---	14.8	9.2	12.1	13.1	7.2	9.9	16.0	12.1	13.6
27	---	3.7	---	14.7	10.2	12.2	15.1	8.3	11.3	15.0	12.8	13.5
28	---	4.5	---	12.6	8.2	10.6	13.1	9.0	10.9	15.6	12.8	14.0
29	---	---	---	14.2	7.1	10.7	10.9	9.3	10.1	15.7	13.7	14.4
30	---	---	---	14.7	8.7	11.7	9.5	8.6	9.1	15.6	13.6	14.4
31	---	---	---	14.2	8.1	11.1	---	---	---	15.7	13.0	14.1
MONTH	---	.5	---	---	4.0	---	---	---	---	18.0	8.0	12.4

## PLATTE RIVER BASIN

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.0	13.1	14.4	21.0	16.4	18.3	20.0	16.0	18.7	22.3	18.8	20.4
2	15.9	13.8	14.8	20.5	17.5	18.7	22.9	18.0	20.1	---	---	---
3	16.9	14.2	15.5	21.5	17.9	19.2	22.9	18.6	20.5	---	---	---
4	16.9	14.3	15.2	22.2	17.9	19.7	21.6	18.8	20.0	---	---	---
5	16.1	13.5	14.7	22.8	17.6	19.7	21.1	18.7	19.5	---	---	---
6	16.8	13.3	14.6	23.0	17.9	19.9	21.5	18.5	19.6	---	---	---
7	18.4	13.5	15.4	24.1	18.2	20.5	21.7	18.5	19.8	---	---	---
8	19.0	13.4	15.7	21.0	18.5	19.6	21.4	18.9	19.9	20.9	16.4	18.5
9	17.8	13.7	15.3	21.7	18.8	19.9	21.5	19.0	19.9	20.9	15.5	18.3
10	16.4	14.7	15.4	22.3	18.7	20.0	22.0	19.1	20.1	20.4	16.3	18.3
11	16.4	13.8	14.8	22.1	19.0	20.1	22.1	18.9	20.1	20.6	16.4	18.3
12	16.5	14.0	14.8	22.6	18.7	20.5	21.9	18.2	19.8	17.6	14.2	15.6
13	16.2	14.0	14.7	24.1	18.7	20.9	22.2	18.3	19.9	18.6	12.7	15.5
14	16.2	14.2	15.0	22.7	19.0	20.7	22.7	18.5	20.1	18.6	14.0	16.3
15	15.1	14.0	14.6	22.1	19.5	20.6	21.2	18.7	19.8	17.1	14.5	16.0
16	14.5	13.8	14.1	22.0	19.4	20.4	23.0	18.2	20.1	19.0	13.8	16.3
17	15.8	13.9	14.6	24.4	19.1	21.0	22.8	18.8	20.1	19.9	14.7	17.2
18	16.3	14.2	14.9	22.8	19.7	20.9	23.3	18.2	20.3	19.7	14.6	17.2
19	16.8	14.3	15.2	23.5	19.2	20.8	23.0	18.0	20.1	18.2	13.3	15.2
20	17.4	14.4	15.8	24.5	18.6	21.3	22.2	18.1	19.9	15.2	13.2	14.1
21	17.5	14.7	15.9	25.0	19.2	21.6	22.4	18.2	20.0	19.4	14.4	16.4
22	17.2	15.1	16.0	23.9	19.4	21.0	23.5	18.4	20.4	18.4	12.6	15.6
23	17.9	15.3	16.4	25.0	19.7	21.9	23.8	17.8	20.3	18.9	14.2	16.6
24	18.5	16.0	16.9	24.4	20.1	21.9	24.1	18.1	20.7	18.3	14.7	16.5
25	18.5	16.4	17.3	23.9	20.2	21.5	22.7	18.1	20.1	19.1	14.1	16.6
26	19.2	16.2	17.4	25.2	20.1	22.1	24.0	17.7	20.4	17.1	14.0	15.2
27	19.7	16.4	17.6	25.2	19.7	22.0	23.7	19.1	20.9	14.1	12.0	12.8
28	19.8	16.5	17.8	25.6	19.4	21.9	21.4	19.1	20.3	12.0	9.0	10.1
29	19.9	16.8	18.0	24.4	19.8	21.6	22.8	17.7	19.9	15.6	9.1	12.1
30	20.2	16.8	18.2	23.3	19.4	21.2	23.4	18.2	20.7	15.7	11.2	13.6
31	---	---	---	21.8	19.2	20.3	23.6	18.8	21.0	---	---	---
MONTH	20.2	13.1	15.7	25.6	16.4	20.6	24.1	16.0	20.1	---	---	---

PLATTE RIVER BASIN

06712000 CHERRY CREEK NEAR FRANKTOWN, CO

LOCATION.--Lat 39°21'21", long 104°45'46", in NE<sup>1</sup>/<sub>4</sub> sec.15, T.8 S., R.66 W., Douglas County, Hydrologic Unit 10190003, on right bank 1.3 mi downstream from Castlewood Dam site, 1.5 mi upstream from Russellville Gulch, and 2.5 mi south of Franktown.

DRAINAGE AREA.--169 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	8.2	7.6	7.3	7.8	10	4.5	390	39	20	28	13
2	3.0	8.3	7.7	7.9	7.1	10	4.8	231	32	18	24	13
3	3.1	8.5	7.8	7.0	8.3	9.5	5.2	108	28	17	21	12
4	3.2	8.7	7.9	6.8	7.4	9.8	7.1	60	24	15	19	12
5	3.1	8.7	7.8	7.1	9.3	9.9	11	40	22	13	31	11
6	3.2	8.6	7.7	7.0	8.4	10	12	35	21	13	31	10
7	3.8	8.9	6.4	7.3	8.9	9.3	11	33	20	12	30	9.9
8	4.1	9.0	7.1	6.7	8.9	8.9	10	30	18	11	34	9.4
9	4.2	9.3	5.5	7.0	3.0	9.3	9.4	27	17	16	29	9.0
10	4.1	8.1	5.8	7.0	7.6	9.1	8.2	24	19	16	34	8.7
11	4.1	7.0	e6.1	7.0	5.9	8.1	7.7	24	42	15	28	8.9
12	4.1	8.3	6.4	7.2	9.9	7.8	7.6	24	44	15	21	9.1
13	4.2	8.6	6.4	6.2	6.8	9.3	6.2	22	58	13	18	9.3
14	4.3	8.8	7.0	6.7	8.7	8.6	8.5	20	109	19	17	9.0
15	4.3	8.8	7.0	7.2	9.2	9.1	11	19	102	15	15	9.2
16	4.4	8.5	7.2	6.9	9.6	7.8	11	20	84	14	15	9.0
17	4.4	8.3	7.2	6.6	10	8.4	12	24	68	14	14	9.4
18	4.5	8.3	7.4	6.9	10	8.3	13	20	55	14	14	9.3
19	4.6	8.0	e7.2	8.2	10	8.7	13	18	46	7.2	e14	9.6
20	4.8	7.6	e6.6	8.0	9.5	8.7	13	17	41	13	13	9.7
21	5.0	7.4	5.9	7.8	9.9	8.5	12	16	37	13	13	10
22	5.1	8.3	4.4	6.3	11	8.3	23	15	34	12	12	10
23	5.3	7.8	4.4	8.3	9.3	7.8	28	15	31	12	11	9.5
24	5.4	7.7	3.7	9.0	9.9	8.0	29	139	29	12	e10	9.3
25	5.5	7.3	4.0	8.1	11	7.4	40	414	31	12	e10	9.1
26	5.6	7.5	4.4	8.6	11	6.2	32	107	30	12	10	6.6
27	5.7	7.6	4.7	7.4	10	6.0	23	71	25	10	8.6	9.8
28	6.3	7.7	5.0	7.9	9.7	5.5	21	78	19	9.5	12	11
29	6.5	7.8	5.6	7.3	---	4.9	57	99	22	9.3	11	10
30	6.6	7.7	6.3	7.8	---	4.8	468	60	21	111	12	10
31	7.2	---	6.9	8.3	---	4.7	---	46	---	20	14	---
TOTAL	142.4	245.3	195.1	228.8	248.1	252.7	919.2	2246	1168	523.0	573.6	295.8
MEAN	4.59	8.18	6.29	7.38	8.86	8.15	30.6	72.5	38.9	16.9	18.5	9.86
MAX	7.2	9.3	7.9	9.0	11	10	468	414	109	111	34	13
MIN	2.7	7.0	3.7	6.2	3.0	4.7	4.5	15	17	7.2	8.6	6.6
AC-FT	282	487	387	454	492	501	1820	4450	2320	1040	1140	587

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	
MEAN	4.35	5.56	5.06	5.14	8.56	22.2	19.8	16.2	8.94	7.29	9.11	3.46
MAX (WY)	29.1	30.7	25.2	17.7	29.3	184	138	138	42.6	43.8	59.9	18.2
MIN (WY)	1985	1985	1985	1985	1948	1960	1984	1973	1983	1957	1945	1984
MIN (WY)	.97	1.32	1.41	1.57	1.99	2.36	1.70	1.43	1.12	.80	.76	.78
(WY)	1953	1955	1964	1951	1956	1972	1963	1963	1954	1981	1962	1950

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1940 - 1999

ANNUAL TOTAL	4492.2	7038.0	
ANNUAL MEAN	12.3	19.3	9.65
HIGHEST ANNUAL MEAN			31.9
LOWEST ANNUAL MEAN			2.89
HIGHEST DAILY MEAN	115	Aug 9	468
LOWEST DAILY MEAN	2.2	Jul 21	2.7
ANNUAL SEVEN-DAY MINIMUM	2.5	Jun 27	3.2
INSTANTANEOUS PEAK FLOW			1290
INSTANTANEOUS PEAK STAGE			6.96
ANNUAL RUNOFF (AC-FT)	8910	13960	6990
10 PERCENT EXCEEDS	30	31	17
50 PERCENT EXCEEDS	7.2	9.3	4.5
90 PERCENT EXCEEDS	2.9	5.3	1.3

e Estimated

a Also occurred Sep 30 and Oct 1, 1950.

b Site and datum then in use, by float measurement.

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

## PLATTE RIVER BASIN

393109104464500 CHERRY CREEK NEAR PARKER, CO

LOCATION.--Lat 39°31'09", long 104°46'45", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 200 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	10	8.3	10	11	9.8	7.2	e348	58	24	26	13
2	5.4	11	8.3	9.6	11	10	8.8	e300	50	22	23	13
3	5.4	10	8.5	9.1	12	10	11	e200	42	19	20	12
4	6.0	10	8.6	8.9	10	10	11	126	36	17	15	12
5	5.9	10	8.7	10	11	11	14	93	32	14	16	12
6	6.0	11	8.9	9.6	11	12	17	78	28	13	30	11
7	6.1	11	8.6	9.8	12	13	16	70	26	11	37	10
8	6.2	11	8.1	9.0	12	13	12	63	23	11	28	9.7
9	6.3	11	8.1	8.3	10	12	12	55	21	13	30	9.5
10	6.5	9.3	7.6	10	8.2	11	12	50	36	17	30	9.1
11	5.8	8.5	6.3	10	7.9	11	12	46	38	16	29	9.4
12	5.0	7.8	7.6	9.9	8.8	11	11	42	76	18	23	10
13	4.7	8.1	7.8	9.0	12	12	9.9	39	71	15	18	11
14	5.1	8.6	8.3	7.9	12	13	12	35	93	14	16	10
15	5.2	8.0	8.4	9.4	13	12	15	33	101	16	14	9.7
16	5.5	7.4	9.1	9.3	12	11	17	32	93	15	14	9.4
17	6.3	7.1	8.8	9.1	13	11	18	36	84	16	13	9.6
18	6.5	6.5	9.1	8.8	11	10	19	32	73	18	12	9.7
19	6.9	6.9	6.9	10	12	10	19	29	60	17	13	10
20	7.2	7.5	5.7	10	11	12	18	33	52	14	18	12
21	7.5	7.0	5.5	8.8	11	12	18	28	46	15	13	12
22	7.8	6.4	5.6	9.3	11	12	33	26	42	14	12	10
23	7.9	6.5	5.3	9.8	9.2	10	42	24	39	14	11	8.6
24	7.8	6.4	5.2	12	11	9.9	39	24	36	13	9.4	8.8
25	7.0	6.5	6.4	11	11	8.1	65	219	34	13	8.1	10
26	7.6	6.5	8.2	11	11	7.5	51	189	35	12	7.6	9.4
27	8.0	7.0	9.7	9.8	11	8.1	37	116	32	11	8.2	9.1
28	8.9	7.2	11	10	10	8.0	34	94	23	11	33	e10
29	8.8	8.2	11	9.0	---	7.7	44	109	24	11	13	e10
30	8.8	8.8	11	11	---	7.9	179	88	22	11	11	e10
31	9.4	---	11	11	---	7.6	---	68	---	51	12	---
TOTAL	206.7	251.2	251.6	300.4	306.1	323.6	813.9	2725	1426	496	563.3	310.0
MEAN	6.67	8.37	8.12	9.69	10.9	10.4	27.1	87.9	47.5	16.0	18.2	10.3
MAX	9.4	11	11	12	13	13	179	348	101	51	37	13
MIN	4.7	6.4	5.2	7.9	7.9	7.5	7.2	24	21	11	7.6	8.6
AC-FT	410	498	499	596	607	642	1610	5410	2830	984	1120	615

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	2.79	4.52	4.74	6.25	10.3	17.1	19.5	21.3	14.2	7.85	9.35	3.36
MAX	6.67	8.85	8.97	9.88	14.9	42.8	47.4	87.9	47.5	18.3	29.1	10.3
(WY)	1999	1996	1996	1998	1998	1992	1998	1999	1999	1998	1998	1999
MIN	1.26	.79	.76	1.51	1.74	3.82	8.15	4.15	1.87	1.04	.58	.73
(WY)	1992	1995	1995	1995	1995	1995	1997	1997	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 2000 WATER YEAR	FOR 2001 WATER YEAR	FOR 2002 WATER YEAR	FOR 2003 WATER YEAR
ANNUAL TOTAL	6458.2	7973.8				
ANNUAL MEAN	17.7	21.8				
HIGHEST ANNUAL MEAN						10.1
LOWEST ANNUAL MEAN						21.8
HIGHEST DAILY MEAN	150	Jul 30	e348	May 1	e348	5.03
LOWEST DAILY MEAN	1.3	Jul 21	4.7	Oct 13	.43	1997
ANNUAL SEVEN-DAY MINIMUM	1.6	Jul 16	5.4	Oct 11	.45	1999
INSTANTANEOUS PEAK FLOW			450	May 1	a900	Aug 24 1994
INSTANTANEOUS PEAK STAGE			b8.08	May 1	b9.65	Aug 21 1994
ANNUAL RUNOFF (AC-FT)	12810		15820		7320	Jul 30 1998
10 PERCENT EXCEEDS	44		42		21	Jul 30 1998
50 PERCENT EXCEEDS	10		11		5.7	
90 PERCENT EXCEEDS	5.3		7.0		1.2	

e Estimated

a From slope-area measurement of peak flow.

b From floodmark.



06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO

LOCATION (REVISED).--Lat 39°39'13", long 104°51'45", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.35, T.4 S., R.67 W., Denver County, Hydrologic Unit 10190003, on left bank 2,300 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 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,490.51 ft above sea level, (Corps of Engineers bench mark). Prior to May 17, 1999 at site 300 ft upstream at different datum.

REMARKS.--Records fair except for discharges less than 1 ft<sup>3</sup>/s, and estimated daily discharges, 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 ft<sup>3</sup>/s, Aug. 3, 1933, by slope-area measurement near present site (Castlewood Dam failure).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	12	15	22	12	15	128	156	11	.14	.10
2	.00	.00	13	15	21	7.7	15	248	160	7.7	.13	.09
3	.00	2.6	13	15	22	7.7	16	347	101	7.5	5.1	.08
4	.00	5.3	12	15	21	7.7	16	370	53	7.2	5.6	.06
5	.00	5.8	13	15	21	7.7	16	371	54	7.2	16	.05
6	.00	6.7	13	19	21	7.7	16	361	55	3.1	26	.04
7	.00	6.7	13	23	21	7.7	16	249	42	.09	26	.04
8	.00	6.7	13	24	21	7.7	16	151	31	.11	26	.04
9	.00	6.7	13	24	21	7.7	16	151	20	.12	27	.04
10	.00	14	13	24	21	12	16	80	10	.13	28	.04
11	.00	22	13	23	21	15	16	35	17	.14	29	.01
12	.00	23	13	23	20	15	16	36	29	.15	30	.02
13	.00	24	13	23	19	16	13	36	30	.17	29	.00
14	.00	24	13	23	20	16	16	36	42	.21	29	.01
15	.00	24	13	23	20	16	17	36	50	.12	28	.00
16	.03	24	13	23	20	17	19	35	44	.12	28	.00
17	.00	24	14	24	20	19	22	34	79	.20	28	.00
18	.02	25	14	24	19	19	22	33	89	.12	27	.00
19	.00	25	14	23	19	19	22	34	85	.64	50	.01
20	.00	25	14	22	19	19	22	34	84	.13	70	.00
21	.00	25	13	22	19	18	24	34	85	.12	70	.00
22	.00	25	13	22	18	18	27	34	86	.17	70	.00
23	.00	24	14	22	16	18	28	34	56	.43	70	.00
24	.00	24	14	22	16	18	34	35	33	.38	81	.00
25	.00	24	13	22	16	18	37	42	33	.51	36	.00
26	.00	25	13	22	14	18	112	188	33	.40	.12	.00
27	.00	24	14	21	17	18	155	87	33	.18	.06	.00
28	.00	24	14	21	17	18	152	128	24	e.10	.11	.04
29	.00	24	15	21	---	18	155	150	15	e.13	.09	.04
30	.41	18	15	22	---	17	116	153	15	.14	.12	.00
31	.00	---	15	22	---	16	---	153	---	.22	.12	---
TOTAL	0.46	531.50	415	659	542	451.6	1183	3843	1644	48.93	835.59	0.71
MEAN	.015	17.7	13.4	21.3	19.4	14.6	39.4	124	54.8	1.58	27.0	.024
MAX	.41	25	15	24	22	19	155	371	160	11	81	.10
MIN	.00	.00	12	15	14	7.7	13	33	10	.09	.06	.00
AC-FT	.9	1050	823	1310	1080	896	2350	7620	3260	97	1660	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

MEAN	1.45	2.33	2.96	2.78	7.39	12.8	17.6	13.2	10.2	4.74	11.7	2.66
MAX	29.6	38.5	39.1	42.4	60.3	108	166	124	243	71.3	218	54.2
(WY)	1985	1985	1985	1985	1984	1974	1984	1999	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1950 - 1999
ANNUAL TOTAL	8450.76	10154.79	
ANNUAL MEAN	23.2	27.8	7.50
HIGHEST ANNUAL MEAN			38.8
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	90 Aug 15	371 May 5	721 Aug 1 1956
LOWEST DAILY MEAN	a.00 Sep 12	a.00 Oct 1	b.00 May 19 1957
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 12	.00 Oct 1	b.00 May 19 1957
INSTANTANEOUS PEAK FLOW		1600 May 26	1600 May 26 1999
INSTANTANEOUS PEAK STAGE		6.92 May 26	6.92 May 26 1999
ANNUAL RUNOFF (AC-FT)	16760	20140	5430
10 PERCENT EXCEEDS	76	55	13
50 PERCENT EXCEEDS	19	16	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

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 SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	20	19	14	27	18	21	273	139	36	70	20
2	36	14	16	14	26	12	51	261	146	30	44	27
3	15	12	16	14	26	12	30	341	125	28	34	18
4	34	20	16	14	26	12	26	371	77	27	116	13
5	16	14	16	17	26	13	35	380	71	27	199	11
6	14	14	17	18	26	11	20	385	69	24	71	11
7	21	41	15	25	26	11	18	318	60	18	46	11
8	17	23	15	28	26	11	18	188	45	18	41	10
9	11	36	16	28	26	11	18	168	112	17	39	11
10	8.4	25	17	28	26	13	18	117	187	16	58	11
11	7.8	30	17	28	36	17	17	58	99	16	43	12
12	7.7	30	16	28	30	22	17	49	94	21	42	12
13	7.2	29	15	28	28	21	21	49	94	17	40	13
14	7.3	29	15	28	28	19	124	47	165	16	39	13
15	7.1	29	14	28	27	19	85	45	147	14	37	13
16	56	29	14	28	28	19	59	64	114	19	37	12
17	20	30	14	28	26	21	53	57	112	63	40	11
18	7.7	31	14	28	26	21	43	48	118	38	37	12
19	6.3	32	e14	28	26	21	37	46	118	149	51	36
20	5.8	31	e14	28	25	21	38	77	116	88	72	22
21	5.2	31	e14	28	25	21	43	60	139	41	71	15
22	5.2	31	e14	41	27	21	200	65	120	36	70	14
23	5.2	41	e14	38	24	21	163	65	119	36	67	13
24	5.1	32	e14	32	22	21	92	58	88	34	68	12
25	5.4	30	e14	28	22	21	111	90	72	33	52	11
26	5.4	31	e18	28	20	21	116	175	68	32	22	10
27	6.0	31	20	28	20	21	132	119	67	31	25	11
28	30	30	17	28	20	21	131	126	57	79	66	46
29	8.2	31	16	28	---	21	212	164	41	46	26	17
30	5.9	29	15	27	---	19	389	141	40	58	19	13
31	10	---	15	27	---	16	---	140	---	124	18	---
TOTAL	412.9	836	481	813	721	549	2338	4545	3019	1232	1660	461
MEAN	13.3	27.9	15.5	26.2	25.8	17.7	77.9	147	101	39.7	53.5	15.4
MAX	56	41	20	41	36	22	389	385	187	149	199	46
MIN	5.1	12	14	14	20	11	17	45	40	14	18	10
AC-FT	819	1660	954	1610	1430	1090	4640	9020	5990	2440	3290	914

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1999, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	14.2	12.8	10.6	12.9	18.0	29.2	43.8	45.8	40.8	27.9	30.9	20.2			
MAX (WY)	38.0	33.8	29.8	45.7	53.2	75.2	104	147	101	55.9	72.0	43.0			
MIN (WY)	4.65	4.42	1.94	3.01	3.46	4.41	9.81	16.2	13.7	5.71	8.41	3.90			
	1995	1995	1995	1995	1990	1995	1991	1993	1990	1994	1986	1994			

## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1985 - 1999

ANNUAL TOTAL	14908.9	17067.9													
ANNUAL MEAN	40.8	46.8								25.0					
HIGHEST ANNUAL MEAN										46.8					1999
LOWEST ANNUAL MEAN										10.9					1994
HIGHEST DAILY MEAN	244	Apr 26					389	Apr 30		461	May 17				1995
LOWEST DAILY MEAN	5.1	Oct 24					5.1	Oct 24		1.1	Apr 1				1991
ANNUAL SEVEN-DAY MINIMUM	5.3	Oct 20					5.3	Oct 20		1.6	Sep 29				1993
INSTANTANEOUS PEAK FLOW							929	Jul 19		1970	Jul 20				1986
INSTANTANEOUS PEAK STAGE							a5.90	Jul 19		b6.74	Jul 20				1986
ANNUAL RUNOFF (AC-FT)	29570	33850								18090					
10 PERCENT EXCEEDS	98						117			62					
50 PERCENT EXCEEDS	28						27			14					
90 PERCENT EXCEEDS	11						12			4.2					

e Estimated

a Maximum gage height, 6.21 ft, Apr 30.

b Maximum gage height, 9.36 ft, Jul 28, 1997.

06713500 CHERRY CREEK AT DENVER, CO

LOCATION (REVISED).--Lat 39°44'33", long 104°59'58", in SE<sup>1</sup>/<sub>4</sub> sec.33, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on left bank 100 ft downstream from Champa Street Bridge in Denver, and 1.1 mi upstream from mouth.

DRAINAGE AREA.--409 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1942 to September 1969, February 1980 to September 1983, and annual maximums 1984, 1985. April 1986 to current year. Water-quality data available, April 1993 to July 1995.

REVISED RECORDS.--WSP 1710: Drainage area. WDR CO-82-1: 1982 (M).

GAGE (REVISED).--Water-stage recorder. Elevation of gage is 5,180 ft above sea level, from topographic map. See WSP 1730 for history of changes prior to July 16, 1951. Prior to Mar. 1, 1995, at site 0.6 mi downstream, on downstream side of Wazee Street Bridge, at different datum. Mar. 1, 1995 to May 11, 1998, at site 0.4 mi downstream, 300 ft upstream from Market Street Bridge, at different datum.

REMARKS.--Records good except for flows above 230 cfs and estimated daily discharges, which are poor. Several diversions upstream from station for irrigation of about 1,900 acres. Floodflow regulated by Cherry Creek Reservoir 11 mi upstream, capacity, 95,960 acre-ft. 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 July 26, 1885, reached a discharge of 20,000 ft<sup>3</sup>/s, by float measurement. Flood of May 19 and 20, 1864, reached a somewhat higher stage. Flood of Aug. 3, 1933, reached a discharge of about 15,000 ft<sup>3</sup>/s, as determined by rise of South Platte River at Denver.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	29	26	26	34	26	32	315	147	38	62	28
2	53	24	26	26	34	19	69	253	144	34	32	46
3	26	22	25	25	34	19	45	348	123	32	22	27
4	49	31	25	25	34	22	43	378	72	33	150	21
5	28	27	26	30	35	23	49	366	70	33	230	22
6	30	25	26	28	34	18	35	366	73	30	69	21
7	35	55	24	36	33	19	32	304	68	25	46	22
8	30	30	25	36	34	19	32	174	56	24	43	21
9	24	47	26	36	35	19	31	169	105	23	43	22
10	23	29	27	36	38	21	29	131	226	22	118	25
11	23	33	26	37	45	27	29	67	92	23	50	28
12	25	33	25	37	37	31	30	62	80	27	52	26
13	30	33	25	36	34	28	46	65	78	24	52	26
14	29	34	25	35	33	27	179	67	145	22	50	25
15	27	34	25	36	32	27	108	66	155	22	45	24
16	73	35	26	36	33	28	54	99	97	24	45	21
17	34	35	26	35	33	29	51	75	92	56	68	20
18	22	33	26	35	31	29	44	62	102	33	48	20
19	20	32	25	36	31	30	41	e63	103	173	56	57
20	18	32	24	35	31	31	41	e135	105	79	78	34
21	19	33	23	36	31	31	44	65	122	28	78	21
22	19	33	23	49	32	32	322	75	103	22	77	22
23	18	40	23	40	30	32	212	75	107	22	78	21
24	18	35	23	37	29	32	101	68	89	20	83	20
25	17	34	24	35	30	31	134	106	68	22	71	19
26	19	34	33	34	27	31	136	174	67	21	28	19
27	23	34	29	34	28	32	157	113	63	21	29	20
28	47	34	28	34	29	31	156	120	51	68	91	75
29	22	34	27	34	---	31	271	164	40	38	36	25
30	19	34	26	34	---	31	508	149	39	48	23	20
31	26	---	25	34	---	28	---	148	---	133	38	---
TOTAL	879	998	793	1063	921	834	3061	4822	2882	1220	1991	798
MEAN	28.4	33.3	25.6	34.3	32.9	26.9	102	156	96.1	39.4	64.2	26.6
MAX	73	55	33	49	45	32	508	378	226	173	230	75
MIN	17	22	23	25	27	18	29	62	39	20	22	19
AC-FT	1740	1980	1570	2110	1830	1650	6070	9560	5720	2420	3950	1580
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)												
MEAN	14.7	12.4	10.3	10.3	15.5	24.5	29.8	38.6	31.6	25.8	39.8	18.0
MAX (WY)	37.2	47.1	54.4	34.3	73.8	179	119	156	118	161	236	64.9
MIN (WY)	1998	1998	1988	1999	1948	1948	1983	1999	1944	1983	1945	1965
MIN (WY)	3.66	3.61	3.39	3.17	4.18	3.25	3.28	6.10	3.17	3.74	4.05	4.03
(WY)	1949	1955	1956	1956	1952	1955	1955	1966	1946	1948	1948	1948

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1942 - 1999	
ANNUAL TOTAL	18700		20262			
ANNUAL MEAN	51.2		55.5		22.6	
HIGHEST ANNUAL MEAN					70.7	
LOWEST ANNUAL MEAN					6.00	
HIGHEST DAILY MEAN	504	Jul 25	508	Apr 30	1350	Aug 8 1945
LOWEST DAILY MEAN	17	Oct 25	17	Oct 25	a.40	Jun 16 1948
ANNUAL SEVEN-DAY MINIMUM	18	Oct 20	18	Oct 20	.93	Jun 14 1948
INSTANTANEOUS PEAK FLOW			1350		Aug 10	
INSTANTANEOUS PEAK STAGE			7.68		Aug 10	
ANNUAL RUNOFF (AC-FT)	37090		40190		16410	
10 PERCENT EXCEEDS	105		119		45	
50 PERCENT EXCEEDS	33		33		11	
90 PERCENT EXCEEDS	24		22		4.4	

e Estimated  
a Also occurred Jun 17-18, 1948.  
b Site and datum then in use.  
c Maximum gage height, 11.98 ft, Jun 28, 1997, site and datum then in use.

## PLATTE RIVER BASIN

06714000 SOUTH PLATTE RIVER AT DENVER, CO

LOCATION.--Lat 39°45'35", long 105°00'10", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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.--Records good except for estimated daily discharges, which are fair. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	247	127	126	139	141	147	2410	2670	e976	775	362
2	356	214	130	132	136	144	285	2190	2570	1170	505	361
3	254	164	134	128	142	140	194	2280	2250	908	305	276
4	313	180	127	130	139	152	168	2300	1780	833	1100	242
5	261	141	135	136	143	163	177	2190	1590	728	2050	228
6	353	137	141	135	141	126	142	1940	1560	664	1130	217
7	340	261	128	139	146	122	158	1530	1270	666	1280	206
8	251	186	119	134	139	119	154	1050	880	738	1610	194
9	244	238	121	133	136	135	167	891	1130	1060	1640	210
10	263	174	138	131	139	140	149	741	1930	1220	2050	210
11	265	152	135	136	179	145	146	706	1630	1300	1550	253
12	265	158	132	135	140	185	145	897	1720	1110	1210	222
13	260	135	138	137	133	176	161	804	1630	673	1110	225
14	235	137	139	133	132	165	761	774	1820	648	849	208
15	226	130	134	130	127	161	500	677	1950	646	729	197
16	289	141	132	132	128	155	373	845	2050	636	757	198
17	229	140	138	127	123	149	260	722	2540	656	833	198
18	207	139	129	130	124	141	207	522	2640	708	682	182
19	206	133	126	130	120	137	164	497	2400	1380	553	359
20	252	142	118	130	116	135	143	704	2260	1050	559	376
21	262	138	110	132	120	131	181	499	1990	589	573	490
22	253	150	111	201	126	136	1250	518	1990	595	570	236
23	191	156	110	260	116	131	1220	565	2060	674	567	217
24	202	148	118	210	113	131	695	575	1990	730	525	180
25	199	141	115	205	113	131	711	1390	e1810	738	430	175
26	200	144	155	155	112	126	493	1600	e1710	677	345	171
27	243	140	152	141	132	129	446	2140	e1610	543	299	188
28	412	141	147	141	144	130	487	2630	e1530	503	493	450
29	218	141	140	140	---	131	1400	3060	e1460	629	324	307
30	199	147	134	142	---	126	2430	2820	e1210	744	286	228
31	216	---	132	143	---	222	---	2780	---	1030	386	---
TOTAL	7879	4795	4045	4514	3698	4455	13914	43247	55630	25222	26075	7566
MEAN	254	160	130	146	132	144	464	1395	1854	814	841	252
MAX	412	261	155	260	179	222	2430	3060	2670	1380	2050	490
MIN	191	130	110	126	112	119	142	497	880	503	286	171
AC-FT	15630	9510	8020	8950	7330	8840	27600	85780	110300	50030	51720	15010

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, 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	1999	
MEAN	204	195	141	127	143	195	448	960	877	607	508	238													
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1976 - 1999

ANNUAL TOTAL	183992	201040																							
ANNUAL MEAN	504	551																							
HIGHEST ANNUAL MEAN																									
LOWEST ANNUAL MEAN																									
HIGHEST DAILY MEAN				2860	May 7		3060	May 29		b4020	May 27	1987													
LOWEST DAILY MEAN				110	Dec 21		110	Dec 21		c43	Apr 8	1978													
ANNUAL SEVEN-DAY MINIMUM				115	Dec 19		115	Dec 19		50	Apr 2	1978													
INSTANTANEOUS PEAK FLOW							5150	Aug 5		d12600	Jul 25	1998													
INSTANTANEOUS PEAK STAGE							8.37	Aug 5		10.90	Jul 25	1998													
ANNUAL RUNOFF (AC-FT)	364900	398800								281200															
10 PERCENT EXCEEDS				1120			1620			818															
50 PERCENT EXCEEDS				261			215			192															
90 PERCENT EXCEEDS				140			130			87															

e Estimated

a Average discharge for 79 years (water years 1896-1974), 344 ft<sup>3</sup>/s; 249200 acre-ft/yr, prior to completion of Chatfield Dam.

b Maximum daily discharge for period of record, 12000 ft<sup>3</sup>/s, Jun 17, 1965.

c Minimum daily discharge for period of record, 8.8 ft<sup>3</sup>/s, Mar 25, 1951.

d Maximum discharge and stage for period of record, 40300 ft<sup>3</sup>/s, Jun 17, 1965, gage height, 18.66 ft, from floodmarks, present datum, from rating curve extended above 2700 ft<sup>3</sup>/s, on basis of contracted-opening measurement of peak flow.





PLATTE RIVER BASIN

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					
06...	1045	340	46	42	97
NOV					
09...	1135	236	55	35	96
DEC					
08...	1110	104	13	3.7	93
JAN					
19...	1150	113	27	8.2	99
FEB					
08...	1150	117	207	65	87
MAR					
01...	1150	127	44	15	92
APR					
05...	1030	164	69	31	96
MAY					
03...	1030	2220	223	1340	88
JUN					
07...	1110	1530	50	207	83
JUL					
06...	1110	650	19	33	98
AUG					
03...	1015	294	17	13	99
SEP					
07...	1015	196	6	3.2	92

## PLATTE RIVER BASIN

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

LOCATION.--Lat 39°48'44", long 104°57'28", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--Records good except for estimated daily discharges, which are 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. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	158	154	136	20	19	19	2300	2320	336	477	146
2	91	157	156	143	21	21	81	2020	2200	491	191	103
3	10	20	156	138	21	19	36	2060	1920	277	27	54
4	42	25	157	e148	21	21	79	2060	1340	202	787	15
5	11	11	203	148	21	23	176	1930	1100	128	2250	13
6	42	9.7	233	142	19	21	17	1690	1120	18	1220	13
7	48	88	203	148	19	22	14	1380	941	18	1330	12
8	8.6	43	181	143	19	23	13	979	511	169	1680	106
9	7.6	72	169	141	19	22	13	824	550	610	e1600	190
10	7.5	30	179	139	19	21	14	693	1350	731	e2000	195
11	6.9	9.2	179	142	20	23	15	632	1180	849	e1400	250
12	7.8	9.1	169	141	18	24	14	715	1350	738	e1140	227
13	7.8	8.6	174	142	19	23	19	548	1430	358	1170	223
14	7.3	9.8	174	136	19	22	476	504	1690	298	853	199
15	6.7	9.2	167	132	21	21	198	416	1870	272	649	181
16	85	86	163	130	21	21	69	577	1980	279	566	184
17	16	154	165	128	22	20	16	491	2430	318	623	182
18	6.8	152	158	127	21	20	9.4	267	2510	351	489	162
19	6.3	168	157	114	20	19	8.4	269	2200	873	338	321
20	6.0	183	142	79	19	20	8.4	516	2060	632	338	413
21	5.4	161	135	25	22	19	9.2	259	1720	79	345	501
22	5.3	167	130	25	20	20	933	170	1550	37	333	255
23	6.2	182	129	24	19	19	1150	157	1560	179	317	213
24	8.5	172	132	23	19	19	686	140	1450	354	278	163
25	6.9	162	136	23	20	17	788	934	1310	426	182	151
26	6.5	168	182	21	21	17	589	1200	1130	398	79	145
27	6.7	163	181	19	20	20	536	1690	992	291	43	157
28	196	164	165	20	21	18	573	2150	887	340	237	481
29	31	164	156	19	---	17	1390	2690	773	393	51	329
30	10	173	146	20	---	17	2400	2450	618	281	32	231
31	21	---	143	20	---	20	---	2400	---	664	101	---
TOTAL	737.5	3078.6	5074	2936	561	628	10349.4	35111	44042	11390	21126	5815
MEAN	23.8	103	164	94.7	20.0	20.3	345	1133	1468	367	681	194
MAX	196	183	233	148	22	24	2400	2690	2510	873	2250	501
MIN	5.3	8.6	129	19	18	17	8.4	140	511	18	27	12
AC-FT	1460	6110	10060	5820	1110	1250	20530	69640	87360	22590	41900	11530

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1999, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	112	101	71.9	93.8	71.0	119	332	786	608	483	409	138						
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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1982 - 1999
ANNUAL TOTAL	111475.4	140848.5	
ANNUAL MEAN	305	386	287
HIGHEST ANNUAL MEAN			825
LOWEST ANNUAL MEAN			50.5
HIGHEST DAILY MEAN	2240	May 7	4110
LOWEST DAILY MEAN	5.3	Oct 22	2.1
ANNUAL SEVEN-DAY MINIMUM	6.4	Oct 18	3.7
INSTANTANEOUS PEAK FLOW		4940	14300
INSTANTANEOUS PEAK STAGE		5.98	8.09
ANNUAL RUNOFF (AC-FT)	221100	279400	208200
10 PERCENT EXCEEDS	776	1340	703
50 PERCENT EXCEEDS	181	152	79
90 PERCENT EXCEEDS	9.9	13	9.2

e Estimated



394839104570300 SAND CREEK AT MOUTH NEAR COMMERCE CITY, CO

LOCATION.--Lat 39°48'39", long 104°57'03", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.12, T.3 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank 400 ft upstream from mouth and 0.1 mi downstream from confluence of Burlington Ditch and Sand Creek in northeast corner of Metro Wastewater Plant.

DRAINAGE AREA.--191 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	38	21	17	16	13	61	e506	48	46	e355	91
2	67	32	20	17	15	13	72	222	47	43	99	60
3	44	27	21	15	15	13	43	e77	42	39	60	76
4	66	37	24	17	15	13	31	e35	48	38	e180	84
5	45	28	22	20	15	20	55	e33	47	39	e437	91
6	38	24	23	19	15	14	47	e31	53	39	138	75
7	29	52	21	18	15	13	36	e30	54	31	49	67
8	24	44	23	16	15	16	34	33	51	37	45	54
9	26	51	24	14	15	15	33	34	79	68	33	53
10	26	38	26	15	12	14	33	41	e493	79	e366	58
11	25	27	25	14	20	14	34	18	e421	83	249	55
12	24	24	22	15	23	20	31	21	309	85	170	59
13	24	23	21	15	20	22	40	24	176	76	138	55
14	23	22	21	14	18	17	389	53	400	70	114	48
15	23	22	20	14	16	15	230	60	357	94	105	48
16	57	22	19	14	15	14	95	88	171	126	127	50
17	62	22	19	14	15	12	66	106	105	135	150	51
18	30	22	21	13	13	13	55	39	83	172	122	53
19	23	24	16	14	9.8	13	47	32	73	e421	122	76
20	21	26	15	14	9.6	13	47	29	63	e348	251	88
21	19	21	15	15	10	13	41	32	64	95	99	61
22	17	21	15	31	16	14	e749	30	70	67	90	42
23	18	23	14	30	14	22	e710	34	62	48	87	37
24	18	24	13	25	15	18	280	28	77	44	81	43
25	18	24	15	20	13	13	331	63	54	47	66	41
26	18	24	20	17	13	15	219	48	53	46	55	41
27	21	24	23	16	13	14	96	42	52	40	69	36
28	52	24	23	17	14	15	63	46	48	e209	218	116
29	28	24	22	16	---	14	234	87	43	e233	89	87
30	22	24	22	15	---	13	e839	73	44	69	79	56
31	31	---	19	15	---	53	---	52	---	e466	62	---
TOTAL	984	838	625	526	415.4	501	5041	2047	3687	3433	4305	1852
MEAN	31.7	27.9	20.2	17.0	14.8	16.2	168	66.0	123	111	139	61.7
MAX	67	52	26	31	23	53	839	506	493	466	437	116
MIN	17	21	13	13	9.6	12	31	18	42	31	33	36
AC-FT	1950	1660	1240	1040	824	994	10000	4060	7310	6810	8540	3670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	41.6	27.3	21.7	18.4	27.9	39.2	61.6	75.1
MAX	107	49.0	35.5	27.7	102	124	168	124
(WY)	1998	1998	1998	1997	1997	1999	1995	1995
MIN	17.8	16.8	13.3	12.9	14.6	13.6	25.2	46.1
(WY)	1993	1995	1995	1995	1995	1995	1996	1993

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1992 - 1999

ANNUAL TOTAL	19102.3	24254.4	
ANNUAL MEAN	52.3	66.5	60.0
HIGHEST ANNUAL MEAN			99.9
LOWEST ANNUAL MEAN			35.5
HIGHEST DAILY MEAN	338	Aug 22	839
LOWEST DAILY MEAN	8.3	Feb 5	9.6
ANNUAL SEVEN-DAY MINIMUM	15	Dec 19	12
INSTANTANEOUS PEAK FLOW			a
INSTANTANEOUS PEAK STAGE			c13.18
ANNUAL RUNOFF (AC-FT)	37890		48110
10 PERCENT EXCEEDS	110		130
50 PERCENT EXCEEDS	37		33
90 PERCENT EXCEEDS	18		14

e Estimated

a Not determined.

b From rating curve extended above 500 ft<sup>3</sup>/s.

c Maximum gage height, 13.18 ft, Jul 31, 1999, backwater from construction.

PLATTE RIVER BASIN

06714800 LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, CO

LOCATION.--Lat 39°41'14", long 105°41'59", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 fair 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	5.7	e3.3	e2.5	e2.4	e2.0	2.4	3.0	44	65	50	e22
2	8.5	5.8	e3.4	e2.4	e2.4	e2.0	2.5	3.0	46	63	45	e21
3	8.1	5.5	e3.0	e2.3	e2.3	e2.0	2.6	3.0	53	58	41	e20
4	8.2	e5.0	e3.2	e2.3	e2.2	e2.0	2.5	2.9	58	56	42	e19
5	7.9	e4.5	e3.0	e2.3	e2.1	e2.0	2.3	2.9	54	54	51	e18
6	8.4	e4.8	e2.7	e2.3	e2.1	e2.1	2.3	2.8	45	57	53	e17
7	8.6	e4.6	e2.7	e2.3	e2.1	e2.1	2.4	2.9	49	56	46	e16
8	8.1	e4.5	e2.7	e2.1	e2.1	e2.0	2.4	3.6	56	60	47	e15
9	7.5	e5.2	e2.9	e2.3	e2.0	e2.0	2.4	4.8	60	53	47	e14
10	7.3	e4.0	e3.0	e2.3	e2.1	e2.1	2.3	5.3	64	48	49	e15
11	6.9	e4.4	e3.0	e2.3	e1.9	e2.1	2.4	4.4	58	44	44	e16
12	6.8	e4.4	e3.0	e2.2	e1.7	e2.2	2.4	4.1	57	42	43	e15
13	6.7	e4.4	e2.9	e2.3	e2.0	e2.0	2.5	4.8	55	42	41	e14
14	6.9	e4.5	e2.8	e2.3	e2.3	e2.1	e2.6	6.3	59	44	40	e13
15	6.8	e4.2	e2.8	e2.3	e2.1	e2.1	e2.7	7.3	61	43	39	e13
16	6.6	e4.2	e2.9	e2.1	e2.1	e2.0	e2.6	7.5	60	42	36	e12
17	6.7	e4.3	e2.9	e2.3	e2.2	e2.1	e2.3	6.4	68	42	37	e12
18	6.4	e4.1	e2.7	e2.3	e2.3	e2.1	e2.4	7.4	90	38	36	e13
19	7.2	e4.0	e2.5	e2.3	e2.1	e2.2	e2.4	9.5	89	37	35	e14
20	6.5	e3.8	e2.3	e2.3	e2.1	e2.3	e2.5	9.6	83	38	36	e15
21	6.2	e3.9	e2.4	e2.3	e2.1	e2.3	e2.4	12	83	37	32	e13
22	6.1	e4.1	e2.5	e2.3	e2.1	e2.4	e2.3	12	81	37	28	12
23	6.0	e3.8	e2.6	e2.3	e2.4	e2.4	e2.5	15	83	35	26	11
24	5.9	e3.7	e2.7	e2.3	e2.3	e2.5	e2.7	17	78	32	25	11
25	5.8	e3.6	e2.9	e2.4	e2.1	e2.5	e2.8	15	89	31	e25	11
26	6.0	e3.6	e3.0	e2.3	e2.0	e2.5	e2.6	13	81	29	e25	10
27	6.1	e3.4	e2.8	e2.3	e1.9	e2.4	e2.8	12	73	34	e24	10
28	6.0	e3.4	e2.7	e2.2	e2.0	e2.5	3.1	14	69	50	e23	10
29	6.0	e3.2	e2.7	e2.1	---	e2.6	3.2	19	69	43	e22	10
30	5.9	e3.1	e2.7	e2.3	---	e2.7	3.2	e28	67	41	e21	10
31	5.8	---	e2.6	e2.3	---	2.5	---	e36	---	49	e20	---
TOTAL	215.0	127.7	87.3	70.9	59.5	68.8	76.5	294.5	1982	1400	1129	422
MEAN	6.94	4.26	2.82	2.29	2.12	2.22	2.55	9.50	66.1	45.2	36.4	14.1
MAX	9.1	5.8	3.4	2.5	2.4	2.7	3.2	36	90	65	53	22
MIN	5.8	3.1	2.3	2.1	1.7	2.0	2.3	2.8	44	29	20	10
AC-FT	426	253	173	141	118	136	152	584	3930	2780	2240	837

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

MEAN	6.10	3.86	2.57	2.01	1.82	1.79	2.29	16.9	65.1	46.8	22.6	9.81
MAX	7.33	4.35	2.82	2.35	2.12	2.22	2.70	28.5	80.2	81.7	36.4	14.1
(WY)	1996	1996	1999	1998	1999	1999	1998	1996	1997	1995	1999	1999
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1995 - 1999

ANNUAL TOTAL	4777.4	5933.2	
ANNUAL MEAN	13.1	16.3	15.2
HIGHEST ANNUAL MEAN			17.7
LOWEST ANNUAL MEAN			12.9
HIGHEST DAILY MEAN	57 Jun 3	90 Jun 18	125 Jun 21 1995
LOWEST DAILY MEAN	e1.6 Mar 3	e1.7 Feb 12	a1.2 Feb 12 1995
ANNUAL SEVEN-DAY MINIMUM	1.7 Mar 9	2.0 Feb 7	1.3 Feb 11 1995
INSTANTANEOUS PEAK FLOW		146 Jun 18	168 Jul 12 1995
INSTANTANEOUS PEAK STAGE		4.62 Jun 18	b4.79 Jul 12 1995
ANNUAL RUNOFF (AC-FT)	9480	11770	11010
10 PERCENT EXCEEDS	41	52	47
50 PERCENT EXCEEDS	5.0	4.5	4.2
90 PERCENT EXCEEDS	2.2	2.1	1.7

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 SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	31	e25	e17	e10	e19	19	33	230	416	336	137
2	48	32	e23	e16	e9.8	e19	18	33	244	406	296	129
3	44	29	e24	e15	e9.6	e21	18	34	268	385	271	125
4	45	24	e25	e14	e9.4	e21	e17	32	284	369	274	115
5	39	22	e22	e14	e9.0	e20	e18	31	271	355	294	111
6	41	26	e20	e14	e12	e21	e19	33	238	355	320	105
7	45	24	e21	e14	e14	e21	e19	34	254	329	284	102
8	46	25	e21	e14	e18	e20	e20	42	297	324	270	92
9	44	28	e24	e14	e18	e21	e19	50	326	302	273	93
10	43	e25	e23	e14	e18	e17	e18	53	349	287	281	89
11	40	e27	e24	e14	e16	e18	e19	42	338	272	265	93
12	39	e28	e25	e15	e15	e18	e18	43	332	251	246	89
13	38	e28	e24	e14	e18	e19	e20	51	325	246	225	81
14	41	e29	e23	e14	e17	e18	e21	62	357	253	212	78
15	39	e29	e23	e13	e18	e17	e21	66	371	250	204	76
16	36	e30	e24	e14	e19	e18	e22	67	353	244	199	72
17	35	e29	e25	e13	e18	e18	e22	62	381	235	198	69
18	33	e26	e25	e14	e17	e19	21	70	383	219	194	69
19	35	e23	e24	e13	e17	e18	22	84	439	218	186	74
20	35	e24	e22	e14	e16	e19	25	100	439	209	182	79
21	34	e26	e21	e13	e16	e20	25	120	454	210	168	75
22	37	e29	e21	e13	e19	e19	25	134	469	205	158	74
23	37	e27	e21	e13	e19	e18	23	158	505	206	153	76
24	34	e26	e21	e13	e20	e17	26	183	517	202	146	72
25	34	e27	e21	e13	e20	e17	32	198	532	191	146	66
26	36	e24	e20	e14	e20	e19	27	170	516	170	137	63
27	36	e27	e22	e14	e19	e20	28	167	486	195	161	60
28	35	e28	e21	e13	e20	17	32	177	440	332	157	58
29	33	e29	e20	e12	---	18	39	200	423	323	141	56
30	32	e29	e19	e11	---	18	38	222	404	272	130	58
31	32	---	e18	e10	---	20	---	232	---	321	130	---
TOTAL	1195	811	692	423	451.8	585	691	2983	11225	8552	6637	2536
MEAN	38.5	27.0	22.3	13.6	16.1	18.9	23.0	96.2	374	276	214	84.5
MAX	49	32	25	17	20	21	39	232	532	416	336	137
MIN	32	22	18	10	9.0	17	17	31	230	170	130	56
AC-FT	2370	1610	1370	839	896	1160	1370	5920	22260	16960	13160	5030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

MEAN	36.7	28.0	21.3	15.7	14.6	16.3	20.9	101	298	243	152	67.1
MAX	38.5	28.9	22.3	17.7	16.1	18.9	23.0	105	374	276	214	84.5
(WY)	1999	1998	1999	1998	1999	1999	1999	1998	1999	1999	1999	1999
MIN	34.8	27.0	20.4	13.6	13.1	13.8	18.7	96.2	222	209	118	55.8
(WY)	1998	1999	1998	1999	1998	1998	1998	1999	1998	1998	1998	1998

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1997 - 1999

ANNUAL TOTAL	26371	36781.8	
ANNUAL MEAN	72.2	101	86.3
HIGHEST ANNUAL MEAN			101
LOWEST ANNUAL MEAN			71.9
HIGHEST DAILY MEAN	291	Jun 30	532
LOWEST DAILY MEAN	e11	Mar 12	e9.0
ANNUAL SEVEN-DAY MINIMUM	12	Mar 10	9.8
INSTANTANEOUS PEAK FLOW			726
INSTANTANEOUS PEAK STAGE			5.78
ANNUAL RUNOFF (AC-FT)	52310	72960	62550
10 PERCENT EXCEEDS	195	299	248
50 PERCENT EXCEEDS	33	32	39
90 PERCENT EXCEEDS	13	15	14

e Estimated

PLATTE RIVER BASIN

394359105411900 CLEAR CREEK BELOW GEORGETOWN LAKE NEAR GEORGETOWN, CO

LOCATION.--Lat 39°43'59", long 105°41'19", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	32	23	15	10	13	21	36	225	418	344	134
2	47	32	24	15	10	14	20	31	241	414	304	124
3	46	31	23	14	9.0	13	15	33	266	391	277	120
4	46	27	25	15	8.6	12	17	34	282	377	274	110
5	38	25	22	14	8.2	13	17	30	273	364	300	106
6	39	29	20	15	8.6	12	16	31	231	362	326	98
7	42	28	21	15	13	13	19	32	245	337	290	95
8	46	28	21	14	15	13	15	39	291	333	276	87
9	44	30	23	14	15	12	17	46	318	312	275	89
10	44	24	22	14	14	13	13	51	344	296	289	84
11	39	26	23	14	13	13	17	41	332	279	268	87
12	40	29	24	15	14	14	20	40	329	253	250	84
13	39	29	23	14	15	13	23	46	319	250	228	80
14	41	30	22	14	15	15	24	57	350	252	214	76
15	41	35	22	13	15	15	21	61	366	254	204	75
16	38	28	23	14	14	16	18	69	348	244	198	72
17	37	28	24	13	15	15	20	59	376	239	195	71
18	34	27	24	14	14	17	21	64	376	221	193	70
19	36	25	21	13	14	18	21	76	425	216	186	71
20	36	23	21	14	13	18	25	91	433	211	181	76
21	35	28	21	13	13	20	26	110	444	213	167	72
22	36	30	21	13	14	19	28	125	455	205	156	72
23	37	27	20	13	13	18	24	147	483	206	150	73
24	34	30	20	13	14	19	25	176	499	203	143	70
25	35	33	18	13	14	19	32	202	513	192	143	66
26	36	27	20	14	14	22	27	163	504	171	134	61
27	36	27	19	12	13	23	27	162	481	186	159	61
28	30	27	19	12	13	16	32	170	445	315	154	60
29	30	27	19	11	---	16	39	199	428	342	138	57
30	32	23	19	11	---	17	39	218	411	273	125	58
31	32	---	17	10	---	18	---	232	---	322	122	---
TOTAL	1194	845	664	418	361.4	489	679	2871	11033	8651	6663	2459
MEAN	38.5	28.2	21.4	13.5	12.9	15.8	22.6	92.6	368	279	215	82.0
MAX	48	35	25	15	15	23	39	232	513	418	344	134
MIN	30	23	17	10	8.2	12	13	30	225	171	122	57
AC-FT	2370	1680	1320	829	717	970	1350	5690	21880	17160	13220	4880

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	35.9	26.5	19.9	15.0	14.1	15.7	21.0	101	294	239	148	65.7
MAX	38.5	28.2	21.4	16.6	15.3	15.8	22.6	109	368	279	215	82.0
(WY)	1999	1999	1999	1998	1998	1999	1999	1998	1999	1999	1999	1999
MIN	33.2	24.8	18.3	13.5	12.9	15.6	19.3	92.6	220	198	113	56.8
(WY)	1998	1998	1998	1999	1999	1998	1998	1999	1998	1998	1998	1998

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1997 - 1999

ANNUAL TOTAL	26045	36327.4	
ANNUAL MEAN	71.4	99.5	84.9
HIGHEST ANNUAL MEAN			99.5 1999
LOWEST ANNUAL MEAN			70.4 1998
HIGHEST DAILY MEAN	311	Jun 3	513 Jun 25 1999
LOWEST DAILY MEAN	11	Apr 1	8.2 Feb 5 1999
ANNUAL SEVEN-DAY MINIMUM	13	Mar 8	9.2 Jan 31 1999
INSTANTANEOUS PEAK FLOW			604 Jun 25 1999
INSTANTANEOUS PEAK STAGE			4.58 Jun 25 1999
ANNUAL RUNOFF (AC-FT)	51660	72060	61540
10 PERCENT EXCEEDS	193	307	244
50 PERCENT EXCEEDS	32	32	38
90 PERCENT EXCEEDS	15	13	15

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

LOCATION.--Lat 39°45'07", long 105°39'41", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	39	e21	e26	e26	e14	25	52	250	376	329	138
2	57	40	e24	e25	e26	e15	25	50	263	375	291	125
3	52	38	e23	e25	e27	e13	23	46	286	355	267	124
4	54	34	e26	e24	e26	e14	22	47	301	344	263	115
5	48	31	e24	e25	e26	e15	24	44	295	333	288	112
6	48	36	e24	e26	e26	e14	21	47	260	331	310	107
7	52	35	e23	e26	e26	e13	23	45	264	310	281	104
8	55	35	e23	e25	e27	e14	29	53	302	303	269	97
9	52	40	e26	e23	e26	e13	25	61	327	286	266	98
10	51	28	e26	e25	e27	17	23	69	347	273	281	93
11	48	33	e27	e27	e25	17	20	58	334	263	263	98
12	47	37	e28	e26	e16	19	25	56	332	240	247	94
13	47	34	e26	e25	e20	18	27	62	318	237	225	87
14	49	37	e26	e25	e19	18	29	74	344	239	213	84
15	46	35	e28	e25	e18	19	28	76	363	244	205	82
16	43	37	e27	e23	e17	19	24	81	346	233	198	78
17	43	34	e26	e25	e18	19	28	74	367	231	195	76
18	41	34	e26	e27	e18	20	29	79	365	215	195	74
19	44	31	e23	e26	e19	21	28	91	400	209	186	76
20	45	30	e22	e25	e18	22	31	108	397	206	182	85
21	43	30	e24	e25	e17	23	33	124	409	207	171	79
22	46	32	e26	e25	e17	23	37	142	415	198	160	77
23	45	30	e27	e26	e18	21	34	167	449	203	154	78
24	43	28	e28	e27	e19	22	33	195	472	197	147	73
25	42	28	e28	e26	e16	23	42	227	472	189	147	68
26	45	e27	e30	e25	e15	25	37	191	460	171	138	62
27	45	e25	e28	e24	e12	26	34	187	439	177	161	61
28	48	e23	e27	e23	e13	23	41	190	406	283	159	60
29	37	e22	e26	e24	---	21	56	217	388	336	143	58
30	39	e21	e26	e25	---	25	58	236	373	262	127	60
31	40	---	e26	e26	---	25	---	255	---	301	124	---
TOTAL	1451	964	795	780	578	591	914	3404	10744	8127	6585	2623
MEAN	46.8	32.1	25.6	25.2	20.6	19.1	30.5	110	358	262	212	87.4
MAX	57	40	30	27	27	26	58	255	472	376	329	138
MIN	37	21	21	23	12	13	20	44	250	171	124	58
AC-FT	2880	1910	1580	1550	1150	1170	1810	6750	21310	16120	13060	5200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

MEAN	39.8	26.7	21.2	17.9	15.8	17.5	26.5	121	398	302	149	69.2
MAX	46.8	32.1	25.6	25.2	20.6	21.0	32.1	189	497	555	212	87.4
(WY)	1999	1999	1999	1999	1999	1995	1996	1996	1995	1995	1999	1999
MIN	27.9	19.3	15.4	12.8	11.2	11.7	20.2	48.6	223	209	83.1	50.2
(WY)	1995	1995	1995	1995	1997	1997	1995	1995	1998	1998	1996	1996

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1995 - 1999

ANNUAL TOTAL	27613	37556										
ANNUAL MEAN	75.7	103								101		
HIGHEST ANNUAL MEAN										126		1995
LOWEST ANNUAL MEAN										74.5		1998
HIGHEST DAILY MEAN	280	Jun 3	472	Jun 24						886	Jun 22	1995
LOWEST DAILY MEAN	e13	Feb 20	e12	Feb 27						e8.5	Mar 8	1997
ANNUAL SEVEN-DAY MINIMUM	14	Mar 7	14	Feb 26						9.1	Mar 3	1997
INSTANTANEOUS PEAK FLOW			564	Jun 24						1030	Jun 17	1995
INSTANTANEOUS PEAK STAGE			5.67	Jun 24						6.63	Jun 17	1995
ANNUAL RUNOFF (AC-FT)	54770	74490								72940		
10 PERCENT EXCEEDS	202	297								276		
50 PERCENT EXCEEDS	40	42								34		
90 PERCENT EXCEEDS	16	21								15		

e Estimated

PLATTE RIVER BASIN

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 September 1999 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	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)
JUN 03...	1045	.99	101	7.9	1.5	10	10.9	<1	18	4.9	1.5
SEP 17...	1015	.63	50	7.7	4.2	.4	9.8	--	14	4.0	1.0

DATE	TIME	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	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 TOTAL (MG/L AS P) (00665)	PHOS-ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
JUN 03...	11	1	23	78	.001	.11	<.002	E.03	.003	<1	
SEP 17...	4.5	.5	6.8	42	<.001	.03	.004	<.05	<.001	<2	

DATE	TIME	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 03...	2	2	383	30	2	<1	15.7	5	<40	<20	
SEP 17...	--	<1	--	15	--	<1	--	<2	--	<20	

E Estimated.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMI-PLING METHOD, CODES (82398)	SEDI-MENT DIS-CHARGE, (TONS/DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .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)
JUN 03...	1120	.99	10	125.3	.2	.4	5.5	33.2	69.8	90.9	96.4			

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 September 1999 (Discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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) (00900)	CALCIUM DIS-SOLVED (MG/L) (00915)
APR 20...	1015	.08	282	8.2	.7	.7	10.1	53	15
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SODIUM, DIS-SOLVED (MG/L) (00930)	SODIUM AD-SORP-TION RATIO (00931)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-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)
APR 20...		3.9	28	2	70	176	.001	.066	.002
DATE		PHOS-PHORUS TOTAL (MG/L) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	ARSENIC DIS-SOLVED (UG/L) (01000)	COPPER, DIS-SOLVED (UG/L) (01040)	IRON, DIS-SOLVED (UG/L) (01046)	LEAD, DIS-SOLVED (UG/L) (01049)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	ZINC, DIS-SOLVED (UG/L) (01090)
APR 20...		<.05	.001	<1	<1	16	<1	E2	<20

E Estimated.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 20...	1020	.08	2.3	.00

PLATTE RIVER BASIN

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 September 1999 (Discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
APR 20...	1100	.38	266	7.4	2.0	1.1	9.7	58	15	4.7
JUN 03...	1110	9.2	88	8.0	3.0	9	10.0	17	4.7	1.4
SEP 17...	1100	1.2	65	7.5	4.2	2.1	9.0	17	4.6	1.3

DATE	TIME	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	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 TOTAL SOLVED (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
APR 20...	22	1	66	166	.001	.11	.005	<.05	.002	<1	
JUN 03...	9.4	1	18	70	<.001	.099	<.002	E.03	.003	<1	
SEP 17...	5.7	.6	8.6	46	.002	.09	<.002	<.05	.001	<2	

DATE	TIME	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 20...	--	<1	--	110	--	<1	--	18	--	E8	
JUN 03...	<1	1	319	30	<1	<1	15.9	5	<40	<20	
SEP 17...	--	<1	--	26	--	<1	--	7	--	E10	

E Estimated.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 20...	1110	.38	2.3	.00
JUN 03...	1215	9.2	27.1	.67
SEP 17...	1115	1.2	2.2	.01



PLATTE RIVER BASIN

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 September 1999 (Discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
APR 20...	0945	.26	31	8.2	1.5	.7	9.4	12	3.4	.72
JUN 03...	1000	3.2	24	7.6	2.5	8	10.1	9	2.6	.61
SEP 17...	0945	1.6	24	7.9	3.5	.4	10.0	9	2.7	.57

DATE	TIME	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	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 TOTAL SOLVED (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
APR 20...	1.7	.2	.1	.1	29	.001	.11	<.002	<.05	.010	<1
JUN 03...	1.4	.2	.6	.6	32	<.001	.078	<.002	<.05	.008	<1
SEP 17...	1.5	.2	<.3	<.3	31	<.001	.066	.003	<.05	.008	<2

DATE	TIME	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 20...	--	<1	--	--	E6	--	<1	--	<3	--	E7
JUN 03...	<1	<1	43.7	11	<1	<1	E1.8	<3	<40	<20	
SEP 17...	--	<1	--	<10	--	<1	--	<2	--	<20	

E Estimated.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 20...	0950	.26	1.2	.00
JUN 03...	1015	3.18	7.3	.06
SEP 17...	0935	1.57	1.2	.01

PLATTE RIVER BASIN

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 September 1999 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (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)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
APR 20...	1125	.29	45	7.7	1.5	1.1	10.0	13	4.0	.83
JUN 03...	1215	2.9	37	7.7	4.0	7	10.2	12	3.4	.80
SEP 17...	1135	.96	27	7.9	5.1	.5	10.0	10	2.9	.62

DATE	TIME	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	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 TOTAL (MG/L AS P) (00665)	PHOS-ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC DIS-SOLVED (MG/L AS AS) (01000)
APR 20...	3.4	.4	4.0	34	.001	.084	<.002	<.05	.007	<1	
JUN 03...	2.5	.3	4.5	37	<.001	.054	<.002	E.03	.006	<1	
SEP 17...	1.7	.2	.4	27	<.001	.034	.003	<.05	.005	<2	

DATE	TIME	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 20...	--	<1	--	E8	--	<1	--	<3	--	<20	
JUN 03...	<1	1	175	12	<1	<1	7.0	<3	<40	<20	
SEP 17...	--	<1	--	<10	--	<1	--	<2	--	<20	

E Estimated.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 20...	1130	.29	4.7	.00
JUN 03...	1315	2.9	14.1	.11
JUN 03...	1330	2.9	48.7	.38
SEP 17...	1140	.96	8.4	.02

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	SEDI-MENT CHARGE, BEDLOAD (TONS/DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .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 03...	1325	3.1	10	215.5	.3	.6	8.6	23.9	45.6	70.3	88.9	95.2

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 SEASONAL RECORD.--Maximum daily discharge 61 ft<sup>3</sup>/s, June 22, 1997 during period of estimated record. Maximum recorded discharge, 73 ft<sup>3</sup>/s, June 27, 1997, gage height 1.52 ft; minimum daily, 0.40 ft<sup>3</sup>/s (estimated), Apr. 17, 1999.

EXTREMES FOR CURRENT SEASON.--Maximum discharge 29 ft<sup>3</sup>/s, June 14, gage height 1.77 ft; minimum daily discharge, 0.40 ft<sup>3</sup>/s (estimated), Apr. 17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e.50	.54	14	17	6.1	3.2
2	---	---	---	---	---	---	e.45	.62	15	17	5.3	3.6
3	---	---	---	---	---	---	e.42	.79	16	16	6.1	3.2
4	---	---	---	---	---	---	e.42	.81	16	15	8.9	2.9
5	---	---	---	---	---	---	e.45	e.73	15	14	9.0	2.8
6	---	---	---	---	---	---	e.45	e.62	15	14	8.4	2.7
7	---	---	---	---	---	---	e.54	e1.2	15	13	7.8	2.6
8	---	---	---	---	---	---	e.68	1.2	17	12	7.4	2.6
9	---	---	---	---	---	---	e.54	1.5	20	11	7.9	2.5
10	---	---	---	---	---	---	e.54	1.3	22	10	7.1	2.5
11	---	---	---	---	---	---	e.48	1.1	23	9.2	6.5	2.5
12	---	---	---	---	---	---	e.54	1.2	24	e8.5	6.2	2.5
13	---	---	---	---	---	---	e.65	1.6	23	e8.0	5.8	2.4
14	---	---	---	---	---	---	e.60	1.8	22	e7.5	5.9	2.4
15	---	---	---	---	---	---	e.50	2.0	23	e7.0	5.3	2.4
16	---	---	---	---	---	---	e.43	1.8	21	e6.5	4.9	2.4
17	---	---	---	---	---	---	e.40	1.8	20	5.7	4.9	e2.3
18	---	---	---	---	---	---	e.48	2.1	21	5.3	4.5	2.2
19	---	---	---	---	---	---	e.56	2.6	21	5.2	4.5	2.5
20	---	---	---	---	---	---	.57	3.4	22	4.9	4.4	2.6
21	---	---	---	---	---	---	.56	4.8	23	4.6	4.0	2.3
22	---	---	---	---	---	---	e.50	5.4	22	4.8	3.8	2.1
23	---	---	---	---	---	---	e.45	7.0	22	4.3	3.6	2.0
24	---	---	---	---	---	---	e.45	9.7	22	4.8	3.5	2.1
25	---	---	---	---	---	---	e1.1	11	22	4.1	4.0	1.9
26	---	---	---	---	---	---	1.1	11	22	3.9	3.5	1.7
27	---	---	---	---	---	---	1.1	11	22	4.2	3.8	1.7
28	---	---	---	---	---	---	1.2	11	21	6.0	3.6	1.8
29	---	---	---	---	---	---	1.2	12	20	4.4	3.4	e3.0
30	---	---	---	---	---	e.54	.88	13	19	4.1	3.2	e1.8
31	---	---	---	---	---	.54	---	14	---	7.0	3.7	---
TOTAL	---	---	---	---	---	---	18.74	138.61	600	259.0	167.0	73.2
MEAN	---	---	---	---	---	---	.62	4.47	20.0	8.35	5.39	2.44
MAX	---	---	---	---	---	---	1.2	14	24	17	9.0	3.6
MIN	---	---	---	---	---	---	.40	.54	14	3.9	3.2	1.7
AC-FT	---	---	---	---	---	---	37	275	1190	514	331	145

e Estimated

PLATTE RIVER BASIN

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 except for Aug. 6 - Sept. 10 which are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1150 microsiemens, Sept. 16, 1999; minimum, 23 microsiemens, June 20, 22, 1997.  
 WATER TEMPERATURE: Maximum 11.7°C, July 27, 1998 and July 8, 1999; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDANCE: Maximum, 1150 microsiemens, Sept. 16; minimum, 33 microsiemens, Jun. 25-26.  
 WATER TEMPERATURE: Maximum, 11.7° C, Jul. 28; minimum, 0.0° C, Sept. 28, 29 and many days in April and May.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECCAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
APR 20...	1215	.50	223	7.2	4.0	1.3	10.3	<1	46	12
JUN 03...	1300	14	94	7.3	5.5	10	9.9	--	21	5.6
SEP 17...	1145	2.6	83	7.7	5.2	2.1	10.2	--	22	6.2
DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	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 TOTAL (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	3.6	20	1	52	136	.001	.077	<.002	<.05	.003
JUN 03...	1.6	9.6	.9	20	72	.001	.068	<.002	E.03	.003
SEP 17...	1.5	6.4	.6	13	52	.001	.037	.003	<.05	.005
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)	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, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	
APR 22...	3	<1	<1	54	<1	<1	<1	<1	<1	
JUN 03...	27	<1	<1	25	<1	<1	<1	2	1	
SEP 17...	17	<1	<1	23	<1	<1	<1	<1	<1	
DATE	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)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	
APR 22...	--	<10	<1	<1	--	<1	<1	--	3	
JUN 03...	864	20	2	<1	29.7	<1	<1	<40	4	
SEP 17...	207	14	<1	<1	11.3	<1	<1	<31	3	

E Estimated.

PLATTE RIVER BASIN

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR- BID- ITY (NTU) (00076)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
APR						
19...	1234	.63	3.3	2.5	10.5	.02
20...	1220	.50	--	--	2.9	.00
26...	1645	1.1	3.8	.5	6.6	.02
28...	1810	1.2	8.6	1.0	8.6	.03
29...	0715	1.2	.79	.3	7.5	.02
30...	1315	1.3	.23	.5	3.5	.01
MAY						
03...	1000	.63	.21	.8	5.1	.01
05...	1300	.73	--	.5	5.0	.01
07...	0710	.73	.23	.0	.7	.00
10...	1755	1.2	8.9	.2	10.7	.03
12...	1319	1.1	1.8	2.5	13.7	.04
13...	1130	1.2	1.3	2.3	3.9	.01
14...	1400	1.8	5.7	3	11.5	.06
17...	1225	1.6	.98	1.9	2.8	.01
19...	1750	3.8	21.4	1.8	44.9	.46
20...	0900	2.5	2.8	--	5.9	.04
20...	1330	2.9	2.7	--	8.7	.07
21...	1500	5.6	41.1	3	88.1	1.3
21...	1535	6.8	--	3	120.2	2.2
24...	1805	10	11.7	2.5	77.0	2.1
25...	0900	11	8.3	1.4	65.7	2.0
25...	1025	10	10.8	.5	40.4	1.1
26...	2010	12	4.4	2.5	102.3	3.3
26...	2035	11	--	2.5	115.2	3.4
27...	1023	9.6	--	3.0	17.9	.46
27...	1720	11	--	2.5	47.7	1.4
27...	1745	11	6.9	2.5	206.7	6.1
28...	1137	10	--	3.4	160.5	4.3
28...	1400	10	1.9	4.5	44.0	1.2
29...	1445	12	4.8	4.7	88.3	2.9
JUN						
01...	1216	13	3.9	4.5	161.5	5.7
01...	1505	14	10.8	5.0	114.6	4.3
02...	0845	15	3.1	1.9	22.5	.91
02...	1440	15	67.4	5.1	252.0	10
04...	1755	17	16.9	3.0	241.6	11
07...	1235	14	2.1	5.5	20.6	.78
08...	0930	15.0	2.6	--	23.6	.96
08...	2030	19.0	7.7	2.5	169.5	8.7
09...	2025	23.0	23	3.0	461.2	29
10...	1440	23.0	5.1	--	281.3	17
10...	1835	23.0	17.3	3.5	335.0	21
14...	1740	22.0	8.0	4.0	109.7	6.5
15...	0835	23.0	50.0	2.6	171.8	11
15...	1540	22	12.0	3.7	137.3	8.2
16...	1900	19	7.1	4.0	127.5	6.5
17...	2015	22	8.6	3.5	122.9	7.3
18...	1640	21	6.5	6.0	59.8	3.4
21...	0924	22	15.1	--	139.0	8.3
21...	1425	23	6.8	6.3	202.7	13
21...	1740	23	3.4	5.0	337.0	21
22...	0705	22	2.7	3.0	71.4	4.2
23...	1710	22	4.6	7.0	129.9	7.7
24...	1415	22	115	9.0	139.6	8.3
28...	1125	20	2.4	5.0	217.7	12
30...	0955	19	0.4	4.7	23.5	1.2
JUL						
02...	0950	17	1.0	5.8	95.0	4.4
06...	1025	13	1.1	6.5	11.7	.41
07...	1010	12	14.2	5.7	32.2	1.0
08...	1014	12	11.4	5.5	59.6	1.9
08...	1530	12	34.2	8.5	17.3	.56
09...	1540	11	3.3	10.1	18.3	.54
12...	1132	8.5	3.6	6.1	14.2	.33
13...	1015	8.5	1.9	5.5	11.7	.27
14...	1005	8.9	--	6.5	2.9	.07
16...	0700	6.2	.37	5.0	21.4	.36
21...	0902	4.8	1.7	6.0	14.3	.19
21...	1200	4.5	6.3	8.0	18.1	.22
22...	1420	4.0	1.2	--	8.9	.10
26...	1800	3.8	5.4	8.5	21.0	.22
28...	1830	18	--	9.0	3922.1	191
28...	1835	18	--	9.0	3566.7	173
28...	1915	16	--	9.0	2524.2	109
28...	1945	14	626	8.5	1133.0	43
29...	0910	5.3	101	7.0	164.7	2.4

PLATTE RIVER BASIN

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR- BID- ITY (NTU) (00076)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
AUG						
03...	0952	6.2	406	5.5	415.4	7.0
05...	1439	8.5	24.5	8.5	62.3	1.4
06...	1200	8.5	7.5	7.7	59.3	1.4
09...	1520	13	390	7.4	2901.3	102
11...	1520	6.2	--	9.5	337.1	5.6
12...	1135	6.2	5.5	6.0	30.6	.51
19...	0655	4.0	1.2	5.0	8.0	.09
19...	1400	4.0	19.3	9.0	45.8	.49
25...	1115	3.5	11.0	7.6	14.2	.13
SEP						
17...	1150	2.6	--	--	6.6	.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 .062 MM (80226)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM (80228)
MAY							
21...	1518	.73	3.0	2.0	.3	.6	1.6
26...	2015	12	2.5	13.5	.0	.1	.4
26...	2027	11	2.5	17.0	.0	.1	.4
27...	1728	11	2.5	4.4	.0	.1	.7
27...	1738	11	2.5	2.6	.0	.1	.7
29...	1451	12	4.2	4.1	.0	.3	2.3
JUN							
01...	1447	14	5	9.2	.0	.1	.6
01...	1556	15	5	12.4	.0	.1	.4
04...	1803	17	3	14.5	.1	.2	.9
04...	1813	17	3	15.1	.1	.1	.7
08...	2037	19	2.5	7.4	.1	.1	.7
08...	2048	48	2.5	10.5	.1	.2	.4
09...	2033	23	3	7.8	.1	.2	.7
09...	2043	22	3	12.4	.1	.2	.6
10...	1842	23	3.5	10	.1	.2	.7
10...	1852	23	3.5	16.7	.1	.2	.5
14...	1748	22	4	2.5	.1	.2	.6
14...	1758	23	4	3.6	.1	.2	.3
15...	1543	22	3.7	20.7	.1	.1	.4
17...	2023	21	3.5	9.3	.0	.1	.2
17...	2033	21	3.5	5.4	.1	.1	.4
18...	1648	21	6	3.1	.0	.1	.5
18...	1657	21	6	5.2	.1	.1	.7
21...	1748	23	5	6.4	.1	.2	.7
21...	1758	26	5	6.4	.1	.2	.6
23...	1718	22	7	4.8	.1	.2	.6
23...	1727	22	7	4.9	.1	.1	.4



PLATTE RIVER BASIN

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

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	177	174	176	389	270	311
2	---	---	---	---	---	---	202	172	179	613	269	388
3	---	---	---	---	---	---	---	---	---	464	328	385
4	---	---	---	---	---	---	182	168	173	474	328	364
5	---	---	---	---	---	---	215	169	187	510	297	348
6	---	---	---	---	---	---	245	177	201	517	280	361
7	---	---	---	---	---	---	208	186	191	371	310	331
8	---	---	---	---	---	---	301	185	207	329	312	318
9	---	---	---	---	---	---	201	181	189	317	283	304
10	---	---	---	---	---	---	289	175	201	326	291	304
11	---	---	---	---	---	---	193	163	180	324	217	265
12	---	---	---	---	---	---	183	178	180	297	283	291
13	---	---	---	---	---	---	179	175	178	289	256	277
14	---	---	---	---	---	---	195	177	180	278	258	270
15	---	---	---	---	---	---	---	---	---	273	243	261
16	---	---	---	---	---	---	---	---	---	271	252	259
17	---	---	---	---	---	---	301	174	212	276	242	257
18	---	---	---	---	---	---	346	195	248	254	221	242
19	---	---	---	---	---	---	266	216	235	239	213	227
20	---	---	---	---	---	---	228	212	217	226	200	214
21	---	---	---	---	---	---	302	210	225	211	173	195
22	---	---	---	---	---	---	338	212	246	191	158	174
23	---	---	---	---	---	---	---	---	---	177	56	137
24	---	---	---	---	---	---	428	213	289	165	48	85
25	---	---	---	---	---	---	426	321	363	186	72	153
26	---	---	---	---	---	---	321	268	286	168	59	121
27	---	---	---	---	---	---	380	251	300	162	59	119
28	---	---	---	---	---	---	333	270	289	157	131	148
29	---	---	---	---	---	---	395	274	313	140	122	132
30	---	---	---	---	---	---	359	269	295	129	105	119
31	---	---	---	---	---	---	---	---	---	112	103	108
MONTH	---	---	---	---	---	---	---	---	---	613	48	241
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	107	93	102	41	38	39	73	63	68	77	71	74
2	105	87	97	42	38	39	74	72	73	77	60	74
3	93	76	87	39	37	38	86	70	74	79	74	76
4	84	70	78	39	38	38	77	50	69	76	74	75
5	80	72	77	39	37	38	70	63	65	75	73	74
6	82	76	79	70	37	42	78	65	66	75	73	74
7	80	59	73	45	43	44	67	65	66	77	74	75
8	72	56	66	45	43	44	68	63	65	76	74	76
9	63	49	57	65	44	46	84	62	67	79	74	75
10	58	45	52	46	43	44	81	65	66	80	74	77
11	54	43	50	47	44	45	71	65	66	81	75	77
12	51	44	47	48	46	47	70	65	66	78	74	75
13	49	43	46	51	47	50	66	65	65	76	72	74
14	48	41	44	57	51	52	90	64	66	75	71	72
15	49	43	46	54	53	53	67	65	66	75	71	73
16	53	42	46	73	52	55	66	65	66	1150	69	98
17	54	49	51	56	55	55	72	65	66	---	---	---
18	52	43	50	57	56	56	66	64	66	75	73	74
19	49	43	47	64	54	57	75	62	67	95	71	75
20	47	38	44	62	55	59	75	66	67	102	74	78
21	44	37	41	60	58	59	67	66	67	82	78	80
22	42	37	39	76	57	61	67	66	67	80	74	78
23	42	36	39	63	59	62	68	66	67	100	77	79
24	40	35	37	86	57	64	69	66	68	80	77	79
25	39	33	35	72	69	70	100	64	71	79	77	78
26	38	33	36	70	67	69	75	68	70	79	77	78
27	37	34	36	87	60	71	94	64	71	276	76	88
28	39	35	37	84	58	72	73	68	71	85	74	77
29	39	36	37	95	71	77	71	70	71	---	---	---
30	39	37	38	71	58	62	77	70	72	---	---	---
31	---	---	---	70	45	64	77	57	72	---	---	---
MONTH	107	33	54	95	37	54	100	50	68	---	---	---



PLATTE RIVER BASIN

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
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	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	1.5	.0	.5	1.1	.0	.4
2	---	---	---	---	---	---	.2	.0	.0	1.9	.1	.7
3	---	---	---	---	---	---	---	---	---	2.5	.3	.8
4	---	---	---	---	---	---	.1	.0	.0	1.7	.0	.4
5	---	---	---	---	---	---	.4	.1	.2	1.1	.0	.2
6	---	---	---	---	---	---	1.1	.0	.3	.9	.0	.2
7	---	---	---	---	---	---	2.5	.1	.8	2.3	.0	.6
8	---	---	---	---	---	---	1.5	.0	.5	2.4	.4	.9
9	---	---	---	---	---	---	1.0	.0	.2	2.7	.6	1.1
10	---	---	---	---	---	---	.6	.0	.1	1.0	.0	.5
11	---	---	---	---	---	---	.5	.0	.2	1.4	.0	.3
12	---	---	---	---	---	---	2.1	.0	.6	2.4	.0	.8
13	---	---	---	---	---	---	2.1	.2	.8	3.3	.8	1.5
14	---	---	---	---	---	---	.6	.0	.2	2.8	1.0	1.5
15	---	---	---	---	---	---	---	---	---	3.3	1.0	1.6
16	---	---	---	---	---	---	---	---	---	1.9	.5	1.2
17	---	---	---	---	---	---	.2	.0	.1	2.9	.0	1.0
18	---	---	---	---	---	---	.6	.2	.3	3.6	.6	1.5
19	---	---	---	---	---	---	1.9	.2	.8	3.5	.8	1.6
20	---	---	---	---	---	---	1.8	.4	.9	4.0	1.2	2.0
21	---	---	---	---	---	---	1.7	.2	.7	3.9	1.1	2.0
22	---	---	---	---	---	---	1.0	.0	.2	4.7	.9	2.2
23	---	---	---	---	---	---	---	---	---	4.8	1.5	2.6
24	---	---	---	---	---	---	.7	.0	.2	4.2	1.0	2.2
25	---	---	---	---	---	---	1.8	.2	.6	2.8	.4	1.6
26	---	---	---	---	---	---	1.2	.2	.5	5.1	1.4	2.5
27	---	---	---	---	---	---	2.0	.5	.9	4.1	1.6	2.5
28	---	---	---	---	---	---	1.6	.1	.8	4.7	1.5	2.6
29	---	---	---	---	---	---	.7	.1	.6	4.8	1.5	2.6
30	---	---	---	---	---	---	.5	.1	.4	5.4	1.9	2.8
31	---	---	---	---	---	---	---	---	---	4.7	1.5	2.4
MONTH	---	---	---	---	---	---	---	---	---	5.4	.0	1.4

## PLATTE RIVER BASIN

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.5	1.2	2.6	10.0	4.3	6.3	10.8	5.7	7.6	10.2	5.9	7.5
2	5.6	1.5	2.9	8.5	5.2	6.5	10.4	5.2	7.4	8.7	5.9	6.9
3	5.7	1.6	2.9	10.3	5.0	6.7	9.8	4.7	7.0	9.1	4.8	6.4
4	5.8	1.5	2.9	10.3	5.0	6.8	8.6	6.5	7.3	8.1	3.5	5.6
5	3.2	1.1	2.0	10.9	4.6	7.2	8.8	6.3	7.3	8.8	3.4	5.5
6	4.4	1.2	2.5	9.6	5.3	7.0	9.4	6.0	7.2	9.0	3.6	5.8
7	6.7	2.0	3.3	10.2	4.6	6.9	10.0	5.9	7.3	9.2	4.7	6.3
8	6.4	1.8	3.2	8.6	5.9	7.1	10.2	5.3	7.1	8.6	3.6	5.8
9	6.2	1.8	3.4	10.6	5.3	7.2	8.5	5.4	6.7	8.6	3.0	5.5
10	5.7	2.2	3.4	8.9	4.8	6.5	9.7	5.8	7.3	7.9	4.1	5.8
11	5.4	1.7	3.2	7.9	4.5	5.9	9.8	6.0	7.3	6.9	4.5	5.4
12	4.7	2.2	3.1	9.8	4.4	6.6	8.4	5.1	6.3	7.2	3.4	4.9
13	5.6	2.0	3.4	9.7	4.7	6.8	10.1	4.4	6.5	8.0	3.0	4.9
14	5.3	2.4	3.5	8.3	5.8	6.9	9.2	4.9	6.7	6.9	2.5	4.6
15	4.3	2.4	3.0	8.1	6.0	6.8	8.9	5.6	6.8	5.6	3.0	4.2
16	5.6	2.3	3.5	---	5.1	6.8	10.0	4.7	6.8	7.3	2.4	4.4
17	5.6	2.8	3.8	9.9	5.3	7.2	9.5	6.0	7.2	6.6	---	---
18	6.7	2.8	4.2	7.3	5.6	6.6	10.2	4.7	6.9	6.8	2.8	4.6
19	6.2	3.0	4.2	9.3	5.9	7.2	9.2	5.4	6.9	4.7	2.8	3.8
20	8.0	2.9	4.5	9.5	5.6	7.4	8.8	6.0	7.3	4.7	2.7	3.5
21	6.6	3.1	4.5	9.5	5.4	7.1	9.7	5.7	7.2	6.6	1.4	3.6
22	7.4	3.4	4.8	9.7	5.6	7.3	10.1	6.5	7.6	7.2	1.9	4.0
23	8.6	3.3	5.2	10.8	5.7	7.6	10.8	5.2	7.4	7.4	3.0	4.9
24	8.9	3.4	5.5	10.2	5.8	7.5	9.6	5.8	7.5	6.8	4.1	5.1
25	8.8	3.8	5.7	10.3	6.6	7.9	9.5	6.3	7.5	8.4	4.6	6.0
26	9.1	3.4	5.6	8.9	5.7	7.4	11.0	5.9	7.8	7.6	3.7	5.5
27	9.1	4.1	5.7	10.3	6.0	7.9	10.4	6.6	8.1	4.9	1.7	2.9
28	9.1	3.4	5.5	11.7	7.1	8.6	8.7	6.8	7.7	1.7	.0	.7
29	8.7	3.9	5.7	9.8	6.9	8.1	9.7	5.6	7.2	---	.0	---
30	8.2	4.0	5.6	10.2	6.7	8.3	10.2	5.6	7.5	---	---	---
31	---	---	---	10.1	6.2	7.9	10.1	6.6	8.0	---	---	---
MONTH	9.1	1.1	4.0	---	4.3	7.2	11.0	4.4	7.2	---	---	---

06716100 WEST FORK CLEAR CREEK ABOVE MOUTH NEAR EMPIRE, CO

LOCATION.--Lat 39°45'32", long 105°39'34", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	e32	e27	e27	e25	e16	24	36	266	345	305	102
2	40	e32	e27	e27	e23	e17	24	36	276	339	294	96
3	37	e30	e26	e26	e23	e16	23	35	294	332	285	93
4	40	e27	e25	e25	e24	e16	24	35	310	327	288	88
5	38	e25	e24	e24	e23	e15	23	33	305	323	300	85
6	38	e26	e23	e23	e22	e16	22	33	281	321	293	80
7	37	e27	e23	e23	e23	e17	24	32	279	312	280	76
8	37	e27	e25	e22	e23	e16	25	36	302	301	270	73
9	36	e30	e26	e23	e22	e15	23	42	320	292	267	71
10	35	e25	e27	e24	e22	e15	24	49	335	277	264	69
11	35	e27	e27	e25	e21	e15	23	46	334	268	252	73
12	33	e29	e26	e26	e20	e15	24	44	339	255	240	70
13	33	e28	e26	e24	e17	e16	25	47	342	244	224	65
14	35	e28	e25	e23	e18	e15	25	56	342	241	215	62
15	33	e28	e26	e24	e17	e13	25	62	348	235	205	61
16	33	e27	e26	e23	e17	e15	24	69	345	234	192	59
17	34	e26	e27	e24	e16	e15	24	67	350	227	185	58
18	33	e25	e28	e24	e16	21	23	69	365	211	177	57
19	33	e24	e24	e23	e18	23	25	81	384	204	173	60
20	34	e26	e22	e23	e17	22	27	90	401	189	170	67
21	34	e28	e23	e22	e16	23	25	106	424	182	151	62
22	33	e31	e25	e21	e17	23	25	135	430	180	133	58
23	33	e30	e26	e23	e18	23	24	165	446	175	125	55
24	33	e29	e26	e23	e17	23	26	205	456	172	118	54
25	33	e28	e29	e24	e17	24	30	244	448	170	124	53
26	32	e28	e29	e22	e16	25	28	219	436	149	118	52
27	33	e28	e29	e22	e14	30	27	215	431	160	114	51
28	e35	e27	e28	e21	e15	24	29	217	405	204	116	50
29	e30	e27	e28	e22	---	24	38	237	378	239	107	49
30	e28	e27	e28	e23	---	24	41	255	355	214	100	47
31	e30	---	e28	e23	---	26	---	267	---	274	97	---
TOTAL	1066	832	809	729	537	598	774	3263	10727	7596	6182	1996
MEAN	34.4	27.7	26.1	23.5	19.2	19.3	25.8	105	358	245	199	66.5
MAX	40	32	29	27	25	30	41	267	456	345	305	102
MIN	28	24	22	21	14	13	22	32	266	149	97	47
AC-FT	2110	1650	1600	1450	1070	1190	1540	6470	21280	15070	12260	3960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999
MEAN	29.8	23.3	18.5	15.7	13.4
MAX	34.4	29.0	26.1	23.5	19.2
(WY)	1999	1996	1999	1999	1999
MIN	22.0	15.9	10.4	9.92	11.1
(WY)	1995	1995	1995	1995	1998

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1995 - 1999
ANNUAL TOTAL	22809	35109	
ANNUAL MEAN	62.5	96.2	85.7
HIGHEST ANNUAL MEAN			96.2
LOWEST ANNUAL MEAN			60.9
HIGHEST DAILY MEAN	283	456	720
LOWEST DAILY MEAN	e11	e13	e9.5
ANNUAL SEVEN-DAY MINIMUM	12	15	9.6
INSTANTANEOUS PEAK FLOW		521	774
INSTANTANEOUS PEAK STAGE		6.10	6.67
ANNUAL RUNOFF (AC-FT)	45240	69640	62100
10 PERCENT EXCEEDS	179	294	267
50 PERCENT EXCEEDS	30	32	28
90 PERCENT EXCEEDS	13	21	12

e Estimated

PLATTE RIVER BASIN

06716500 CLEAR CREEK NEAR LAWSON, CO

LOCATION.--Lat 39°45'57", long 105°37'32", in NW¼NW¼ sec.25, T.3 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, at east edge of Lawson, on left bank, 30 ft downstream from private bridge, and 2.0 mi downstream from West Fork Clear Creek.

DRAINAGE AREA.--147 mi².

PERIOD OF RECORD.--March 1946 to September 1986; October 1994 to current year. Records prior to 1959 include inflow from August P. Gumlick Tunnel (formerly Jones Pass tunnel).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,080 ft above sea level, from topographic map. Mar.29, 1946 to Sept. 30, 1967, at site 1.5 mi upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow affected by minor transmountain diversion from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report). No other diversion 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 1998 TO SEPTEMBER 1999 DAILY MEAN VALUES

Table with 13 columns: DAY, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP. Rows 1-31 show daily mean values. Summary rows include TOTAL, MEAN, MAX, MIN, AC-FT.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

Table with 13 columns for months (OCT-SEP) and 4 rows for MEAN, MAX (WY), MIN (WY), and WY values.

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1946 - 1999

Summary statistics table with 4 columns: 1998 Calendar Year, 1999 Water Year, and two columns for Water Years 1946-1999. Rows include Annual Total, Mean, Highest/Lowest Annual Mean, Highest/Lowest Daily Mean, Annual Seven-Day Minimum, Instantaneous Peak Flow, Annual Runoff (AC-FT), and Percent Exceeds.

e Estimated  
a Site and datum then in use.

06717400 CHICAGO CREEK BELOW DEVILS CANYON, NEAR IDAHO SPRINGS, CO

LOCATION.--Lat 39°42'59", long 105°34'15", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--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.--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 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	e4.5	e5.2	e2.0	e1.5	e1.1	2.0	16	127	56	72	33
2	17	e4.6	e4.5	e1.8	e1.4	e1.1	2.5	15	122	54	79	31
3	19	e4.3	e4.2	e1.7	e1.4	e1.1	2.4	18	114	53	71	30
4	17	e3.7	e3.6	e1.6	e1.5	e1.2	1.8	17	107	51	68	29
5	18	e3.7	e4.0	e1.6	e1.4	e1.1	e2.1	15	106	50	97	28
6	15	e3.8	e3.0	e1.6	e1.4	e1.1	e2.0	13	101	50	106	26
7	16	e4.0	e3.0	e1.6	e1.4	e1.1	2.4	13	103	46	90	26
8	14	e4.4	e3.0	e1.6	e1.4	e1.2	2.4	19	107	46	88	28
9	11	e4.7	e3.2	e1.6	e1.4	e1.1	2.0	29	104	43	88	26
10	13	e4.4	e3.3	e1.5	e1.4	e1.2	e1.9	32	102	41	90	24
11	15	e4.7	e3.4	e1.6	e1.0	1.4	e2.0	24	93	42	83	26
12	16	e4.4	e3.5	e1.7	e1.2	1.5	2.3	21	94	45	80	22
13	16	e4.5	e3.6	e1.6	e1.3	1.4	2.6	27	92	38	78	19
14	16	e4.2	e3.7	e1.6	e1.4	1.8	2.2	34	92	34	71	18
15	13	e4.2	e3.4	e1.6	e1.3	1.8	e2.1	38	100	30	64	16
16	10	e4.3	e3.3	e1.6	e1.4	1.9	e2.1	37	100	32	59	18
17	11	e4.5	e3.3	e1.5	e1.3	1.8	e2.0	33	100	37	60	16
18	6.9	e4.3	e3.0	e1.7	e1.2	1.9	e2.5	35	97	30	60	14
19	8.3	e4.1	e2.2	e1.6	e1.2	2.0	e2.4	40	96	29	55	16
20	7.2	e4.0	e2.0	e1.5	e1.2	2.1	e2.3	44	93	29	51	16
21	3.8	e4.3	e2.1	e1.5	e1.2	2.4	e2.4	49	90	27	47	13
22	e3.3	e4.8	e2.2	e1.5	e1.4	2.2	2.6	57	90	29	44	14
23	e3.3	e4.7	e2.3	e1.5	e1.3	2.1	2.5	80	89	31	42	11
24	e3.2	e4.7	e2.4	e1.5	e1.2	2.2	3.9	86	87	28	38	14
25	e3.0	e4.8	e2.4	e1.5	e1.2	2.5	4.5	102	85	29	39	15
26	e3.2	e5.0	e2.5	e1.4	e1.1	2.7	3.6	105	82	27	40	11
27	e3.5	e4.7	e2.4	e1.3	e1.1	2.7	4.9	101	77	28	38	12
28	e4.5	e4.7	e2.3	e1.3	e1.1	2.8	8.8	105	73	43	42	14
29	e4.3	e5.0	e2.3	e1.3	---	2.6	21	108	72	40	38	14
30	e4.4	e5.1	e2.3	e1.4	---	2.4	22	118	63	41	35	13
31	e4.5	---	e2.2	e1.5	---	2.3	---	124	---	65	33	---
TOTAL	314.4	133.1	93.8	48.3	36.3	55.8	120.2	1555	2858	1224	1946	593
MEAN	10.1	4.44	3.03	1.56	1.30	1.80	4.01	50.2	95.3	39.5	62.8	19.8
MAX	19	5.1	5.2	2.0	1.5	2.8	22	124	127	65	106	33
MIN	3.0	3.7	2.0	1.3	1.0	1.1	1.8	13	63	27	33	11
AC-FT	624	264	186	96	72	111	238	3080	5670	2430	3860	1180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999
MEAN	9.70	6.56	5.24	4.31	3.54
MAX	10.7	8.88	6.75	5.40	4.52
(WY)	1995	1996	1997	1998	1999
MIN	7.70	4.44	3.03	1.56	1.30
(WY)	1995	1999	1999	1999	1999

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1995 - 1999

ANNUAL TOTAL	10914.5	8977.9	
ANNUAL MEAN	29.9	24.6	
HIGHEST ANNUAL MEAN			24.7
LOWEST ANNUAL MEAN			33.5
HIGHEST DAILY MEAN	116	Jun 3	13.7
LOWEST DAILY MEAN	e2.0	Dec 20	e275
ANNUAL SEVEN-DAY MINIMUM	2.2	Dec 19	Jun 19 1995
INSTANTANEOUS PEAK FLOW			e1.0
INSTANTANEOUS PEAK STAGE			Feb 11 1999
ANNUAL RUNOFF (AC-FT)	21650	17810	1.1
10 PERCENT EXCEEDS	79	87	Feb 25 1999
50 PERCENT EXCEEDS	12	4.8	175
90 PERCENT EXCEEDS	3.6	1.4	Jun 8 1997
			6.51
			Jun 8 1997
			17910
			72
			9.0
			3.6

e Estimated

## PLATTE RIVER BASIN

06718300 CLEAR CREEK ABOVE JOHNSON GULCH NEAR IDAHO SPRINGS, CO

LOCATION.--Lat 39°44'47", long 105°26'08", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	105	75	e56	e54	e50	60	184	724	911	841	311
2	144	104	76	e58	e56	e50	58	177	743	915	743	294
3	135	96	71	e60	e58	e47	57	181	792	866	670	289
4	139	90	73	e56	e54	e50	54	181	818	832	669	274
5	132	80	e68	e50	e52	e50	59	163	804	799	812	264
6	130	84	e65	e50	e54	e48	54	151	709	801	825	252
7	137	83	e65	e50	e56	e50	58	144	695	764	738	242
8	151	79	e63	e48	e54	e50	63	155	786	726	706	232
9	146	87	e62	e50	e56	e52	56	186	838	690	674	228
10	143	81	e60	e52	e50	e48	56	213	889	650	736	219
11	140	81	e62	e52	e45	46	53	191	875	619	667	227
12	131	88	e66	e52	e42	49	61	176	882	564	621	224
13	130	83	e62	e52	e48	47	62	186	845	537	566	213
14	132	81	e60	e52	e45	49	65	220	885	524	527	203
15	130	79	e60	e50	e43	50	63	232	961	530	495	203
16	128	80	e60	e47	e46	50	60	250	935	513	462	210
17	124	76	e60	e45	e48	50	62	232	978	524	453	191
18	117	77	e56	e50	e50	51	68	232	988	465	448	182
19	118	74	e50	e50	e45	54	66	250	1070	447	433	189
20	120	69	e48	e52	e43	56	69	280	1100	442	437	215
21	117	79	e52	e52	e44	57	73	316	1110	426	405	202
22	117	82	e54	e52	e44	58	78	367	1120	409	372	192
23	113	80	e56	e50	e52	55	73	432	1150	425	353	187
24	111	78	e60	e52	e45	57	76	514	1180	406	340	180
25	109	74	e64	e48	e43	57	93	654	1200	407	340	175
26	110	78	e66	e47	e45	61	84	588	1170	363	339	164
27	113	77	e62	e45	e43	65	83	604	1120	391	344	161
28	121	78	e60	e46	e48	60	96	607	1040	573	359	161
29	102	78	e56	e48	---	56	163	659	992	713	328	158
30	108	77	e58	e50	---	59	202	710	943	566	304	158
31	108	---	e59	e52	---	60	---	751	---	737	293	---
TOTAL	3900	2458	1909	1574	1363	1642	2225	10186	28342	18535	16300	6400
MEAN	126	81.9	61.6	50.8	48.7	53.0	74.2	329	945	598	526	213
MAX	151	105	76	60	58	65	202	751	1200	915	841	311
MIN	102	69	48	45	42	46	53	144	695	363	293	158
AC-FT	7740	4880	3790	3120	2700	3260	4410	20200	56220	36760	32330	12690

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

MEAN	106	67.4	52.8	44.0	39.5	46.7	70.8	360	1052	736	359	174
MAX	126	81.9	61.6	54.6	48.7	53.0	85.2	549	1325	1398	526	213
(WY)	1999	1999	1999	1996	1999	1999	1996	1996	1995	1995	1999	1999
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 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1995 - 1999	
ANNUAL TOTAL	73180		94834			
ANNUAL MEAN	200		260		260	
HIGHEST ANNUAL MEAN					326	
LOWEST ANNUAL MEAN					197	
HIGHEST DAILY MEAN	802		Jun 3	1200	Jun 25	2080
LOWEST DAILY MEAN	e34		Mar 3	e42	Feb 12	27
ANNUAL SEVEN-DAY MINIMUM	36		Feb 7	45	Feb 19	27
INSTANTANEOUS PEAK FLOW			1490		Aug 10	2250
INSTANTANEOUS PEAK STAGE			7.22		Aug 10	a7.46
ANNUAL RUNOFF (AC-FT)	145200		188100		188200	
10 PERCENT EXCEEDS	551		756		737	
50 PERCENT EXCEEDS	108		109		89	
90 PERCENT EXCEEDS	38		50		40	

e Estimated

a 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 NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.9	e5.3	e4.4	e4.8	e6.0	9.5	56	139	e61	61	19
2	10	8.8	e5.2	e4.2	e5.0	e6.0	8.7	58	129	e54	56	21
3	10	8.4	e5.0	e4.1	e4.7	e6.2	9.6	62	126	e48	53	22
4	10	7.7	e4.8	e4.0	e5.0	e6.4	9.2	66	118	e43	69	18
5	9.5	7.5	e5.0	e3.8	e5.2	e6.3	8.3	63	112	e38	104	16
6	9.2	7.4	e4.2	e3.8	e5.1	e6.2	8.0	59	104	e33	104	15
7	9.4	8.4	e4.0	e3.6	e5.0	e6.0	8.8	57	99	e29	100	14
8	9.4	7.3	e4.2	e3.5	e5.0	e6.4	9.4	59	95	e26	94	13
9	8.9	8.1	e4.5	e3.7	e5.2	e6.2	8.5	67	99	24	85	13
10	8.9	8.1	e5.0	e3.6	e5.4	e6.5	8.4	77	102	23	90	12
11	8.7	6.6	e5.0	e3.8	e4.7	6.7	8.2	74	96	23	76	12
12	8.3	6.6	e5.2	e3.6	e4.3	7.0	8.2	71	100	22	64	13
13	8.2	e7.0	e5.0	e3.6	e4.8	7.6	8.7	71	97	20	58	13
14	8.6	e7.0	e5.2	e3.7	e5.6	7.5	10	77	96	20	51	12
15	8.3	e7.2	e5.0	e3.8	e5.2	7.4	9.3	83	97	20	46	11
16	8.3	e7.4	e5.0	e3.7	e5.4	7.1	8.7	85	94	21	40	11
17	8.6	e7.5	e5.2	e3.7	e5.6	7.2	10	81	96	23	40	11
18	8.4	e7.4	e4.8	e4.0	e6.0	7.2	9.6	80	e94	20	35	10
19	8.1	e7.4	e4.3	e4.4	e5.4	7.6	9.4	85	e93	20	35	12
20	8.6	e6.2	e3.8	e3.8	e5.4	8.1	10	91	e93	26	36	15
21	8.3	e6.8	e4.0	e4.0	e5.0	8.6	11	95	e93	19	30	13
22	8.5	e6.8	e4.3	e3.8	e5.4	8.6	12	100	e92	18	28	11
23	8.5	e6.2	e4.5	e3.5	e6.2	8.1	11	109	e88	20	25	11
24	8.4	e6.0	e4.5	e3.8	e6.0	8.4	12	124	e84	19	23	11
25	8.3	e5.6	e4.8	e4.5	e6.0	8.2	16	148	e82	23	25	11
26	8.3	e5.8	e4.6	e4.7	e5.8	8.9	15	127	e78	18	24	11
27	9.5	e5.4	e4.8	e4.3	e5.6	9.5	17	152	e73	18	24	11
28	12	e5.8	e4.5	e4.2	e5.8	8.7	20	163	e70	37	35	12
29	9.3	e5.6	e4.2	e4.2	---	7.9	41	166	e66	35	24	13
30	8.7	e5.4	e4.5	e4.5	---	8.3	53	165	e65	33	20	13
31	9.0	---	e4.4	e4.5	---	8.9	---	153	---	61	19	---
TOTAL	278.2	210.3	144.8	122.8	148.6	229.7	388.5	2924	2870	895	1574	400
MEAN	8.97	7.01	4.67	3.96	5.31	7.41	12.9	94.3	95.7	28.9	50.8	13.3
MAX	12	8.9	5.3	4.7	6.2	9.5	53	166	139	61	104	22
MIN	8.1	5.4	3.8	3.5	4.3	6.0	8.0	56	65	18	19	10
AC-FT	552	417	287	244	295	456	771	5800	5690	1780	3120	793

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999
MEAN	5.16	4.22	3.21	2.84	2.82
MAX	8.97	7.01	4.67	3.96	5.31
(WY)	1999	1999	1999	1999	1999
MIN	3.08	2.68	1.68	1.30	1.38
(WY)	1995	1995	1995	1995	1995

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1995 - 1999

ANNUAL TOTAL	8473.2	10185.9	
ANNUAL MEAN	23.2	27.9	25.0
HIGHEST ANNUAL MEAN			35.6
LOWEST ANNUAL MEAN			16.9
HIGHEST DAILY MEAN	140	May 21	415
LOWEST DAILY MEAN	e1.9	Mar 3	1.2
ANNUAL SEVEN-DAY MINIMUM	2.1	Feb 26	3.6
INSTANTANEOUS PEAK FLOW			212
INSTANTANEOUS PEAK STAGE			5.21
ANNUAL RUNOFF (AC-FT)	16810	20200	18130
10 PERCENT EXCEEDS	68	92	82
50 PERCENT EXCEEDS	10	9.3	6.1
90 PERCENT EXCEEDS	2.3	4.4	2.3

e Estimated  
a From rating curve extended above 300 ft<sup>3</sup>/s.

## PLATTE RIVER BASIN

06719505 CLEAR CREEK AT GOLDEN, CO

LOCATION.--Lat 39°45'11", long 105°14'05", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	101	71	e57	e57	50	60	284	814	831	842	316
2	127	99	72	e56	53	52	58	279	811	828	712	300
3	120	92	67	55	55	49	57	277	859	787	618	300
4	120	83	68	56	56	51	54	275	855	749	618	276
5	106	73	61	e59	58	52	58	251	840	724	862	260
6	91	75	57	e59	55	49	54	230	725	712	871	244
7	94	79	47	e58	55	51	56	221	625	666	798	225
8	111	71	48	55	56	52	60	227	615	631	749	213
9	106	86	e54	52	55	46	56	259	657	602	674	209
10	102	70	62	55	55	46	53	300	723	562	754	199
11	101	66	67	62	48	46	53	274	732	527	711	207
12	97	86	e66	57	41	47	58	251	746	480	652	212
13	100	80	63	57	61	45	60	250	752	442	583	199
14	96	82	67	54	55	48	72	283	783	428	547	183
15	103	79	e60	54	54	49	68	299	850	438	510	180
16	107	78	e60	54	53	49	64	317	846	417	476	189
17	110	73	e57	54	54	52	62	280	859	455	465	168
18	103	75	e54	55	54	53	74	266	880	387	460	156
19	101	71	56	56	56	54	71	284	943	362	424	159
20	108	67	40	53	53	55	71	310	976	377	455	209
21	104	74	41	55	56	55	75	343	1000	350	404	196
22	102	84	e50	54	56	58	90	403	1020	324	374	175
23	99	78	59	56	47	55	92	460	1060	351	351	165
24	103	75	e61	57	59	56	84	544	1100	322	334	153
25	98	73	e62	57	52	56	112	733	1110	342	325	147
26	95	72	e63	54	52	58	111	660	1110	300	346	135
27	100	74	e64	49	49	61	108	690	1040	301	345	139
28	122	75	e61	46	50	59	121	705	982	476	374	143
29	96	76	e61	e54	---	53	222	762	914	663	346	138
30	97	74	e60	e54	---	56	284	803	867	480	310	139
31	101	---	e59	e55	---	57	---	850	---	684	293	---
TOTAL	3246	2341	1838	1709	1505	1620	2518	12370	26094	15998	16583	5934
MEAN	105	78.0	59.3	55.1	53.8	52.3	83.9	399	870	516	535	198
MAX	127	101	72	62	61	61	284	850	1110	831	871	316
MIN	91	66	40	46	41	45	53	221	615	300	293	135
AC-FT	6440	4640	3650	3390	2990	3210	4990	24540	51760	31730	32890	11770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, 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	1999
MEAN	84.7	62.0	48.9	43.2	42.1	43.8	73.8	319	801	481	222	129													
MAX	192	115	86.6	70.5	66.9	58.9	123	655	1522	1203	535	231													
(WY)	1985	1985	1984	1984	1985	1984	1998	1984	1995	1995	1999	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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1975 - 1999

	1998 CALENDAR YEAR	1999 WATER YEAR	1975 - 1999
ANNUAL TOTAL	76882	91756	
ANNUAL MEAN	211	251	196
HIGHEST ANNUAL MEAN			321
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN	913	1110	2300
LOWEST DAILY MEAN	36	40	18
ANNUAL SEVEN-DAY MINIMUM	43	47	24
INSTANTANEOUS PEAK FLOW		1280	2370
INSTANTANEOUS PEAK STAGE		7.33	a6.44
ANNUAL RUNOFF (AC-FT)	152500	182000	142200
10 PERCENT EXCEEDS	585	747	558
50 PERCENT EXCEEDS	102	99	78
90 PERCENT EXCEEDS	46	53	37

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 SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--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.--Records good except for July 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	294	446	446	426	204	264	200	4360	3450	932	2700	803
2	471	559	438	430	215	255	453	3280	3110	1090	1380	574
3	357	368	444	433	220	250	402	2750	2800	790	873	718
4	435	370	443	437	209	245	337	2660	2220	660	1660	499
5	359	325	454	446	208	270	516	2500	2000	583	5490	436
6	360	310	497	463	210	239	297	2220	1920	445	2830	411
7	346	524	473	497	211	239	224	1900	1760	398	2580	381
8	299	488	466	489	213	226	197	1340	1260	e487	2840	395
9	303	512	450	440	213	213	195	1170	1240	1070	2640	474
10	301	485	464	439	212	204	191	1100	2840	1320	3460	503
11	292	399	463	443	231	208	190	1070	2730	1460	2880	549
12	286	401	456	431	229	240	195	1170	2640	1340	1870	569
13	280	377	459	429	220	274	195	945	2810	775	1630	557
14	280	366	472	420	217	231	1560	924	2910	639	1280	529
15	270	359	463	424	221	220	873	841	3460	608	1080	500
16	372	405	453	427	248	215	492	1020	3220	619	1030	509
17	435	523	452	419	279	212	345	1160	3640	738	1070	512
18	312	512	455	419	282	223	311	716	3720	862	1050	503
19	293	493	448	408	289	226	279	728	3400	1330	781	627
20	292	502	425	351	290	226	251	1070	3280	1660	909	1040
21	296	533	419	249	287	208	235	874	2940	471	769	928
22	287	485	419	266	290	195	2380	680	2770	329	734	660
23	284	479	416	272	282	177	3130	952	2710	382	634	541
24	280	474	418	251	284	132	1390	847	2680	539	563	473
25	274	460	410	236	276	115	1550	2100	2290	632	457	450
26	270	472	459	239	275	115	1190	2360	2190	674	355	444
27	282	447	502	226	275	117	938	2840	2020	487	353	430
28	643	457	476	230	271	104	916	3450	1890	704	766	958
29	401	458	469	226	---	116	2560	4110	1640	1540	532	817
30	305	467	453	239	---	138	4500	3900	1460	1100	402	608
31	319	---	512	241	---	163	---	3640	---	2470	360	---
TOTAL	10278	13456	14074	11346	6861	6260	26492	58677	77000	27134	45958	17398
MEAN	332	449	454	366	245	202	883	1893	2567	875	1483	580
MAX	643	559	512	497	290	274	4500	4360	3720	2470	5490	1040
MIN	270	310	410	226	204	104	190	680	1240	329	353	381
AC-FT	20390	26690	27920	22500	13610	12420	52550	116400	152700	53820	91160	34510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, 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	1999	
MEAN	353	333	306	324	317	360	549	1160	1328	845	678	393													
MAX (WY)	1835	1268	554	592	642	842	1732	3923	4796	3204	2074	1141													
MIN (WY)	1985	1985	1984	1984	1984	1983	1983	1980	1995	1995	1984	1984													
MIN (WY)	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1976 - 1999
ANNUAL TOTAL	258325	314934	
ANNUAL MEAN	708	863	a580
HIGHEST ANNUAL MEAN			1379
LOWEST ANNUAL MEAN			252
HIGHEST DAILY MEAN	3780	May 7	5490 Aug 5
LOWEST DAILY MEAN	261	Mar 16	104 Mar 28
ANNUAL SEVEN-DAY MINIMUM	281	Sep 25	120 Mar 24
INSTANTANEOUS PEAK FLOW			9720 Apr 30
INSTANTANEOUS PEAK STAGE			8.84 Apr 30
ANNUAL RUNOFF (AC-FT)	512400	624700	f7.58 Jun 27 1983
10 PERCENT EXCEEDS	1400	2600	420200
50 PERCENT EXCEEDS	501	459	1120
90 PERCENT EXCEEDS	302	221	346
			179

e Estimated

a Average discharge for 48 years (water years 1927-74), 366 ft<sup>3</sup>/s; 265200 acre-ft/yr, prior to completion of Chatfield Dam.

b Maximum daily discharge for period of record, 13200 ft<sup>3</sup>/s, May 7, 1973.

c Minimum daily discharge for period of record, 4.4 ft<sup>3</sup>/s, Apr 1, 1950.

d Maximum discharge and stage for period of record, 33000 ft<sup>3</sup>/s, May 6, 1973, gage height, 11.67 ft, from rating curve extended above 7200 ft<sup>3</sup>/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.

PLATTE RIVER BASIN

06720820 BIG DRY CREEK AT WESTMINSTER, CO

LOCATION.--Lat 39°54'20", long 105°02'04", in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.5	3.2	.72	1.0	e1.0	.97	2.7	141	51	97	67	75
2	e3.0	5.1	.69	.90	e1.0	.77	13	90	58	108	31	73
3	e3.0	4.3	.68	1.0	e.99	.77	6.6	34	69	109	35	56
4	e3.0	4.1	.68	.86	e.93	1.1	4.0	28	68	107	179	45
5	e3.1	2.5	.67	1.2	e1.1	5.5	3.7	22	80	86	173	40
6	e3.0	1.9	.66	1.3	e1.1	1.8	2.5	20	88	87	65	31
7	e2.8	19	.73	.95	e1.1	1.3	1.9	20	90	81	34	27
8	e2.7	5.7	1.1	e.97	e1.2	1.2	1.2	19	86	84	7.1	28
9	e2.5	13	.73	e.99	e1.1	1.1	1.3	19	97	74	7.8	28
10	e2.6	5.5	.79	e1.0	1.2	.76	1.3	16	116	38	24	30
11	e2.8	3.0	.81	e1.1	2.1	.83	1.6	17	120	31	22	38
12	e2.8	2.1	.74	e1.0	1.4	3.2	3.0	17	103	26	36	36
13	e2.7	2.4	.68	e.98	1.3	2.8	3.0	13	96	26	30	37
14	e3.0	7.9	.69	e.95	1.2	1.6	37	11	93	30	24	42
15	e3.3	5.6	.68	e.94	1.2	1.2	58	9.9	94	26	24	43
16	e3.3	2.2	.68	e.90	.95	1.1	11	8.3	76	22	23	51
17	e3.3	1.8	.68	e.81	1.5	.78	7.5	12	66	27	23	59
18	e3.2	1.8	.78	e.79	1.1	1.0	5.0	14	64	29	22	75
19	e3.1	1.8	.66	e.82	1.3	.96	2.9	9.7	72	29	25	85
20	e3.1	1.9	.66	e1.1	2.9	.91	2.3	24	66	24	28	96
21	e3.1	2.3	.66	e1.1	3.0	1.0	4.0	63	65	22	28	80
22	3.3	2.6	e.67	e1.2	3.0	.99	97	84	62	22	36	80
23	3.1	2.0	e.67	e1.1	4.2	.73	103	72	67	21	52	66
24	2.6	2.1	e.67	e1.1	3.0	2.3	29	31	78	21	52	56
25	3.0	1.6	.68	e.98	2.5	3.5	36	38	86	26	55	14
26	3.6	1.5	1.3	e1.0	2.1	2.7	18	45	90	27	52	14
27	4.4	1.2	2.2	e1.1	1.5	2.8	16	33	93	23	75	15
28	16	.95	1.5	e1.0	1.1	2.7	12	44	92	20	104	69
29	3.9	.83	1.3	e.92	---	3.5	95	46	92	26	107	29
30	2.7	.69	1.7	e1.0	---	2.1	160	55	95	69	57	19
31	3.3	---	1.5	e1.1	---	2.9	---	55	---	109	41	---
TOTAL	107.8	110.57	27.36	31.16	46.07	54.87	739.5	1110.9	2473	1527	1538.9	1437
MEAN	3.48	3.69	.88	1.01	1.65	1.77	24.6	35.8	82.4	49.3	49.6	47.9
MAX	16	19	2.2	1.3	4.2	5.5	160	141	120	109	179	96
MIN	2.5	.69	.66	.79	.93	.73	1.2	8.3	51	20	7.1	14
AC-FT	214	219	54	62	91	109	1470	2200	4910	3030	3050	2850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1999, BY WATER YEAR (WY)

	4.41	2.83	1.69	1.55	1.96	5.03	11.8	27.6	49.2	38.6	34.5	21.6
MEAN	4.41	2.83	1.69	1.55	1.96	5.03	11.8	27.6	49.2	38.6	34.5	21.6
MAX	9.95	4.54	3.71	3.16	3.85	16.2	34.8	52.4	82.4	79.8	49.6	47.9
(WY)	1988	1988	1998	1994	1993	1992	1998	1998	1999	1995	1999	1999
MIN	1.55	1.33	.88	.76	1.00	1.30	1.52	9.98	13.0	19.5	24.0	6.27
(WY)	1989	1989	1999	1995	1988	1989	1989	1989	1989	1990	1992	1987

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1987 - 1999

ANNUAL TOTAL	8565.33	9204.13	
ANNUAL MEAN	23.5	25.2	16.6
HIGHEST ANNUAL MEAN			25.2
LOWEST ANNUAL MEAN			7.72
HIGHEST DAILY MEAN	91	Apr 26	179
LOWEST DAILY MEAN	.66	Dec 6	.66
ANNUAL SEVEN-DAY MINIMUM	.67	Dec 19	.67
INSTANTANEOUS PEAK FLOW			651
INSTANTANEOUS PEAK STAGE			5.52
ANNUAL RUNOFF (AC-FT)	16990	18260	12020
10 PERCENT EXCEEDS	62	84	51
50 PERCENT EXCEEDS	10	4.0	3.8
90 PERCENT EXCEEDS	1.5	.88	1.1

e Estimated

a Maximum gage height, 6.08 ft, Aug 4, 1997.

06720990 BIG DRY CREEK AT MOUTH NEAR FORT LUPTON, CO

LOCATION.--Lat 40°04'09", long 104°49'52", in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	39	16	e25	e24	11	15	442	14	12	239	66
2	35	38	16	e22	e24	13	62	362	26	12	135	53
3	33	39	15	e24	e23	13	100	182	43	16	69	97
4	38	35	15	e23	e25	11	75	114	43	11	52	79
5	47	33	15	e30	e27	11	75	92	39	18	315	66
6	43	31	17	e32	e26	33	60	78	36	11	227	56
7	47	32	18	e28	e24	37	27	76	29	12	95	45
8	48	47	19	e29	e22	37	23	94	20	8.4	77	28
9	51	36	20	e30	e22	29	15	90	18	28	33	20
10	50	46	20	e31	e21	27	14	72	50	40	48	19
11	44	35	26	e26	20	30	14	64	85	44	71	17
12	45	31	22	e27	20	36	5.8	64	79	38	33	20
13	48	31	21	e28	19	48	6.4	62	49	29	32	22
14	47	32	21	e26	18	50	87	49	43	17	20	20
15	46	35	20	e24	17	38	76	42	43	13	26	22
16	46	34	20	e22	16	33	113	44	73	10	23	23
17	46	31	20	e20	15	28	55	42	58	9.6	25	24
18	47	30	20	e19	14	22	62	37	42	12	41	20
19	46	31	20	e24	12	28	47	40	24	12	36	18
20	45	30	e16	e26	11	25	27	37	64	35	38	40
21	46	31	e17	e27	12	21	18	70	57	12	41	50
22	45	34	e17	e28	12	36	89	67	51	9.8	48	43
23	44	27	e17	e27	12	31	293	122	42	25	53	43
24	43	20	e18	e25	11	21	189	69	37	47	47	40
25	42	19	e20	e24	7.4	18	122	55	29	47	36	30
26	43	19	e26	e25	6.3	14	110	58	27	49	23	32
27	42	20	e33	e26	6.3	10	69	39	30	37	16	30
28	47	19	e30	e24	6.8	16	64	20	23	27	45	52
29	53	19	e28	e23	---	14	192	17	19	30	80	93
30	39	18	e27	e26	---	18	269	15	13	39	60	51
31	34	---	e26	e27	---	14	---	15	---	135	39	---
TOTAL	1361	922	636	798	473.8	773	2374.2	2630	1206	845.8	2123	1219
MEAN	43.9	30.7	20.5	25.7	16.9	24.9	79.1	84.8	40.2	27.3	68.5	40.6
MAX	53	47	33	32	27	50	293	442	85	135	315	97
MIN	31	18	15	19	6.3	10	5.8	15	13	8.4	16	17
AC-FT	2700	1830	1260	1580	940	1530	4710	5220	2390	1680	4210	2420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	40.6	28.6	23.3	22.4	22.0	32.2	57.6	55.7	58.3	49.4	48.9	51.3				
MAX	64.3	35.6	35.2	32.1	33.6	50.1	79.1	85.5	117	111	75.1	67.0				
(WY)	1995	1998	1998	1998	1998	1992	1999	1994	1995	1995	1997	1993				
MIN	30.2	21.8	19.6	14.0	12.0	18.4	39.2	26.4	35.8	27.3	27.4	27.1				
(WY)	1992	1997	1994	1995	1995	1993	1993	1993	1993	1999	1994	1994				

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1992 - 1999

ANNUAL TOTAL	14767	15361.8		
ANNUAL MEAN	40.5	42.1	40.9	
HIGHEST ANNUAL MEAN			53.2	1995
LOWEST ANNUAL MEAN			35.1	1993
HIGHEST DAILY MEAN	145	Apr 19	442	May 1
LOWEST DAILY MEAN	11	Aug 13	5.8	Apr 12
ANNUAL SEVEN-DAY MINIMUM	16	Nov 30	8.7	Feb 23
INSTANTANEOUS PEAK FLOW			473	May 1
INSTANTANEOUS PEAK STAGE			8.66	May 1
ANNUAL RUNOFF (AC-FT)	29290	30470	29630	
10 PERCENT EXCEEDS	67	74	75	
50 PERCENT EXCEEDS	35	30	30	
90 PERCENT EXCEEDS	20	14	17	

e Estimated

## PLATTE RIVER BASIN

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO

LOCATION.--Lat 40°09'30", long 105°00'48", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1976 to September 1982, August 1984 to current year. Water-quality data available, October 1976 to February 1981.

GAGE.--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 fair except for estimated daily discharges and period between Apr 30 to May 2, which are 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	74	e44	e32	33	35	34	1840	568	288	387	174
2	67	82	e43	e32	33	34	43	1160	479	264	345	230
3	70	80	e43	e32	34	35	42	841	520	222	302	231
4	88	68	e46	e33	32	35	41	811	529	202	282	191
5	82	61	e38	e33	33	46	38	692	505	190	592	179
6	72	56	e38	e32	31	37	36	571	381	177	697	159
7	68	99	e36	e32	32	35	36	514	233	164	641	149
8	58	77	e35	e33	33	36	36	502	188	148	526	128
9	55	72	e38	e33	33	35	38	519	225	183	413	122
10	52	64	e38	e32	34	35	37	542	303	213	340	116
11	52	55	e38	e33	34	35	38	490	413	207	321	114
12	52	52	e39	e33	32	41	40	414	386	206	231	110
13	51	51	e40	e33	32	38	42	298	358	187	186	117
14	54	53	e39	e34	31	37	60	261	388	181	166	119
15	53	50	e39	e34	33	37	49	253	604	187	159	113
16	69	51	e38	e33	33	35	43	282	805	191	152	113
17	71	e49	e38	e34	31	35	42	291	811	232	138	110
18	58	e50	e39	e35	34	34	43	259	1070	207	129	110
19	54	e52	e35	e35	32	34	43	201	1160	233	119	113
20	53	e50	e33	e37	31	34	42	182	1200	248	109	151
21	52	e47	e34	e36	31	34	43	195	1130	190	115	150
22	51	e54	e34	e35	32	33	133	216	1070	155	108	128
23	55	e53	e33	e34	31	34	170	363	1130	147	114	119
24	65	e51	e33	e35	32	35	92	438	1050	160	121	118
25	58	e50	e34	e34	33	33	102	642	882	277	115	113
26	61	e49	e36	e34	32	33	79	603	795	285	116	116
27	79	e46	e34	e35	33	32	69	501	654	251	117	109
28	129	e48	e32	e34	33	33	73	553	564	226	149	167
29	99	e46	e31	e35	---	33	488	571	442	213	142	137
30	89	e45	e31	33	---	33	2470	627	323	196	143	126
31	95	---	e32	33	---	34	---	722	---	244	143	---
TOTAL	2064	1735	1141	1043	908	1090	4542	16354	19166	6474	7618	4132
MEAN	66.6	57.8	36.8	33.6	32.4	35.2	151	528	639	209	246	138
MAX	129	99	46	37	34	46	2470	1840	1200	288	697	231
MIN	51	45	31	32	31	32	34	182	188	147	108	109
AC-FT	4090	3440	2260	2070	1800	2160	9010	32440	38020	12840	15110	8200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1999, 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	1999	
MEAN	69.3	58.6	50.2	44.7	43.9	49.1	91.3	258	391	180	150	104												
MAX (WY)	159	126	91.5	92.8	94.0	111	275	1155	1227	485	246	152												
MIN (WY)	1985	1985	1985	1980	1980	1980	1998	1980	1995	1995	1999	1982												
MIN (WY)	45.5	34.5	30.8	25.7	27.9	28.9	27.5	35.8	63.3	100	88.9	53.7												
	1990	1979	1979	1978	1978	1982	1982	1977	1981	1981	1977	1977												

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1977 - 1999	
ANNUAL TOTAL	43907		66267			
ANNUAL MEAN	120		182		124	
HIGHEST ANNUAL MEAN					257	
LOWEST ANNUAL MEAN					54.8	
HIGHEST DAILY MEAN	784	Apr 26	2470	Apr 30	2580	May 30 1995
LOWEST DAILY MEAN	31	Dec 29	31	Dec 29	20	Dec 28 1990
ANNUAL SEVEN-DAY MINIMUM	33	Dec 25	32	Dec 28	22	Dec 26 1990
INSTANTANEOUS PEAK FLOW			3600		3600	
INSTANTANEOUS PEAK STAGE			6.87		6.87	
ANNUAL RUNOFF (AC-FT)	87090		131400		89990	
10 PERCENT EXCEEDS	256		516		218	
50 PERCENT EXCEEDS	78		65		68	
90 PERCENT EXCEEDS	37		33		35	

e Estimated

06730200 BOULDER CREEK AT NORTH 75TH STREET NEAR BOULDER, CO

LOCATION.--Lat 40°03'06", long 105°10'42", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--Records good except for estimated daily discharges, which are 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	28	63	e53	43	40	33	686	190	297	379	113
2	46	41	65	e56	44	42	41	542	172	307	269	142
3	42	43	59	e60	41	35	38	404	158	276	202	181
4	54	34	62	e58	42	43	40	349	141	283	369	146
5	50	39	51	62	41	48	39	293	174	272	1030	131
6	42	30	50	61	44	42	39	255	181	244	744	129
7	38	53	49	58	36	41	38	224	192	215	505	103
8	45	40	51	56	45	44	36	208	217	195	400	88
9	38	38	52	51	42	45	34	202	260	215	301	83
10	40	39	51	59	41	40	33	209	296	202	255	69
11	46	45	51	58	38	30	34	180	285	178	270	67
12	44	39	48	58	36	34	36	152	345	167	199	65
13	31	35	54	55	37	34	38	138	283	160	146	75
14	26	40	57	57	38	32	49	133	275	160	137	67
15	27	45	50	57	36	31	55	132	405	170	142	66
16	34	39	49	55	40	30	45	137	492	177	128	56
17	37	48	49	57	42	30	45	130	444	194	106	50
18	33	59	48	50	38	30	43	113	551	171	107	48
19	33	52	45	54	43	30	43	109	523	165	111	52
20	34	48	41	53	40	27	45	111	512	151	124	75
21	35	53	43	51	45	26	60	111	512	134	118	77
22	33	48	e45	44	39	26	146	112	536	107	115	73
23	34	46	e50	45	40	27	166	125	554	108	111	74
24	37	44	e56	46	41	31	118	138	550	113	105	60
25	32	61	e58	43	40	38	134	187	490	161	107	60
26	32	46	e56	45	41	33	122	179	460	176	121	58
27	34	46	e56	45	38	27	111	172	431	163	130	61
28	56	46	e57	45	39	27	121	177	389	172	156	111
29	37	50	e56	40	---	28	286	178	341	272	150	86
30	31	59	e54	43	---	30	682	185	309	223	129	79
31	29	---	e52	44	---	34	---	203	---	325	134	---
TOTAL	1184	1334	1628	1619	1130	1055	2750	6474	10668	6153	7300	2545
MEAN	38.2	44.5	52.5	52.2	40.4	34.0	91.7	209	356	198	235	84.8
MAX	56	61	65	62	45	48	682	686	554	325	1030	181
MIN	26	28	41	40	36	26	33	109	141	107	105	48
AC-FT	2350	2650	3230	3210	2240	2090	5450	12840	21160	12200	14480	5050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1999, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	48.2	54.6	51.3	49.2	47.5	53.3	92.2	196	316	224	140	75.4	
MAX (WY)	77.8	81.7	74.9	68.3	61.3	90.6	236	465	868	492	235	111	
MIN (WY)	31.5	37.7	36.1	37.6	34.3	31.2	37.4	114	127	154	95.5	50.8	

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1987 - 1999

ANNUAL TOTAL	41205	43840		
ANNUAL MEAN	113	120		
HIGHEST ANNUAL MEAN			113	
LOWEST ANNUAL MEAN			198	1995
HIGHEST DAILY MEAN	436	Apr 26	1030	Aug 5
LOWEST DAILY MEAN	26	Oct 14	26	Oct 14
ANNUAL SEVEN-DAY MINIMUM	32	Oct 13	28	Mar 17
INSTANTANEOUS PEAK FLOW			1330	Aug 5
INSTANTANEOUS PEAK STAGE			7.16	Aug 5
ANNUAL RUNOFF (AC-FT)	81730		86960	81530
10 PERCENT EXCEEDS	247		284	227
50 PERCENT EXCEEDS	67		56	64
90 PERCENT EXCEEDS	43		34	36

e Estimated

## PLATTE RIVER BASIN

06730400 COAL CREEK NEAR LOUISVILLE, CO

LOCATION.--Lat 39°58'34", long 105°07'00", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.2	1.9	1.8	1.3	1.5	1.4	211	16	9.2	6.9	4.9
2	2.5	1.9	2.0	1.8	1.3	1.4	4.4	154	14	6.7	5.7	4.0
3	1.8	1.6	2.1	1.8	1.6	1.5	3.3	90	11	6.8	5.5	3.5
4	3.3	1.6	2.1	2.4	1.6	1.4	3.0	73	12	6.7	15	3.1
5	1.4	1.2	2.0	2.1	1.6	2.8	2.7	56	14	2.6	105	2.9
6	1.1	1.2	1.8	2.0	1.6	1.9	2.5	42	12	2.0	55	2.4
7	1.0	6.2	1.8	1.9	1.9	1.9	2.3	32	11	1.8	34	2.0
8	1.3	1.6	1.9	1.8	1.8	1.9	2.3	28	11	4.5	25	1.8
9	1.2	3.6	2.2	1.8	1.7	1.8	2.2	26	21	2.3	19	2.2
10	1.7	1.6	2.4	1.8	1.8	1.6	2.0	26	22	1.9	13	2.1
11	3.4	1.4	2.8	1.8	2.1	1.3	2.1	21	22	1.8	13	2.2
12	2.1	1.4	2.8	1.7	2.1	3.0	1.7	17	20	1.8	11	1.8
13	1.6	1.7	3.0	1.6	1.8	2.6	4.2	11	24	1.6	12	1.7
14	1.5	1.7	2.9	1.7	1.9	2.2	10	8.5	22	1.5	11	1.7
15	1.6	1.6	2.7	1.7	1.7	1.7	7.8	7.1	27	1.7	10	1.7
16	2.2	1.5	2.3	1.5	1.7	1.5	3.8	7.1	25	2.5	11	1.8
17	2.3	1.4	2.3	1.2	1.4	1.5	3.8	7.3	22	3.5	12	1.8
18	1.9	1.4	2.1	1.2	1.3	1.4	3.6	11	13	2.9	13	1.9
19	1.9	1.6	1.8	1.4	1.4	1.5	4.2	4.9	11	2.9	10	2.4
20	1.9	1.6	1.7	1.3	1.5	1.5	5.3	6.2	10	3.4	6.6	3.4
21	1.9	1.6	1.7	1.4	1.6	1.6	7.1	7.0	8.4	2.9	7.6	2.4
22	1.9	1.8	1.6	2.6	1.4	1.5	31	11	5.4	2.4	6.7	2.9
23	1.9	1.8	1.6	1.6	1.5	1.5	22	13	5.0	2.1	5.3	2.6
24	1.8	1.7	1.6	1.6	1.6	1.7	12	17	4.3	2.3	4.7	2.3
25	2.0	1.7	1.5	1.3	1.7	1.8	19	38	4.1	4.2	4.1	2.2
26	2.4	1.8	1.6	1.3	1.6	1.7	14	33	3.9	5.6	3.5	2.7
27	3.5	2.0	1.7	1.2	1.5	1.7	22	30	4.2	4.2	4.3	4.1
28	5.7	2.0	1.8	1.2	1.5	1.5	34	30	3.9	3.5	5.8	9.8
29	1.3	2.0	1.8	1.3	---	1.6	107	25	5.0	3.6	4.8	4.9
30	1.1	1.9	2.1	1.3	---	1.6	277	21	13	12	3.8	4.7
31	1.5	---	1.9	1.3	---	1.6	---	17	---	21	5.2	---
TOTAL	62.2	55.3	63.5	50.4	45.5	53.7	617.7	1081.1	397.2	131.9	449.5	87.9
MEAN	2.01	1.84	2.05	1.63	1.62	1.73	20.6	34.9	13.2	4.25	14.5	2.93
MAX	5.7	6.2	3.0	2.6	2.1	3.0	277	211	27	21	105	9.8
MIN	1.0	1.2	1.5	1.2	1.3	1.3	1.4	4.9	3.9	1.5	3.5	1.7
AC-FT	123	110	126	100	90	107	1230	2140	788	262	892	174

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MEAN	2.93	2.51	2.35	2.00	1.92	3.95	28.3	29.1	12.3	3.74	7.93	2.35
MAX	3.85	3.18	2.66	2.36	2.21	6.17	36.1	34.9	13.2	4.25	14.5	2.93
(WY)	1998	1998	1998	1998	1998	1998	1998	1999	1999	1999	1999	1999
MIN	2.01	1.84	2.05	1.63	1.62	1.73	20.6	23.3	11.4	3.20	2.89	1.99
(WY)	1999	1999	1999	1999	1999	1999	1999	1998	1998	1998	1998	1997

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1997 - 1999

ANNUAL TOTAL	2907.37	3095.9	
ANNUAL MEAN	7.97	8.48	8.38
HIGHEST ANNUAL MEAN			8.48
LOWEST ANNUAL MEAN			8.28
HIGHEST DAILY MEAN	130	Apr 26	277
LOWEST DAILY MEAN	.56	Jul 14	1.0
ANNUAL SEVEN-DAY MINIMUM	.65	Jul 13	1.3
INSTANTANEOUS PEAK FLOW			a643
INSTANTANEOUS PEAK STAGE			3.42
ANNUAL RUNOFF (AC-FT)	5770	6140	6070
10 PERCENT EXCEEDS	17	20	17
50 PERCENT EXCEEDS	2.3	2.2	2.6
90 PERCENT EXCEEDS	1.5	1.4	1.4

a From rating curve extended above 150 ft<sup>3</sup>/s.

PLATTE RIVER BASIN

109

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO

LOCATION.--Lat 40°09'08", long 105°00'52", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 0.6 mi upstream from mouth, 1.0 mi downstream from State Highway 254, and 4.8 mi southeast of Longmont.

DRAINAGE AREA.--439 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1927 to September 1949, May 1951 to September 1955, October 1978 to September 1990, October 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,860 ft above sea level, from topographic map. Prior to June 10, 1939, at site 0.8 mi upstream at different datum. June 10, 1939 to Sept. 30, 1949, at site 1.0 mi upstream, at different datum. May 1, 1951 to Sept. 30, 1955, at site 1.4 mi upstream, at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain, transbasin, and storage diversions, diversions for irrigation, water-treatment plants, and return flows 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	65	74	e61	61	57	43	1070	127	54	420	38
2	45	67	72	e60	59	58	59	887	83	58	244	34
3	46	92	74	e59	58	60	66	605	71	61	157	146
4	47	71	73	e59	56	62	66	507	59	66	113	123
5	63	71	65	e60	59	67	65	424	79	56	1020	109
6	51	62	61	e60	57	65	64	361	79	33	773	99
7	47	76	59	e59	55	72	63	313	81	19	496	73
8	46	90	58	e58	56	80	60	272	90	9.0	377	59
9	44	74	62	e57	59	77	56	253	127	13	303	45
10	37	78	59	e56	60	76	54	248	186	12	224	30
11	42	71	78	e55	58	64	55	232	190	8.4	236	17
12	51	66	60	e54	56	64	54	163	261	7.8	177	15
13	43	62	58	e52	57	65	48	137	224	8.9	100	21
14	36	60	64	51	58	62	39	123	194	9.2	65	25
15	34	74	58	52	58	61	49	119	298	17	55	28
16	40	65	58	52	58	60	55	123	431	8.3	36	21
17	49	64	56	52	59	57	59	135	404	17	16	15
18	51	75	56	52	60	58	53	110	466	19	9.0	14
19	53	83	e60	54	59	59	41	90	431	12	8.0	17
20	54	71	e60	52	58	57	31	62	425	12	8.7	43
21	58	72	e61	53	60	55	33	70	415	7.7	11	59
22	57	69	e62	50	60	54	123	63	438	9.3	14	53
23	65	66	e62	52	59	54	263	99	440	9.5	9.9	53
24	66	63	e61	52	59	56	173	82	431	8.7	8.5	44
25	66	72	e62	55	59	58	174	175	351	15	8.7	39
26	66	65	e62	54	59	60	164	181	305	32	8.3	41
27	65	62	e63	53	56	56	139	156	277	17	8.2	40
28	106	62	e63	55	56	52	139	195	235	10	45	107
29	84	61	e62	55	---	54	325	160	182	71	60	134
30	68	67	e62	60	---	53	730	151	96	34	34	102
31	65	---	e61	61	---	52	---	160	---	189	28	---
TOTAL	1693	2096	1946	1715	1629	1885	3343	7726	7476	903.8	5073.3	1644
MEAN	54.6	69.9	62.8	55.3	58.2	60.8	111	249	249	29.2	164	54.8
MAX	106	92	78	61	61	80	730	1070	466	189	1020	146
MIN	34	60	56	50	55	52	31	62	59	7.7	8.0	14
AC-FT	3360	4160	3860	3400	3230	3740	6630	15320	14830	1790	10060	3260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1999, BY WATER YEAR (WY)

	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
MEAN	34.4	43.1	48.4	50.9	50.3	52.0	97.7	178	196	46.0	24.4	24.6																	
MAX	127	109	93.8	104	120	148	581	1101	976	367	164	440																	
(WY)	1985	1998	1939	1980	1980	1983	1942	1942	1947	1983	1999	1938																	
MIN	.70	.48	1.16	2.94	2.75	2.58	1.15	1.06	1.22	1.09	.55	.54																	
(WY)	1955	1955	1940	1935	1935	1935	1954	1955	1954	1954	1954	1954																	

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1927 - 1999
ANNUAL TOTAL	30888.4	37130.1	
ANNUAL MEAN	84.6	102	70.8
HIGHEST ANNUAL MEAN			220
LOWEST ANNUAL MEAN			3.93
HIGHEST DAILY MEAN	497	Apr 26	2300
LOWEST DAILY MEAN	3.8	Aug 30	a.00
ANNUAL SEVEN-DAY MINIMUM	4.9	Aug 25	.00
INSTANTANEOUS PEAK FLOW			1470
INSTANTANEOUS PEAK STAGE			4.58
ANNUAL RUNOFF (AC-FT)	61270	73650	51320
10 PERCENT EXCEEDS	209	233	133
50 PERCENT EXCEEDS	65	60	35
90 PERCENT EXCEEDS	7.3	19	2.0

e Estimated

a No flow at times many years.

b Site and datum then in use, from rating curve extended above 340 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

PLATTE RIVER BASIN

402231105291900 LAKE ESTES NEAR DAM NEAR ESTES PARK, CO

WATER-QUALITY RECORDS

LOCATION.--Lat. 40°22'31", long 105°29'19", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.29, T.5 N, R.72 W., Larimer County, Hydrologic Unit 14010001, 1 mi southeast of Estes Park.

PERIOD OF RECORD.--May 1998 to current year.

REMARKS.--Samples were collected near-surface and bottom near Olympus Dam.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)	OXYGEN, DIS-SOLVED (MG/L) (00300)
OCT						
27...	0910	.1	36	7.7	6.6	9.3
27...	0911	5.0	36	7.8	6.6	9.3
27...	0912	10	36	7.7	6.6	9.1
27...	0913	15	37	7.7	6.6	9.0
27...	0914	20	37	7.6	6.6	8.9
27...	0915	25	37	7.6	6.6	8.9
27...	0916	30	38	7.6	6.5	8.4
27...	0917	35	38	7.5	6.3	8.1
MAY						
21...	0855	.1	46	7.6	9.5	8.7
21...	0856	5.0	46	7.6	9.2	8.7
21...	0857	10	43	7.6	8.5	8.6
21...	0858	15	44	7.6	8.1	8.5
21...	0859	20	45	7.6	7.5	8.5
21...	0900	25	46	7.5	7.1	8.4
21...	0901	30	45	7.5	6.7	8.3
21...	0902	35	44	7.5	6.7	8.2
AUG						
02...	0910	.1	29	7.6	16.1	6.5
02...	0911	5.0	29	7.6	16.0	6.5
02...	0912	10	27	7.6	15.4	6.4
02...	0913	15	27	7.6	14.8	6.2
02...	0914	20	27	7.6	14.0	6.0
02...	0915	25	27	7.5	13.9	5.9
02...	0916	30	26	7.5	13.3	5.6
02...	0917	39	28	7.4	12.3	3.0

DATE	TIME	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) (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)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)
OCT												
27...	0930	16.5	7.7	6.60	81	9.3	<1	15	4.4	.98	2.1	.2
27...	0945	38	8.1	7.50	--	38	--	15	4.3	.99	2.2	.3
MAY												
21...	0905	46.1	7.6	9.5	65	8.7	K2	19	5.6	1.3	2.6	.3
21...	0920	44.5	7.5	6.7	--	8.2	--	19	5.4	1.2	2.4	.2
AUG												
02...	0930	29	7.6	16.1	60	6.5	>120	11	3.3	.69	1.4	.2
02...	0945	28	7.4	12.3	--	3.0	--	10	2.9	.66	1.3	.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD 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)	SOLIDS, DIS-SOLVED PER AC-FT) (MG/L) (70303)	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)
OCT												
27...	.4	16	2.1	1.2	.1	4.8	30	26	.04	<.01	<.05	.03
27...	.5	15	2.2	1.3	.1	5.2	31	27	.04	<.01	.06	.07
MAY												
21...	.6	19	3.6	<.1	.2	7.0	42	--	--	<.01	.06	<.02
21...	.6	20	3.3	2.2	.2	6.6	52	34	.07	<.01	.07	<.02
AUG												
02...	.4	12	1.8	1.7	.1	4.0	22	21	.03	<.01	<.05	<.02
02...	.4	11	1.5	.4	.1	4.2	21	19	.03	<.01	.07	.07

K Based on non-ideal colony count.



PLATTE RIVER BASIN

402231105291900 LAKE ESTES NEAR DAM NEAR ESTES PARK, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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)
	OCT										
27...	.3	.01	<.05	.01	3.4	5	<1.6	E9.2	<8	<14	<7
27...	.3	.01	<.05	.01	2.8	5	<1.6	<16.0	<8	<14	<7
MAY											
21...	.3	<.05	<.05	<.01	6.3	6	<1.6	E7.5	<1	<14	<7
21...	.3	<.05	E.03	.01	5.7	6	<1.6	<16.0	<1	<14	<7
AUG											
02...	.2	<.05	<.05	<.01	3.5	4	<1.6	E8.1	<1	<14	<7
02...	.3	<.05	<.05	<.01	3.6	5	<1.6	<16.0	<1	<14	<7
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	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)
	OCT										
27...	<10	69	<100	<6	<3	<50	<40	<.20	23	<10	<20
27...	<10	86	<100	<6	4	<50	<40	<.20	23	<10	<20
MAY											
21...	<10	70	<100	<6	5	<50	<40	<.20	29	<10	<20
21...	<10	74	<100	E5	E2	<50	<40	<.20	28	<10	<20
AUG											
02...	<10	45	<100	<6	<3	<50	<40	<.20	18	<10	<20
02...	<10	150	<100	E4	10	<50	<40	<.20	15	<10	<20

E Estimated.

PLATTE RIVER BASIN

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°22'30", long 105°29'13", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L) 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)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)
JAN 11...	1045	23	40	7.5	1.0	11.7	17	5.1	1.1	1.9	.2	.5
MAY 03...	1020	470	68	7.1	5.0	9.2	24	7.0	1.6	3.5	.3	1.1
SEP 08...	1015	19	34	7.6	14.5	7.3	12	3.5	.84	2.0	.2	.5

DATE	ANC UNFLTRD TIT 4.5 LAB (MG/L) 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)	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)
JAN 11...	18	2.4	.8	.1	5.3	34	29	.05	2.11	.01	.12	.04
MAY 03...	22	4.6	4.1	.2	6.8	56	43	.08	70.8	<.01	.15	.06
SEP 08...	14	1.6	1.6	.1	4.8	27	24	.04	1.36	<.01	<.05	<.02

DATE	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)	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)
JAN 11...	.2	E.01	<.05	.01	5	<1.6	<16.0	<8	<14	<7	<10
MAY 03...	.4	<.05	<.05	.01	7	<1.6	<16.0	<8	<14	<7	<10
SEP 08...	.2	<.05	<.05	<.01	5	<1.6	E8.0	<8	<14	<13	<10

DATE	IRON, DIS-SOLVED (UG/L) AS FE (01046)	LEAD, DIS-SOLVED (UG/L) AS PB (01049)	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)
JAN 11...	30	<100	<6	<10	E2	<50	<40	<4	28	<10	<20
MAY 03...	69	<100	E3	26.6	12	<50	<40	<4	37	<10	<20
SEP 08...	110	<100	<4	16.0	2	<30	<40	<7	18	<10	<20

E Estimated.

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

LOCATION.--Lat 40°36'00", long 105°10'06", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 Diike. 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 (AT 0800) FOR CURRENT YEAR.--Maximum contents, observed, 144,400 acre-ft, June 28, elevation, 5,427.34 ft; minimum, observed, 65,200 acre-ft, Nov. 30, elevation, 5,380.16 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30. . . . .	5,387.05	74,940	-
Oct. 31. . . . .	5,381.89	67,590	-7,350
Nov. 30. . . . .	5,380.16	65,200	-2,390
Dec. 31. . . . .	5,385.42	72,580	+7,380
CAL YR 1998 . . . . .	-	-	-62,820
Jan. 31. . . . .	5,387.53	75,640	+3,060
Feb. 28. . . . .	5,389.73	78,900	+3,260
Mar. 31. . . . .	5,395.98	88,480	+9,580
Apr. 30. . . . .	5,404.21	101,900	+13,420
May 31. . . . .	5,420.03	130,100	+28,200
June 30. . . . .	5,427.19	144,100	+14,000
July 31. . . . .	5,423.83	137,400	-6,700
Aug. 31. . . . .	5,417.64	125,600	-11,800
Sept. 30. . . . .	5,412.87	116,900	-8,700
WTR YR 1999. . . . .	-	-	+41,960

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 1998 TO SEPTEMBER 1999

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	TRANS- PAR- ENCY (SECCHI DISK (IN) (00077)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	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)
OCT															
26...	0925	.1	56	7.7	14.0	7.5									
26...	0926	5.0	56	7.7	14.0	7.5									
26...	0927	10	56	7.7	14.0	7.5									
26...	0928	15	56	7.7	14.0	7.5									
26...	0929	20	56	7.7	14.0	7.4									
26...	0930	25	56	7.7	14.0	7.4									
26...	0931	30	56	7.7	14.0	7.4									
26...	0932	40	56	7.7	14.0	7.4									
26...	0933	50	56	7.7	14.0	7.4									
26...	0934	60	56	7.7	14.0	7.3									
26...	0935	70	56	7.7	14.0	7.3									
26...	0936	80	56	7.6	14.0	7.3									
MAY															
24...	0920	.1	62	7.7	13.4	8.9									
24...	0921	5.0	62	7.7	13.3	8.9									
24...	0922	10	62	7.6	13.0	8.9									
24...	0923	15	62	7.7	12.4	8.9									
24...	0924	20	62	7.6	11.9	8.9									
24...	0925	25	62	7.6	11.2	8.9									
24...	0926	30	61	7.7	10.4	9.0									
24...	0927	40	60	7.7	9.1	9.0									
24...	0928	50	60	7.7	8.5	9.0									
24...	0929	60	60	7.7	8.0	9.1									
24...	0930	70	60	7.6	7.7	9.1									
24...	0931	80	59	7.7	7.5	9.1									
24...	0932	90	59	7.6	7.5	9.0									
24...	0933	100	59	7.6	7.4	9.0									
24...	0934	110	59	7.6	7.2	8.9									
AUG															
05...	0930	.1	59	7.6	21.2	6.1									
05...	0931	5.0	59	7.6	21.2	6.1									
05...	0932	10	60	7.6	21.2	6.1									
05...	0933	15	59	7.6	21.1	6.0									
05...	0934	20	55	7.6	20.7	5.4									
05...	0935	25	46	7.5	19.0	4.8									
05...	0936	30	47	7.4	17.5	4.4									
05...	0937	40	55	7.4	13.8	4.6									
05...	0938	50	62	7.4	10.6	5.7									
05...	0939	60	62	7.4	9.5	5.9									
05...	0940	70	62	7.4	9.1	6.0									
05...	0941	78	62	7.4	9.0	6.0									

K Based on non-ideal colony count.

PLATTE RIVER BASIN

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 (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)
	OCT									
26...	1.9	.2	.6	26	2.6	.9	.1	2.6	37	33
26...	2.0	.2	.5	26	2.6	.9	.1	2.6	<10	33
MAY										
24...	2.4	.2	.6	28	4.0	1.3	.1	3.7	46	39
24...	2.2	.2	.6	28	3.7	1.2	.1	3.4	44	38
AUG										
05...	2.5	.2	.6	25	2.2	1.3	.1	.77	46	31
05...	2.5	.2	.7	26	2.5	1.3	.1	4.6	52	38

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	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 (MG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (MG/L) (70954)
	OCT									
26...	.05	<.01	<.05	.04	.2	<.05	<.05	<.01	4.1	<.1
26...	.05	<.01	<.05	.04	.2	<.05	<.05	<.01	--	--
MAY										
24...	.06	<.01	.09	.04	.3	<.05	<.05	.02	1	<.1
24...	.06	<.01	.09	.05	.2	<.05	<.05	.02	--	--
AUG										
05...	.06	<.01	<.05	<.02	.2	<.05	<.05	<.01	2.2	<.1
05...	.07	<.01	.18	<.02	.3	<.05	<.05	<.01	--	--

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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									
26...	2.9	19	<1.6	<16.0	<8	<14	<7	<10	<10	<100
26...	3.1	19	<1.6	<16.0	<8	<14	<7	<10	<10	<100
MAY										
24...	4.2	19	<1.6	<16.0	<1	<14	<7	<10	21	<100
24...	3.7	19	<1.6	E8.9	<1	<14	<7	<10	21	<100
AUG										
05...	4.8	17	<1.6	<16.0	<1	<14	<7	E6	13	<100
05...	4.3	18	<1.6	<16.0	<1	<14	<7	<10	18	<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								
26...	<6	<10	<3	<50	<40	<.20	31	<10	<20
26...	<6	10	<3	<50	<40	<.20	32	<10	<20
MAY									
24...	<6	5.2	E3	<50	<40	<.20	36	<10	<20
24...	<6	6.2	<3	<50	<40	<.20	36	<10	<20
AUG									
05...	<6	E1.7	<3	<50	<40	<.20	32	<10	<20
05...	<6	4.6	<3	<50	<40	<.20	35	<10	<20

E Estimated.

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 1998 TO SEPTEMBER 1999

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 TOTAL UM-MF (COLS./ 100 ML) (31625)	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)
OCT													
26...	1016	.1	59	7.8	7.6								
26...	1017	5.0	59	7.8	13.4								
26...	1018	10	59	7.7	13.4								
26...	1019	15	59	7.7	13.4								
26...	1020	20	59	7.7	13.4								
26...	1021	25	59	7.7	13.4								
26...	1022	30	59	7.7	13.4								
26...	1023	40	59	7.7	13.4								
26...	1024	50	59	7.7	13.4								
26...	1025	60	59	7.7	13.4								
26...	1026	70	63	7.1	9.9								
26...	1027	80	62	7.0	7.0								
26...	1028	90	68	6.8	6.8								
26...	1029	97	71	6.8	6.7								
MAY													
24...	1025	.1	63	7.7	15.2								
24...	1026	5.0	57	7.9	12.8								
24...	1027	10	59	7.7	12.3								
24...	1028	15	59	7.7	11.6								
24...	1029	20	59	7.7	10.7								
24...	1030	25	61	7.6	9.9								
24...	1031	30	62	7.6	9.3								
24...	1032	40	62	7.6	8.5								
24...	1033	50	61	7.6	8.0								
24...	1034	60	61	7.6	7.8								
24...	1035	70	61	7.6	7.6								
24...	1036	80	61	7.6	7.5								
24...	1037	90	61	7.6	7.3								
AUG													
05...	1020	.1	58	7.5	20.9								
05...	1021	5.0	58	7.5	20.8								
05...	1022	10	58	7.5	20.8								
05...	1023	15	58	7.5	20.8								
05...	1024	20	58	7.5	20.7								
05...	1025	25	44	7.5	18.8								
05...	1026	30	48	7.5	15.9								
05...	1027	40	52	7.4	14.2								
05...	1028	50	56	7.4	12.0								
05...	1029	60	59	7.4	10.2								
05...	1030	70	62	7.4	9.1								
05...	1031	80	62	7.4	8.8								
05...	1032	90	63	7.3	8.6								
05...	1033	100	63	7.3	8.4								
05...	1034	110	64	7.3	8.3								
DATE	TIME	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 (IN) (00077)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 TOTAL UM-MF (COLS./ 100 ML) (31625)	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)			
OCT													
26...	1035	59	7.8	13.4	81	7.6	<1	27	8.4	1.4			
26...	1055	71	6.8	6.7	--	.1	--	30	9.3	1.6			
MAY													
24...	1045	63	7.7	15.2	60	9.0	<1	27	8.4	1.5			
24...	1100	61	7.6	7.3	--	9.0	--	27	8.3	1.5			
AUG													
05...	1045	58	7.5	20.9	103	6.0	<1	24	7.4	1.3			
05...	1100	64	7.3	8.3	--	5.4	--	28	8.6	1.5			

PLATTE RIVER BASIN

403147105083800 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)
	OCT									
26...	1.9	.2	.6	26	3.2	.9	.2	2.3	39	35
26...	2.1	.2	.7	29	2.6	1	.1	4.9	46	41
MAY										
24...	2.5	.2	.7	28	4.2	1.5	.1	4.1	46	41
24...	2.6	.2	.7	27	4.4	1.6	.1	4.5	51	41
AUG										
05...	2.4	.2	.7	24	2.2	1.3	.1	.79	36	31
05...	2.5	.2	.7	27	2.5	1.2	.1	4.7	55	39

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	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, DIS-SOLVED (MG/L AS P) (00665)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CHLOROPHYTON PLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOROPHYTON PLANKTON CHROMO FLUOROM (UG/L) (70954)
	OCT									
26...	.05	<.01	<.05	.04	.1	<.05	<.05	<.01	1.9	<.1
26...	.06	<.01	.21	.06	.2	.03	.03	.03	--	--
MAY										
24...	.06	<.01	.08	.02	.3	<.05	<.05	.02	1.7	<.1
24...	.07	<.01	.10	.04	.3	<.05	<.05	.02	--	--
AUG										
05...	.05	<.01	<.05	<.02	.2	<.05	<.05	<.01	2.3	<.1
05...	.07	<.01	.20	<.02	.2	<.05	<.05	<.01	--	--

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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)	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									
26...	2.9	21	<1.6	<16.0	<8	<14	<7	<10	<10	<100
26...	3.5	15	<1.6	E7.6	<8	<14	<7	<10	35	<100
MAY										
24...	4.7	19	<1.6	E13.8	<1	<14	<7	<10	22	<100
24...	5.2	18	<1.6	E7.3	<1	<14	<7	<10	30	<100
AUG										
05...	4.9	17	<1.6	E8.0	<1	<14	<7	<10	12	<100
05...	4.9	18	<1.6	<16.0	<1	<14	E5	<10	20	<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								
26...	<6	<10	<3	<50	<40	<.20	34	<10	<20
26...	<6	260	290	<50	<40	<.20	38	<10	<20
MAY									
24...	E3	6.7	3	<50	<40	<.20	36	<10	<20
24...	E3	8.1	<3	<50	<40	<.20	37	<10	E10
AUG									
05...	<6	E2.3	<3	<50	<40	<.20	31	<10	<20
05...	<6	18.2	E2	<50	<40	<.20	36	<10	<20

E Estimated.

06738000 BIG THOMPSON RIVER AT MOUTH OF CANYON, NEAR DRAKE, CO

LOCATION.--Lat 40°25'18", long 105°13'34", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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, 53,100 acre-ft diverted during current year; and Dille tunnel since Apr. 20, 1959, 51,210 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 ft<sup>3</sup>/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, 2460 ft<sup>3</sup>/s, Apr. 30, gage height, 5.23 ft; minimum daily, 28 ft<sup>3</sup>/s, Apr. 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	81	48	e74	e34	34	32	990	89	244	224	44
2	144	78	53	e72	e34	35	32	583	58	382	197	61
3	106	76	60	e70	e34	34	31	434	45	406	153	69
4	112	70	46	e50	e34	36	31	274	97	444	150	66
5	113	66	50	e40	e34	36	31	155	129	453	120	63
6	110	66	50	e36	e34	29	28	81	104	394	104	61
7	120	68	39	e36	e34	33	34	106	177	377	97	56
8	122	66	e30	e36	e33	33	33	112	303	297	92	56
9	102	69	e45	e36	e33	31	43	140	129	276	102	55
10	87	62	e45	e36	e33	32	49	203	65	228	111	55
11	89	55	e50	e36	e33	31	45	77	65	162	88	53
12	83	56	e55	e35	e34	33	42	43	58	127	74	53
13	79	65	e55	e34	e34	31	42	43	59	109	84	55
14	124	71	e50	e34	e34	33	44	44	62	102	88	86
15	149	67	e48	e34	e34	34	43	44	165	212	65	99
16	142	62	e46	e34	e34	32	41	42	596	265	57	90
17	147	61	e46	e34	e34	33	47	41	251	296	68	83
18	145	60	e40	e34	e34	32	57	66	650	190	60	79
19	147	57	e30	e34	e34	47	57	73	853	119	51	85
20	131	51	e30	e34	e34	38	51	81	739	106	61	94
21	88	55	e30	e35	e35	38	45	81	665	97	61	83
22	72	52	e30	e35	e35	37	70	79	630	109	57	83
23	71	58	e35	e35	e35	37	82	85	616	119	52	89
24	71	58	e40	e35	e34	39	75	150	304	107	51	83
25	70	53	e50	e35	e34	42	85	188	235	113	50	76
26	68	51	e60	e35	33	47	88	182	184	117	50	72
27	68	51	e70	e35	32	38	91	120	171	120	56	69
28	85	53	e75	e35	33	34	116	65	117	131	58	73
29	73	53	e80	e35	---	33	958	50	118	130	56	76
30	73	52	e78	e34	---	34	1670	54	114	126	53	121
31	80	---	e76	e34	---	33	---	56	---	185	52	---
TOTAL	3237	1843	1540	1212	947	1089	4093	4742	7848	6543	2642	2188
MEAN	104	61.4	49.7	39.1	33.8	35.1	136	153	262	211	85.2	72.9
MAX	166	81	80	74	35	47	1670	990	853	453	224	121
MIN	68	51	30	34	32	29	28	41	45	97	50	44
AC-FT	6420	3660	3050	2400	1880	2160	8120	9410	15570	12980	5240	4340
CAL YR 1998	TOTAL	45265	MEAN	124	MAX	687	MIN	30	AC-FT	89780		
WTR YR 1999	TOTAL	37924	MEAN	104	MAX	1670	MIN	28	AC-FT	75220		

e Estimated



06741510 BIG THOMPSON RIVER AT LOVELAND, CO

LOCATION.--Lat 40°22'43", long 105°03'38", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	19	14	17	37	4.6	3.6	2660	443	137	110	20
2	39	19	14	16	19	4.6	3.7	1370	366	192	90	23
3	30	18	14	27	9.4	4.8	3.6	917	258	164	49	21
4	30	16	14	37	8.8	5.5	3.6	586	155	153	22	26
5	23	15	13	22	8.5	5.8	3.3	329	75	162	50	30
6	16	14	13	15	8.2	5.3	3.3	159	e66	140	58	34
7	12	22	13	15	7.5	5.2	4.7	91	e49	134	42	44
8	14	18	12	14	6.9	5.1	4.8	85	76	95	32	45
9	8.9	17	12	14	6.6	5.0	4.6	96	97	109	34	43
10	8.4	16	12	13	6.3	5.0	4.6	182	100	123	38	36
11	8.2	15	16	14	5.7	5.0	4.6	115	103	125	42	35
12	7.6	14	12	20	5.1	6.3	4.5	192	157	113	40	32
13	7.4	14	12	28	4.8	4.9	4.1	277	157	73	37	30
14	7.3	21	11	27	4.8	4.7	6.7	259	123	55	29	34
15	7.4	20	11	27	4.4	4.6	5.9	247	240	55	27	31
16	12	20	11	27	4.3	4.6	5.3	237	730	81	28	29
17	11	21	11	27	4.1	4.4	5.3	243	580	126	36	24
18	9.4	18	11	27	3.7	4.3	5.3	207	872	98	49	32
19	8.8	18	12	27	3.7	4.3	5.2	174	1050	e97	46	42
20	8.3	18	19	27	3.6	4.3	33	164	925	97	41	39
21	7.2	17	21	27	3.6	4.1	6.9	177	768	85	33	36
22	5.3	16	20	28	3.8	3.9	20	161	689	64	29	28
23	9.0	16	22	26	4.0	3.9	17	154	655	65	28	e17
24	8.3	16	27	28	4.7	3.9	7.0	197	417	56	28	e15
25	7.8	15	75	28	4.8	3.9	14	283	227	61	24	e16
26	7.8	15	125	34	4.6	3.8	8.0	295	186	60	20	e17
27	9.8	17	141	22	4.6	3.8	7.1	389	146	65	19	e18
28	28	15	117	14	4.6	3.6	12	472	106	73	20	21
29	17	15	72	13	---	3.6	655	429	65	77	18	e18
30	12	14	49	13	---	3.6	e3700	425	79	75	17	e16
31	18	---	28	18	---	3.6	---	442	---	90	18	---
TOTAL	426.9	509	954	692	197.1	140.0	4566.7	12014	9960	3100	1154	852
MEAN	13.8	17.0	30.8	22.3	7.04	4.52	152	388	332	100	37.2	28.4
MAX	39	22	141	37	37	6.3	3700	2660	1050	192	110	45
MIN	5.3	14	11	13	3.6	3.6	3.3	85	49	55	17	15
AC-FT	847	1010	1890	1370	391	278	9060	23830	19760	6150	2290	1690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1999, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	30.5	22.6	12.9	17.1	16.9	13.2	48.4	245	319	124	76.8	35.8										
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1979 - 1999

ANNUAL TOTAL	25202.4	34565.7	
ANNUAL MEAN	69.0	94.7	80.5
HIGHEST ANNUAL MEAN			321
LOWEST ANNUAL MEAN			28.4
HIGHEST DAILY MEAN	293	Apr 22	e3700
LOWEST DAILY MEAN	1.2	Sep 7	3.3
ANNUAL SEVEN-DAY MINIMUM	7.7	Oct 20	3.5
INSTANTANEOUS PEAK FLOW			4960
INSTANTANEOUS PEAK STAGE			a10.48
ANNUAL RUNOFF (AC-FT)	49990	68560	58300
10 PERCENT EXCEEDS	140	192	144
50 PERCENT EXCEEDS	59	20	19
90 PERCENT EXCEEDS	12	4.6	3.4

e Estimated

a From high-water mark.

b Maximum gage height, 10.48 ft, Apr 30, 1999.

## 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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE 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											
13...	0915	7.9	1060	8.2	9.0	7.7	490	130	43	--	--
NOV											
02...	1100	16	949	8.3	8.0	9.8	440	120	34	--	--
DEC											
07...	1120	12	993	8.6	2.0	11.6	480	130	37	--	--
JAN											
11...	1230	13	997	8.6	4.0	13.6	490	130	39	35	.7
FEB											
08...	0815	7.3	813	8.3	4.5	9.8	340	84	32	--	--
MAR											
01...	1100	4.5	891	8.5	7.0	11.1	360	89	34	--	--
APR											
12...	0915	8.7	731	8.2	8.0	10.0	320	78	30	--	--
MAY											
03...	1240	907	222	8.4	8.0	9.8	85	22	7.3	--	--
JUN											
07...	0915	30	619	8.3	13.5	8.8	260	68	22	--	--
JUL											
12...	0850	120	322	8.3	16.5	7.9	130	32	12	12	.5
AUG											
09...	1120	40	416	8.3	20.5	8.2	170	46	15	--	--
SEP											
08...	1215	40	581	8.5	17.5	9.2	240	59	24	--	--

DATE	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)	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)
OCT										
13...	173	--	--	--	--	--	.01	.20	.03	.02
NOV										
02...	171	--	--	--	--	--	<.01	.41	.03	<.05
DEC										
07...	183	--	--	--	--	--	<.01	.58	.02	.01
JAN										
11...	19	370	11	.4	7.8	755	.01	.58	.02	<.05
FEB										
08...	130	--	--	--	--	--	.01	.40	.02	<.05
MAR										
01...	141	--	--	--	--	--	<.01	.25	<.02	<.05
APR										
12...	123	--	--	--	--	--	<.01	.11	<.02	<.05
MAY										
03...	51	--	--	--	--	--	<.01	.57	.05	<.05
JUN										
07...	103	--	--	--	--	--	<.01	.56	<.02	<.05
JUL										
12...	48	98	3.4	.2	5.3	211	<.01	.16	.03	<.05
AUG										
09...	79	--	--	--	--	--	<.01	.11	<.02	<.05
SEP										
08...	90	--	--	--	--	--	<.01	.089	<.02	<.05

PLATTE RIVER BASIN

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	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)
OCT 13...	.01	--	--	<1	--	--	--	2	<1	100
NOV 02...	<.01	--	--	<1	--	--	--	9	<1	140
DEC 07...	.01	--	--	<1	--	--	--	2	<1	130
JAN 11...	<.01	<10.0	<1	<1	<1	<1.0	<1.0	<1	<1	70
FEB 08...	.02	--	--	<1	--	--	--	<1	<1	80
MAR 01...	<.01	--	--	<1	--	--	--	<1	1	100
APR 12...	.02	--	--	<1	--	--	--	<1	<1	--
MAY 03...	.03	--	--	<1	--	--	--	9	3	5070
JUN 07...	.01	--	--	<1	--	--	--	2	2	307
JUL 12...	<.01	20.3	<1	<1	<1	<1.0	<1.0	2	1	530
AUG 09...	<.01	--	--	<1	--	--	--	2	1	359
SEP 08...	<.01	--	--	<1	--	--	--	2	1	587

DATE	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)	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 13...	<1	--	--	--	--	--	--	<1	<.20	--
NOV 02...	<1	--	--	--	--	--	--	<1	<.20	--
DEC 07...	<1	--	--	--	--	--	--	<1	<.20	--
JAN 11...	<1	<1	40	<.1	<.1	<1	10	<1	<.20	<20
FEB 08...	<1	--	--	--	--	--	--	<1	<.20	--
MAR 01...	<1	--	--	--	--	--	--	<1	<.20	--
APR 12...	<1	--	--	--	--	--	--	4	<.20	--
MAY 03...	4	--	--	--	--	--	--	<1	<.20	--
JUN 07...	<1	--	--	--	--	--	--	<1	<.20	--
JUL 12...	<1	<1	46.8	<.2	<.1	<1	<1	<1	<.20	<20
AUG 09...	<1	--	--	--	--	--	--	<1	<.20	--
SEP 08...	<1	--	--	--	--	--	--	<1	<.20	--

PLATTE RIVER BASIN

06742500 CARTER LAKE NEAR BERTHOUD, CO

LOCATION.--Lat 40°19'28", long 105°12'41", in SE<sup>1</sup>/<sub>4</sub> 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 (AT 0800) FOR CURRENT YEAR.--Maximum contents, 108,200 acre-ft, June 29, elevation, 5,758.33 ft; minimum contents, 52,890 acre-ft, Dec. 8,9, elevation, 5,704.50 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30. . . . .	5,713.00	60,720	-
Oct. 31. . . . .	5,706.47	54,670	-6,050
Nov. 30. . . . .	5,704.85	53,200	-1,470
Dec. 31. . . . .	5,707.33	55,450	+2,250
CAL YR 1998 . . . . .	-	-	-26,200
Jan. 31. . . . .	5,705.75	54,020	-1,430
Feb. 28. . . . .	5,718.00	65,510	+11,490
Mar. 31. . . . .	5,736.99	84,740	+19,230
Apr. 30. . . . .	5,748.34	96,960	+12,220
May 31. . . . .	5,755.98	105,500	+8,540
June 30. . . . .	5,758.12	107,900	+2,400
July 31. . . . .	5,757.82	107,600	-300
Aug. 31. . . . .	5,745.46	93,800	-13,800
Sept. 30. . . . .	5,723.51	70,920	-22,880
WTR YR 1999. . . . .	-	-	+10,200

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 1998 TO SEPTEMBER 1999

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	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)
OCT										
26...	1201	.1	59	7.6	12.8	7.5				
26...	1202	5.0	59	7.6	12.8	7.5				
26...	1203	10	59	7.6	12.6	7.5				
26...	1204	15	59	7.6	12.6	7.5				
26...	1205	20	60	7.6	12.6	7.5				
26...	1206	25	60	7.6	12.6	7.5				
26...	1207	30	60	7.6	12.6	7.4				
26...	1208	40	60	7.6	12.6	7.4				
26...	1209	50	60	7.6	12.6	7.4				
26...	1210	60	60	7.6	12.6	7.4				
26...	1211	70	56	7.4	12.2	5.4				
26...	1212	80	53	7.2	12.0	3.9				
26...	1213	90	53	7.0	10.8	2.9				
MAY										
25...	1000	.1	59	8.3	13.4	9.4				
25...	1001	5.0	59	8.3	13.4	9.4				
25...	1002	10	59	8.3	13.0	9.4				
25...	1003	15	58	8.4	11.7	9.9				
25...	1004	20	58	8.4	10.8	9.9				
25...	1005	25	58	8.3	9.9	9.9				
25...	1006	30	58	8.3	9.5	9.9				
25...	1007	40	58	8.2	8.7	9.8				
25...	1008	50	58	8.1	8.0	9.6				
25...	1009	60	57	8.0	7.8	9.5				
25...	1010	70	57	8.0	7.2	9.3				
25...	1011	80	57	7.9	6.9	9.2				
25...	1012	90	57	7.9	6.8	9.2				
25...	1013	100	57	7.9	6.6	9.1				
25...	1014	110	57	7.8	6.6	9.0				
25...	1015	120	57	7.8	6.5	9.0				
25...	1016	130	57	7.8	6.5	8.9				
25...	1017	140	57	7.8	6.4	8.9				
AUG										
05...	1245	.1	67	8.4	21.2	6.9				
05...	1246	5.0	67	8.5	21.0	6.9				
05...	1247	10	67	8.5	21.0	6.9				
05...	1248	15	67	8.5	21.0	6.8				
05...	1249	20	67	8.5	20.7	6.7				
05...	1250	25	57	8.4	13.1	7.9				
05...	1251	30	56	8.3	11.2	6.8				
05...	1252	40	54	8.1	10.2	6.2				
05...	1253	50	53	8.0	9.6	6.1				
05...	1254	60	53	7.9	9.4	6.1				
05...	1255	70	54	7.9	9.2	6.1				
05...	1256	80	54	7.8	9.0	6.1				
05...	1257	90	54	7.8	8.8	6.0				
05...	1258	100	55	7.8	8.7	5.9				
05...	1259	110	55	7.7	8.5	5.7				

## PLATTE RIVER BASIN

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 (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)
OCT											
26...	1.9	.2	.6	28	2.5	.8	.1	3.7	41	37	
26...	1.9	.2	.6	25	2.4	.9	.1	4.4	40	34	
MAY											
25...	2.0	.2	.6	30	2.4	.8	.1	4.0	48	37	
25...	2.1	.2	.6	29	3.0	1.1	.1	4.7	18	39	
AUG											
05...	2.1	.2	.6	30	1.6	.1	.1	2.4	41	36	
05...	2.0	.2	.6	25	1.6	.9	.1	4.8	50	35	
DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	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 (MG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (MG/L) (70954)	
OCT											
26...	.06	<.01	<.05	.03	.2	<.05	<.05	<.01	2.1	<.1	
26...	.05	<.01	.08	.03	.2	<.05	<.05	<.01	--	--	
MAY											
25...	.07	<.01	<.05	<.02	.2	<.05	<.05	.02	1.9	<.1	
25...	.02	<.01	<.05	.05	.2	<.05	<.05	.01	--	--	
AUG											
05...	.06	<.01	<.05	<.02	.2	<.05	<.05	<.01	2.3	<.1	
05...	.07	<.01	.08	<.02	.2	<.05	<.05	<.01	--	--	
DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	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											
26...	4	21	<1.6	<16.0	<8	<14	<7	<10	<10	<100	
26...	3.4	17	<1.6	E7.6	<8	<14	<7	<10	<10	<100	
MAY											
25...	3.8	18	<1.6	<16.0	<1	<14	<7	<10	<10	<100	
25...	3.7	17	<1.6	<16.0	<1	<14	<7	<10	10	<100	
AUG											
05...	5.0	23	<1.6	<16.0	<1	<14	<7	<10	<10	<100	
05...	3.4	16	<1.6	<16.0	<1	<14	<7	<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											
26...	<6	<10	<3	<50	<40	<.20	35	<10	<20		
26...	<6	10	5	<50	<40	<.20	33	<10	<20		
MAY											
25...	E4	E1.9	<3	<50	<40	<.20	34	<10	<20		
25...	E3	E2.7	<3	<50	<40	<.20	36	<10	<20		
AUG											
05...	<6	<3	<3	<50	<40	<.20	36	<10	<20		
05...	<6	3.2	<3	<50	<40	<.20	32	<10	<20		

E Estimated.

06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°32'24", long 105°52'56", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	e3.9	e2.1	e1.3	e1.3	e1.2	e1.1	e2.5	42	75	18	1.4
2	5.8	e3.8	e2.1	e1.3	e1.3	e1.2	e1.1	e2.5	46	75	16	1.4
3	6.0	e3.8	e2.1	e1.3	e1.3	e1.2	e1.1	e2.4	55	73	14	1.5
4	5.6	e3.8	e1.9	e1.3	e1.3	e1.2	e1.1	e3.0	58	69	16	1.5
5	4.7	e3.5	e1.9	e1.3	e1.3	e1.2	e1.2	e3.2	54	65	17	1.2
6	8.9	e3.4	e1.9	e1.2	e1.3	e1.1	e1.2	e3.6	46	61	16	1.1
7	5.5	e3.4	e1.9	e1.3	e1.3	e1.1	e1.2	e4.0	47	59	14	.93
8	6.2	e3.3	e1.9	e1.4	e1.3	e1.1	e1.2	e5.2	56	57	14	.97
9	6.4	e3.1	e1.8	e1.6	e1.3	e1.1	e1.3	e6.6	60	48	13	.91
10	6.1	e3.0	e1.8	e1.8	e1.3	e1.1	e1.3	e9.8	64	42	13	.96
11	5.6	e2.8	e1.9	e2.0	e1.3	e1.1	e1.3	e9.3	66	39	12	1.0
12	5.5	e2.2	e2.0	e2.0	e1.3	e1.1	e1.2	9.1	63	35	11	.92
13	5.4	e1.8	e2.0	e2.0	e1.3	e1.1	e1.2	8.8	65	33	10	.83
14	6.1	e2.3	e1.9	e1.9	e1.3	e1.1	e1.2	9.3	69	31	9.7	.82
15	5.7	e2.7	e1.7	e1.8	e1.3	e1.1	e1.2	e9.3	57	31	9.3	.85
16	5.2	e2.6	e1.6	e1.8	e1.3	e1.1	e1.2	e9.4	36	29	8.8	.82
17	5.0	e2.4	e1.5	e1.7	e1.2	e1.1	e1.3	e9.5	46	27	8.6	.74
18	5.8	e2.3	e1.4	e1.8	e1.2	e1.1	e1.5	e9.6	48	25	8.4	.75
19	6.2	e2.3	e1.4	e1.9	e1.2	e1.1	e1.4	e12	47	26	9.2	1.4
20	5.4	e2.3	e1.5	e1.9	e1.2	e1.1	e1.4	e14	45	25	11	2.1
21	5.1	e2.3	e1.5	e1.8	e1.2	e1.1	e1.3	e18	44	23	9.6	1.9
22	5.1	e2.2	e1.5	e1.8	e1.2	e1.1	1.3	e19	46	22	7.0	1.3
23	5.0	e2.2	e1.5	e1.8	e1.2	e1.1	1.3	e22	50	20	1.6	1.0
24	4.7	e2.2	e1.5	e1.6	e1.2	e1.1	1.4	e22	48	21	1.4	.98
25	4.6	e2.1	e1.5	e1.7	e1.2	e1.0	1.9	23	50	23	1.5	.87
26	4.6	e2.0	e1.5	e1.7	e1.2	e1.0	1.9	28	45	20	1.5	.83
27	4.6	e2.0	e1.4	e1.7	e1.2	e1.1	1.8	32	40	18	1.8	.81
28	e4.5	e2.0	e1.4	e1.6	e1.2	e1.1	1.7	36	53	18	1.5	.87
29	e4.3	e2.0	e1.4	e1.6	---	e.98	1.7	39	85	18	1.4	1.2
30	e4.2	e2.0	e1.4	e1.4	---	e1.0	e2.3	45	77	17	1.3	2.7
31	e4.0	---	e1.3	e1.4	---	e1.1	---	43	---	18	2.4	---
TOTAL	166.6	79.7	52.2	50.7	35.2	34.18	41.3	470.1	1608	1143	280.0	34.56
MEAN	5.37	2.66	1.68	1.64	1.26	1.10	1.38	15.2	53.6	36.9	9.03	1.15
MAX	8.9	3.9	2.1	2.0	1.3	1.2	2.3	45	85	75	18	2.7
MIN	4.0	1.8	1.3	1.2	1.2	.98	1.1	2.4	36	17	1.3	.74
AC-FT	330	158	104	101	70	68	82	932	3190	2270	555	69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1999, BY WATER YEAR (WY)

MEAN	3.01	1.52	1.02	.84	.73	.72	1.12	13.6	52.7	28.4	8.77	4.37
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1979 - 1999

ANNUAL TOTAL	4395.8	3995.54	
ANNUAL MEAN	12.0	10.9	9.74
HIGHEST ANNUAL MEAN			16.9
LOWEST ANNUAL MEAN			5.40
HIGHEST DAILY MEAN	92	Jun 28	85
LOWEST DAILY MEAN	e1.1	Apr 17	.74
ANNUAL SEVEN-DAY MINIMUM	1.2	Apr 11	.82
INSTANTANEOUS PEAK FLOW			101
INSTANTANEOUS PEAK STAGE			b5.31
ANNUAL RUNOFF (AC-FT)	8720	7930	7060
10 PERCENT EXCEEDS	39	44	31
50 PERCENT EXCEEDS	3.8	2.0	1.6
90 PERCENT EXCEEDS	1.2	1.1	.46

e Estimated

a Also occurred Jan 31 to Apr 4, 1979, and Feb 9 to Apr 9, 1981.

b Maximum gage height, 6.34, Apr 30, backwater from ice.

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 SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	2.3	e2.0	e1.9	e1.8	e2.2	e2.4	2.3	8.6	114	23	48
2	5.1	2.3	e2.0	e1.9	e1.8	e2.2	e2.3	2.3	9.4	e104	22	56
3	5.0	2.2	e2.1	e1.8	e1.9	e2.2	e2.3	2.3	11	e94	19	59
4	5.0	e2.1	e2.0	e1.8	e1.9	e2.2	e2.3	2.3	11	e86	19	57
5	4.9	e2.1	e2.0	e1.9	e2.0	e2.2	e2.3	2.2	9.6	e78	18	57
6	4.9	e2.1	e2.0	e1.9	e2.0	e2.1	e2.3	2.1	8.9	e70	20	56
7	6.0	e2.1	e2.0	e1.9	e2.0	e2.2	e2.4	2.2	9.9	e63	20	49
8	8.0	e2.1	e1.9	e1.9	e2.0	e2.2	e2.4	2.4	11	e78	18	37
9	8.0	e2.1	e1.9	e1.9	e2.0	e2.2	e2.3	2.6	11	e93	16	41
10	8.0	e2.1	e1.9	e1.9	e2.1	e2.2	e2.2	2.7	11	e87	12	50
11	8.0	e2.1	e1.9	e1.9	e2.1	e2.2	e2.2	2.5	11	e81	13	56
12	8.0	e2.1	e1.8	e1.9	e2.1	e2.2	e2.2	2.3	11	e75	14	63
13	7.9	e2.1	e1.8	e1.9	e2.1	e2.2	e2.3	2.6	11	e69	13	58
14	8.0	e2.1	e1.8	e1.9	e2.1	e2.3	e2.3	2.9	12	e62	10	48
15	7.8	e2.1	e1.8	e1.9	e2.1	e2.3	e2.2	2.6	14	e54	10	50
16	7.6	e2.1	e1.9	e1.9	e2.1	e2.3	e2.1	2.5	13	e47	10	52
17	7.3	e2.1	e1.9	e1.9	e2.1	e2.3	e2.1	3.8	96	e40	10	51
18	7.1	e2.0	e1.9	e1.9	e2.1	e2.3	e2.1	4.8	151	e32	11	53
19	7.1	e2.0	e1.9	e1.9	e2.1	e2.3	e2.2	5.0	112	32	11	59
20	7.1	e2.0	e1.9	e1.9	e2.0	e2.3	e2.2	5.4	87	30	10	64
21	7.1	e2.0	e1.8	e1.9	e2.0	e2.3	e2.2	5.8	90	30	11	63
22	7.1	e2.0	e1.8	e1.9	e1.9	e2.3	2.1	6.0	91	29	27	61
23	7.1	e2.0	e1.7	e1.9	e2.0	e2.3	2.1	7.2	93	26	55	53
24	7.1	e2.0	e1.8	e1.9	e2.0	e2.3	2.1	7.4	97	21	55	45
25	7.1	e2.0	e1.8	e1.9	e2.1	e2.3	2.1	6.8	98	21	57	44
26	5.7	e2.0	e1.8	e1.9	e2.1	e2.3	2.1	7.5	90	21	57	44
27	4.6	e2.0	e1.8	e1.9	e2.1	e2.3	2.1	7.6	78	22	58	47
28	4.7	e2.0	e1.8	e1.9	e2.2	e2.4	2.2	8.2	86	26	58	56
29	4.9	e2.0	e1.9	e1.8	---	e2.4	2.4	9.2	119	23	56	27
30	3.5	e2.0	e1.9	e1.8	---	e2.4	2.5	10	119	21	51	4.0
31	2.3	---	e1.9	e1.8	---	e2.4	---	8.9	---	21	46	---
TOTAL	196.9	62.2	58.4	58.4	56.8	70.3	67.0	142.4	1580.4	1650	830	1508.0
MEAN	6.35	2.07	1.88	1.88	2.03	2.27	2.23	4.59	52.7	53.2	26.8	50.3
MAX	8.0	2.3	2.1	1.9	2.2	2.4	2.5	10	151	114	58	64
MIN	2.3	2.0	1.7	1.8	1.8	2.1	2.1	2.1	8.6	21	10	4.0
AC-FT	391	123	116	116	113	139	133	282	3130	3270	1650	2990

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1999, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	4.47	1.19	.81	.73	.68	.69	.83	13.0	62.4	39.6	31.6	30.6										
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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1979 - 1999
ANNUAL TOTAL	7071.3	6280.8	
ANNUAL MEAN	19.4	17.2	15.6
HIGHEST ANNUAL MEAN			24.4
LOWEST ANNUAL MEAN			3.69
HIGHEST DAILY MEAN	121	May 28	151
LOWEST DAILY MEAN	e1.7	Dec 23	e1.7
ANNUAL SEVEN-DAY MINIMUM	1.8	Dec 21	1.8
INSTANTANEOUS PEAK FLOW			169
INSTANTANEOUS PEAK STAGE			2.41
ANNUAL RUNOFF (AC-FT)	14030	12460	11280
10 PERCENT EXCEEDS	59	58	57
50 PERCENT EXCEEDS	3.0	2.4	1.4
90 PERCENT EXCEEDS	2.0	1.9	.35

e Estimated

a Maximum gage height, 2.78 ft, Jul 10, 1997.



06751150 NORTH FORK CACHE LA POUFRE RIVER BELOW HALLIGAN RESERVOIR NEAR VIRGINIA DALE, CO

LOCATION.--Lat 40°52'42", long 105°20'15", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1998 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,310 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. 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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.2	3.6	41	29	119	39	1500	577	168	119	114
2	1.4	4.1	e3.8	41	29	118	39	1390	547	163	120	114
3	1.5	4.2	e3.8	42	29	128	39	1190	541	155	120	115
4	1.5	4.2	e3.8	41	28	129	39	979	521	148	119	115
5	2.2	4.2	e3.8	41	24	129	39	820	527	140	121	114
6	3.2	4.2	e3.8	42	24	129	39	694	555	137	121	113
7	3.6	4.2	e3.8	39	23	126	39	651	540	136	121	112
8	3.8	4.1	e3.7	34	23	123	39	597	468	131	121	111
9	3.8	3.8	3.7	34	23	123	39	583	423	129	121	110
10	3.8	3.9	3.6	34	23	121	39	571	412	125	121	110
11	3.8	4.0	10	34	23	120	39	526	422	119	122	109
12	4.1	4.0	16	34	23	119	39	485	389	128	121	109
13	4.2	4.0	16	35	23	117	42	458	374	121	121	108
14	4.2	4.0	16	35	23	115	44	464	359	120	121	106
15	4.2	3.8	16	34	23	114	45	473	356	124	121	105
16	4.2	3.8	16	34	23	112	45	455	380	124	119	104
17	4.2	3.9	23	35	23	100	45	479	375	124	119	104
18	4.2	4.0	28	35	23	54	45	464	366	124	119	103
19	4.3	4.0	29	34	23	34	45	428	333	124	120	102
20	4.4	4.0	29	34	23	33	45	428	313	124	120	102
21	4.3	4.0	29	31	23	33	46	467	294	124	120	100
22	4.2	4.0	28	29	59	33	46	487	284	123	120	100
23	4.2	4.0	28	29	124	32	46	508	263	122	120	99
24	4.2	4.0	28	29	123	32	47	545	245	122	120	98
25	4.2	3.8	28	29	122	31	47	574	227	122	119	96
26	4.2	3.8	28	29	122	29	47	550	213	121	116	96
27	4.2	3.8	28	29	120	28	47	617	204	121	115	95
28	4.2	3.8	28	29	119	28	48	657	194	121	127	94
29	4.2	3.6	28	29	---	27	51	588	185	121	114	91
30	4.2	3.6	28	29	---	29	748	630	174	121	121	91
31	4.2	---	37	29	---	36	---	600	---	121	114	---
TOTAL	114.3	119.0	554.4	1054	1297	2501	1997	19858	11061	4003	3713	3140
MEAN	3.69	3.97	17.9	34.0	46.3	80.7	66.6	641	369	129	120	105
MAX	4.4	4.2	37	42	124	129	748	1500	577	168	127	115
MIN	1.4	3.6	3.6	29	23	27	39	428	174	119	114	91
AC-FT	227	236	1100	2090	2570	4960	3960	39390	21940	7940	7360	6230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1999, BY WATER YEAR (WY)

	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
MEAN	3.69	3.97	17.9	34.0	46.3	80.7	98.6	450	279	118	114	94.1
MAX	3.69	3.97	17.9	34.0	46.3	80.7	131	641	369	129	120	105
(WY)	1999	1999	1999	1999	1999	1999	1998	1999	1999	1999	1999	1999
MIN	3.69	3.97	17.9	34.0	46.3	80.7	66.6	260	190	106	108	83.6
(WY)	1999	1999	1999	1999	1999	1999	1999	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1998 - 1999

ANNUAL TOTAL	49411.7	
ANNUAL MEAN	135	135
HIGHEST ANNUAL MEAN		135
LOWEST ANNUAL MEAN		135
HIGHEST DAILY MEAN	1500	1500
LOWEST DAILY MEAN	1.4	1.3
ANNUAL SEVEN-DAY MINIMUM	2.1	1.5
INSTANTANEOUS PEAK FLOW	1840	1840
INSTANTANEOUS PEAK STAGE	6.47	6.47
ANNUAL RUNOFF (AC-FT)	98010	98070
10 PERCENT EXCEEDS	460	295
50 PERCENT EXCEEDS	47	107
90 PERCENT EXCEEDS	4.0	4.2

e Estimated

## PLATTE RIVER BASIN

06751490 NORTH FORK CACHE LA POUDE RIVER AT LIVERMORE, CO

LOCATION.--Lat 40°47'15", long 105°15'06", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	16	15	e46	42	10	e11	2760	608	107	29	18
2	7.6	17	15	e46	44	9.8	11	2430	569	102	27	19
3	7.3	17	15	e47	42	10	11	2040	556	91	25	18
4	9.4	17	15	e47	42	11	11	1640	532	83	28	21
5	8.2	17	14	e47	39	11	11	1290	527	75	33	18
6	7.7	17	13	e46	37	8.9	11	1050	581	57	32	16
7	8.8	19	e13	e47	37	8.9	10	969	542	45	30	15
8	9.1	18	e13	48	37	11	10	856	469	38	28	14
9	8.8	17	e13	49	37	10	12	801	420	35	24	14
10	8.9	17	e14	47	38	10	12	e780	406	32	24	12
11	8.4	19	e15	46	35	10	11	e720	435	30	24	12
12	8.8	18	e18	46	46	11	11	e680	419	30	35	12
13	9.1	18	e20	45	41	9.6	9.7	e650	402	28	48	12
14	9.0	18	e20	45	36	11	7.9	e620	370	29	47	11
15	8.9	18	e20	46	32	12	7.7	e630	415	35	46	11
16	9.8	17	e25	46	32	12	7.7	e610	487	36	45	11
17	12	17	e30	44	33	12	7.5	e620	487	38	44	11
18	10	17	e35	54	33	12	7.3	e610	474	38	44	10
19	11	16	e35	48	32	11	7.2	e600	419	39	44	12
20	12	15	e35	47	31	12	8.0	e590	408	42	46	15
21	12	15	e35	45	31	12	8.3	e580	381	36	46	13
22	11	17	e35	40	45	12	24	e620	371	34	32	12
23	11	15	e35	43	90	12	32	e640	329	28	19	13
24	10	15	e35	43	12	11	32	e645	291	25	18	14
25	10	15	e35	44	11	10	48	e660	247	27	18	14
26	10	15	e40	45	11	10	70	e670	212	25	18	12
27	11	15	e45	43	9.0	10	110	e660	202	23	17	13
28	23	15	e45	43	9.9	10	193	e660	162	21	18	15
29	18	15	e45	46	---	11	1090	e650	127	22	17	15
30	17	15	e45	54	---	11	2670	646	111	22	16	15
31	17	---	e45	49	---	e12	---	637	---	26	15	---
TOTAL	331.7	497	833	1432	964.9	334.2	4472.3	28014	11959	1299	937	418
MEAN	10.7	16.6	26.9	46.2	34.5	10.8	149	904	399	41.9	30.2	13.9
MAX	23	19	45	54	90	12	2670	2760	608	107	48	21
MIN	6.9	15	13	40	9.0	8.9	7.2	580	111	21	15	10
AC-FT	658	986	1650	2840	1910	663	8870	55570	23720	2580	1860	829

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1999, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	12.1	17.5	11.4	11.9	15.7	19.7	71.6	198	230	31.7	19.2	10.8	
MAX (WY)	41.0	98.8	34.3	46.2	48.2	55.5	244	904	857	133	52.5	23.6	
MIN (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	
(WY)	1989	1988	1988	1988	1995	1995	1995	1989	1987	1989	1988	1987	

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1987 - 1999
ANNUAL TOTAL	23937.0	51492.1	
ANNUAL MEAN	65.6	141	54.1
HIGHEST ANNUAL MEAN			141
LOWEST ANNUAL MEAN			8.06
HIGHEST DAILY MEAN	342	Apr 26	2760
LOWEST DAILY MEAN	5.8	Sep 30	6.9
ANNUAL SEVEN-DAY MINIMUM	6.3	Sep 25	7.6
INSTANTANEOUS PEAK FLOW			3660
INSTANTANEOUS PEAK STAGE			15.15
ANNUAL RUNOFF (AC-FT)	47480	102100	39190
10 PERCENT EXCEEDS	221	561	115
50 PERCENT EXCEEDS	18	25	11
90 PERCENT EXCEEDS	8.9	10	5.2

e Estimated

a Also occurred Sep 3, 1988 and Apr 27, 1989.

06751490 NORTH FORK CACHE LA POUDE RIVER AT LIVERMORE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1986 to September 1999 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)
OCT 14...	1105	9.2	404	8.5	9.5	9.4	190	52	13	13	.4	1.8
NOV 03...	1105	16	324	8.7	5.5	10.5	140	40	10	13	.5	1.7
DEC 08...	1105	13	360	8.7	.5	13.8	160	43	12	15	.5	1.5
JAN 12...	1120	47	197	8.7	2.0	11.7	87	25	5.7	7.9	.4	1.1
FEB 09...	1110	34	207	8.5	2.2	11.7	92	27	5.9	8.6	.4	1.3
MAR 02...	1135	11	317	8.7	4.0	11.8	140	40	10	14	.5	1.5
APR 13...	1110	11	322	8.8	10.0	10.8	140	39	10	14	.5	1.4
MAY 04...	1340	1690	113	8.1	7.5	9.4	46	14	2.9	4.9	.3	2.0
JUN 08...	1330	440	114	8.1	15.0	9.0	49	14	3.1	4.7	.3	.9
JUL 13...	1245	28	332	8.6	20.0	9.4	150	42	10	12	.4	1.9
AUG 10...	1230	26	364	8.7	19.0	10.0	170	48	12	13	.4	1.9
SEP 09...	1145	15	395	8.4	13.5	10.1	180	50	13	15	.5	2.0

DATE	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)	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)
OCT 14...	184	22	8.1	1.2	13	229	236	.31	5.68	<.01	.06
NOV 03...	144	17	8.8	1.0	14	205	194	.28	9.02	.01	.10
DEC 08...	157	20	9.8	1.1	14	226	211	.31	7.87	<.01	.08
JAN 12...	86	11	4.4	1	13	128	122	.17	16.4	.01	.14
FEB 09...	90	11	5.0	1	13	127	128	.17	11.5	<.01	.16
MAR 02...	138	17	11	1.2	12	196	191	.27	5.61	<.01	.07
APR 13...	142	15	10	1.1	9.3	199	186	.27	6.02	<.01	<.05
MAY 04...	43	8.5	3.2	.7	15	101	78	.14	461	<.01	.31
JUN 08...	50	5.9	2.7	.6	14	101	76	.14	120	<.01	.07
JUL 13...	175	14	7.8	.9	14	203	210	.28	15.2	<.01	.21
AUG 10...	166	16	7.9	1.1	15	221	216	.30	15.6	<.01	.11
SEP 09...	185	18	9.9	1.3	14	237	235	.32	9.60	<.01	.10

## PLATTE RIVER BASIN

06751490 NORTH FORK CACHE LA POUDE RIVER AT LIVERMORE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	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)
OCT											
14...	<.02	.2	<.05	<.05	.01	110	<1.6	38.9	<8	<14	<7
NOV											
03...	<.02	.2	<.05	<.05	.01	88	<1.6	31.0	<8	<14	<7
DEC											
08...	<.02	.3	.03	.01	.01	93	<1.6	32.8	<8	<14	<7
JAN											
12...	.02	.2	E.01	<.05	.01	54	<1.6	E14.2	<8	<14	<7
FEB											
09...	<.02	.1	<.05	<.05	.01	60	<1.6	21.3	<8	<14	<7
MAR											
02...	<.02	.2	<.05	<.05	.01	86	<1.6	31.7	<8	<14	<7
APR											
13...	<.02	.3	<.05	<.05	.01	91	<1.6	36.6	<8	<14	<7
MAY											
04...	.05	1.0	.20	E.03	.03	36	<1.6	17.9	<8	<14	<7
JUN											
08...	<.02	.4	<.05	<.05	.01	32	<1.6	E11.6	<8	<14	<7
JUL											
13...	<.02	.4	E.05	<.05	.01	90	<1.6	31.8	<8	<14	<7
AUG											
10...	<.02	.3	<.05	<.05	.01	110	<1.6	40.4	<8	<14	<7
SEP											
09...	<.02	.3	<.05	<.05	<.01	110	<1.6	41.0	<8	<14	<13
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	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)
OCT											
14...	<10	21	<100	12	18	<50	<40	<4	300	<10	<20
NOV											
03...	<10	33	<100	13	10	<50	<40	<4	250	<10	<20
DEC											
08...	<10	20	<100	12	10	<50	<40	<4	270	<10	<20
JAN											
12...	<10	50	<100	E5	6	<50	<40	<4	130	<10	<20
FEB											
09...	<10	36	<100	7	8	<50	<40	<4	140	<10	<20
MAR											
02...	<10	39	<100	13	20	<50	<40	<4	230	<10	<20
APR											
13...	<10	44	<100	13	16	<50	<40	<4	240	<10	<20
MAY											
04...	<10	75	<100	E6	13	<50	<40	<4	64	<10	<20
JUN											
08...	<10	88	<100	E4	10	<50	<40	E2	71	<10	<20
JUL											
13...	<10	46	<100	11	20	<50	<40	<4	240	<10	<20
AUG											
10...	<10	47	<100	14	13	<50	<40	E2	270	<10	<20
SEP											
09...	<10	31	<100	12	14	<30	<40	<7	300	E5	<20

E Estimated.

PLATTE RIVER BASIN

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06751490 NORTH FORK CACHE LA POUFRE RIVER AT LIVERMORE, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
OCT				
14...	1055	9.19	6.4	.16
NOV				
03...	1045	16.3	1.9	.08
DEC				
08...	1055	12.9	5.9	.21
JAN				
12...	1045	47.4	3.7	.47
FEB				
09...	1055	34	2.30	.21
MAR				
02...	1120	10.6	2.8	.08
APR				
13...	1055	11.2	1.3	.04
MAY				
04...	1410	1690	265.1	1210
JUN				
08...	1400	441	16.0	1750
JUL				
13...	1215	27.7	4.6	.34
AUG				
10...	1200	26.2	3.7	.26
SEP				
09...	1130	15.0	1.7	.07

## PLATTE RIVER BASIN

06752000 CACHE LA POUVRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO

LOCATION.--Lat 40°39'52", long 105°13'26", in NW<sup>1</sup>/<sub>4</sub> sec.15, T.8 N., R.70 W., Larimer County, Hydrologic Unit 10190007, on left bank at mouth of canyon, 0.5 mi downstream from headgate of Poudre Valley Canal, 1.2 mi upstream from Lewstone Creek, and 9.3 mi northwest of courthouse in Fort Collins.

DRAINAGE AREA.--1,056 mi<sup>2</sup>.

PERIOD OF RECORD.--Streamflow records, June to August 1881, May to July 1883, October 1883 to current year. Monthly discharge only for some periods, published in WSP 1310. Records for March 23 to April 30 and July 4 to August 20, 1883, published in WSP 9, have been found to be unreliable and should not be used. Prior to 1902, published as Cache la Poudre Creek or River at or near Fort Collins. Water-quality data available, June 1962 to October 1965, October 1971 to September 1982, and April 1993 to September 1995.

REVISED RECORDS.--WSP 1310: 1885-87, 1889, 1892, 1894-96, 1934. WSP 1730: 1960, drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,220 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 and transmountain diversions (see elsewhere in this report), diversions upstream from station for irrigation of about 50,000 acres, most of which is downstream from station, 77,360 acre-ft diverted during current year, and diversions for municipal use, 7,950 acre-ft diverted during current year.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	88	66	e92	85	60	57	4220	1930	1590	664	205
2	53	96	66	e91	82	57	53	3510	1820	1650	583	218
3	61	96	67	e75	80	49	47	2860	1770	1640	476	200
4	73	91	62	e69	84	62	44	2260	1860	1600	521	195
5	80	80	56	e89	85	65	48	1680	1940	1510	679	182
6	64	79	e42	e91	80	46	42	1320	1630	1310	586	173
7	57	84	e38	e94	82	51	47	1170	1620	1180	497	158
8	64	76	e34	e88	84	71	47	1120	1670	1080	460	127
9	73	85	e39	e83	82	55	42	1110	1690	1050	478	131
10	75	71	e41	e79	85	62	45	1120	1650	958	455	123
11	68	52	e43	e82	63	56	37	1060	1640	941	471	96
12	63	71	e47	e86	e80	60	41	992	1540	856	474	84
13	63	93	e57	e85	82	53	45	698	1620	736	471	79
14	60	103	e63	e83	84	61	57	512	1720	633	452	68
15	73	95	e63	e79	85	64	58	617	2110	659	441	65
16	66	88	e62	e78	75	64	45	623	2360	681	426	84
17	61	79	e72	e78	77	61	37	686	2370	711	434	83
18	57	79	e75	e72	70	59	49	745	2700	722	422	67
19	50	74	e62	e88	80	58	72	782	2820	709	417	71
20	52	63	e61	85	74	59	48	837	2760	809	486	125
21	54	56	e61	89	65	63	53	886	2700	699	456	213
22	52	95	e62	e84	74	65	97	948	2470	631	453	192
23	59	81	e62	e82	113	59	133	1070	2510	588	473	133
24	67	74	e61	e92	67	54	98	1370	2620	543	440	125
25	66	74	e61	e92	60	54	125	1350	2480	613	441	122
26	70	72	e62	e89	59	51	107	1360	2420	576	465	117
27	78	73	e80	e89	46	51	103	1390	2150	547	372	84
28	103	72	e87	e67	56	50	122	1460	1840	564	285	64
29	98	73	e81	e58	---	40	1630	1650	1810	586	252	69
30	74	72	e84	e63	---	41	4360	1940	1690	575	254	69
31	86	---	e83	e71	---	52	---	2070	---	594	227	---
TOTAL	2060	2385	1900	2543	2139	1753	7789	43416	61910	27541	14011	3722
MEAN	66.5	79.5	61.3	82.0	76.4	56.5	260	1401	2064	888	452	124
MAX	103	103	87	94	113	71	4360	4220	2820	1650	679	218
MIN	40	52	34	58	46	40	37	512	1540	543	227	64
AC-FT	4090	4730	3770	5040	4240	3480	15450	86120	122800	54630	27790	7380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1881 - 1999, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1881	91.0	270	1943	21.7	1995
1882	61.9	177	1998	8.14	1939
1883	44.9	125	1984	12.6	1965
1884	41.0	158	1984	9.00	1930
1885	43.3	138	1984	10.2	1967
1886	53.6	149	1980	10.6	1939
1887	53.6	743	1900	19.5	1991
1888	151	2807	1900	204	1977
1889	932	4812	1884	442	1934
1890	1841	2225	1983	158	1966
1891	791	792	1884	61.2	1954
1892	332	443	1938	37.3	1962

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1881 - 1999
ANNUAL TOTAL	122558	171169	
ANNUAL MEAN	336	469	
HIGHEST ANNUAL MEAN			891
LOWEST ANNUAL MEAN			129
HIGHEST DAILY MEAN	1730	4360	7550
LOWEST DAILY MEAN	e34	e34	a1.6
ANNUAL SEVEN-DAY MINIMUM	41	41	3.9
INSTANTANEOUS PEAK FLOW		5820	b21000
INSTANTANEOUS PEAK STAGE		7.56	Apr 30
ANNUAL RUNOFF (AC-FT)	243100	339500	
10 PERCENT EXCEEDS	1020	1640	1200
50 PERCENT EXCEEDS	102	85	90
90 PERCENT EXCEEDS	59	52	24

e Estimated

a Caused by diversion of Poudre Valley Canal, 0.5 mi upstream.

b Maximum discharge determined, caused by failure of Chambers Lake Dam, from reports of State Engineers Office. A greater discharge, but not determined, occurred May 20, 1904.

PLATTE RIVER BASIN

06752258 CACHE LA POUVRE RIVER AT SHIELDS STREET, AT FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°36'11", long 105°05'43", in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (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)	SODIUM AD-TION RATIO (00931)	ANC UNFLTRD LAB (MG/L AS CAC03) (90410)
OCT 14...	0845	7.8	239	8.3	11.0	9.4	110	31	6.9	--	--	99
NOV 03...	0840	99	203	8.5	5.6	10.3	87	25	6.0	--	--	78
DEC 08...	0845	22	312	8.6	.5	12.0	150	45	10	--	--	126
JAN 12...	0820	90	224	8.5	2.5	11.7	100	29	6.6	7.1	.3	85
FEB 09...	0845	80	221	8.5	2.1	12.1	97	28	6.5	--	--	85
MAR 02...	0905	51	232	8.4	3.5	12.1	100	31	6.8	--	--	84
APR 13...	0830	14	344	8.5	9.0	9.7	160	47	11	--	--	113
MAY 04...	0920	2660	124	8.6	7.0	10.0	50	15	3.4	--	--	46
JUN 08...	1000	1000	70	8.0	11.5	9.3	29	8.4	2.0	--	--	29
JUL 13...	0910	130	79	8.2	15.0	8.1	32	9.4	2.2	2.5	.2	32
AUG 10...	1430	135	99	8.6	20.0	7.7	44	13	2.9	--	--	37
SEP 09...	0900	68	186	8.3	13.0	8.3	80	24	5.1	--	--	66

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 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)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
OCT 14...	--	--	--	--	--	<.01	.19	.02	<.05	.01	--	--
NOV 03...	--	--	--	--	--	.01	.14	<.02	<.05	<.01	--	--
DEC 08...	--	--	--	--	--	<.01	.41	.03	<.05	.01	--	--
JAN 12...	25	3.9	.5	10	143	.02	.13	.02	<.05	<.01	<10.0	<1
FEB 09...	--	--	--	--	--	<.01	.098	<.02	<.05	.02	--	--
MAR 02...	--	--	--	--	--	<.01	.023	<.02	<.05	<.01	--	--
APR 13...	--	--	--	--	--	<.01	.032	.03	<.05	.01	--	--
MAY 04...	--	--	--	--	--	<.01	.39	.04	<.05	.03	--	--
JUN 08...	--	--	--	--	--	<.01	.018	<.02	<.05	<.01	--	--
JUL 13...	5.7	1.0	.2	6.8	56	<.01	.061	<.02	<.05	<.01	14.6	<1
AUG 10...	--	--	--	--	--	<.01	.048	<.02	<.05	<.01	--	--
SEP 09...	--	--	--	--	--	<.01	.11	<.02	<.05	<.01	--	--

## PLATTE RIVER BASIN

06752258 CACHE LA POUDE RIVER AT SHIELDS STREET, AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	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 14...	--	--	<1	100	--	--	--	--	--	<.20	--
NOV 03...	--	--	<1	120	--	--	--	--	--	<.20	--
DEC 08...	--	--	<1	90	--	--	--	--	--	<.20	--
JAN 12...	<1	<1.0	<1	90	<1	20	<.1	<1	<1	<.20	<20
FEB 09...	--	--	<1	90	--	--	--	--	--	<.20	--
MAR 02...	--	--	1	100	--	--	--	--	--	<.20	--
APR 13...	--	--	<1	161	--	--	--	--	--	<.20	--
MAY 04...	--	--	1	2710	--	--	--	--	--	<.20	--
JUN 08...	--	--	2	549	--	--	--	--	--	<.20	--
JUL 13...	<1	<1.0	<1	185	<1	13.0	<.1	<1	<1	<.20	<20
AUG 10...	--	--	2	157	--	--	--	--	--	<.20	--
SEP 09...	--	--	2	135	--	--	--	--	--	<.20	--



06752260 CACHE LA POUVRE RIVER AT FORT COLLINS, CO

LOCATION.--Lat 40°35'21", long 105°04'09", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 May 22, 1987, at site 300 ft downstream, at different datum. May 22, 1987 to Nov. 10, 1988 at site 4,300 ft upstream, at different datum. Nov. 10, 1988 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	30	58	95	75	39	26	e5730	1940	277	355	90
2	7.6	83	55	99	68	40	23	4100	1810	464	276	91
3	6.4	70	57	77	72	37	18	3260	1710	676	179	79
4	8.1	49	55	73	66	36	15	2640	1640	608	174	61
5	6.6	39	51	92	75	50	15	2000	1560	428	209	61
6	5.9	25	43	91	67	39	21	1550	1190	215	215	63
7	5.9	40	30	94	67	31	14	1350	972	158	77	66
8	5.7	31	25	90	69	51	16	1280	958	63	58	67
9	6.2	31	26	81	68	49	12	1240	792	67	110	52
10	6.9	29	26	75	72	47	12	e1310	716	59	101	59
11	6.2	19	28	78	54	47	11	1190	769	63	111	73
12	6.9	21	32	79	32	49	6.5	1090	814	54	109	86
13	8.3	60	50	84	66	49	6.8	790	976	36	90	76
14	7.7	80	56	76	66	47	9.1	506	1140	53	111	39
15	8.0	71	59	71	77	53	12	585	1460	100	106	30
16	18	68	59	68	60	53	8.6	574	1880	193	76	59
17	2.8	62	73	68	58	52	5.2	647	1930	286	50	96
18	2.2	67	80	60	60	49	4.6	716	2490	267	53	48
19	2.4	70	e62	82	66	43	8.4	774	2490	271	43	48
20	2.4	60	e61	75	55	41	4.8	861	2380	354	115	85
21	2.7	48	e61	79	51	41	6.8	935	2170	214	73	149
22	3.1	78	e61	79	59	44	19	984	1900	171	53	170
23	3.0	77	e61	61	99	44	15	1140	1820	245	57	106
24	2.9	64	e61	84	70	39	9.1	1440	1770	262	37	95
25	3.6	64	e61	76	41	39	14	1410	1500	285	46	90
26	3.7	58	e62	79	44	38	10	1390	1320	236	68	87
27	4.4	67	89	71	36	36	8.3	1420	1090	205	79	80
28	11	63	98	67	35	36	8.4	1430	659	238	123	59
29	5.4	62	87	60	---	35	1430	1600	511	250	72	58
30	4.7	63	90	68	---	30	e5640	1860	380	249	49	60
31	4.9	---	89	76	---	26	---	2020	---	288	57	---
TOTAL	180.2	1649	1806	2408	1728	1310	7409.6	47822	42737	7335	3332	2283
MEAN	5.81	55.0	58.3	77.7	61.7	42.3	247	1543	1425	237	107	76.1
MAX	18	83	98	99	99	53	5640	5730	2490	676	355	170
MIN	2.2	19	25	60	32	26	4.6	506	380	36	37	30
AC-FT	357	3270	3580	4780	3430	2600	14700	94850	84770	14550	6610	4530

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, 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	1999	
MEAN	26.6	30.4	25.0	31.6	32.5	37.0	113	475	975	253	75.1	36.9														
MAX	182	183	97.3	123	135	136	652	2720	4771	1450	301	207														
(WY)	1998	1998	1985	1984	1984	1980	1983	1980	1983	1983	1997	1997														
MIN	2.45	1.79	1.91	2.29	1.30	1.91	.37	14.9	158	39.2	12.8	4.79														
(WY)	1978	1978	1978	1978	1987	1988	1988	1976	1989	1988	1988	1987														

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1975 - 1999

ANNUAL TOTAL	50458.4	119999.8																								
ANNUAL MEAN	138	329																								
HIGHEST ANNUAL MEAN																										
LOWEST ANNUAL MEAN																										
HIGHEST DAILY MEAN				801	Jun 10		5730	May 1		6080	Jun 21	1983														
LOWEST DAILY MEAN				2.2	Oct 18		2.2	Oct 18		a.00	Aug 18	1987														
ANNUAL SEVEN-DAY MINIMUM				2.7	Oct 17		2.7	Oct 17		.00	Mar 24	1988														
INSTANTANEOUS PEAK FLOW							7710	Apr 30		7710	Apr 30	1999														
INSTANTANEOUS PEAK STAGE							10.46	Apr 30		10.46	Apr 30	1999														
ANNUAL RUNOFF (AC-FT)				100100			238000			129300																
10 PERCENT EXCEEDS				365			1260			379																
50 PERCENT EXCEEDS				76			66			27																
90 PERCENT EXCEEDS				9.8			8.4			2.9																

e Estimated  
a Also occurred Aug 19, Sep 4, 18-19, 1987, and many days in 1988.

06752260 CACHE LA POUFRE 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 September 1999 (discontinued).

pH: October 1987 to September 1999 (discontinued).

WATER TEMPERATURE: October 1987 to September 1999 (discontinued).

INSTRUMENTATION.--Water-quality monitor since October 1987.

REMARKS.--Specific conductance record rated good except for Nov. 4 to Dec. 9 which are rated poor. Water temperature record rated good. pH record rated fair.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum 26.0 C, July. 19,1998; minimum, 0.0 C, many days in winter.

pH: Maximum, 9.7 units, Apr. 27, 1990; minimum, 5.9 units, July 12, 1989.

SPECIFIC CONDUCTANCE: (For period Oct. 1995 to Sept. 1999) Maximum 1020 microsiemens, Apr. 10, 1997; minimum, 34 microsiemens, June 21, 1997.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 21.9° C, Aug. 8; minimum, 0.0° C, many days in winter.

pH: Maximum, 9.1, Feb. 21; minimum, 7.2, Apr. 14.

SPECIFIC CONDANCE: Maximum, 549 microsiemens, Oct. 27; minimum, 40 microsiemens, Jun. 24.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE 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)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT												
15...	0830	6.5	371	8.2	12.0	8.5	160	44	12	--	--	146
NOV												
04...	0840	50	239	8.4	5.0	11.2	100	30	7.1	--	--	89
DEC												
09...	0840	28	380	8.4	1.2	12.1	170	50	12	--	--	135
JAN												
13...	0830	92	247	8.5	1.0	12.5	110	31	7.5	7.9	.3	93
FEB												
10...	0850	78	230	8.4	2.3	11.8	100	29	6.8	--	--	87
MAR												
03...	0855	43	267	8.5	2.0	12.7	120	36	8.4	--	--	97
APR												
14...	0830	14	380	8.2	9.5	7.5	150	41	12	--	--	118
MAY												
05...	1130	2000	137	8.5	7.5	10.1	55	16	3.7	--	--	49
JUN												
09...	1100	1030	67	7.8	12.0	9.3	27	7.7	1.9	--	--	27
JUL												
14...	0940	2.3	333	8.1	18.5	8.2	130	36	10	13	.5	107
AUG												
11...	0830	108	126	8.1	17.0	8.2	54	15	3.7	--	--	45
SEP												
10...	0820	57	204	8.3	14.5	8.5	88	25	6.0	--	--	75

PLATTE RIVER BASIN

06752260 CACHE LA POUDE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
OCT 15...	--	--	--	--	--	<.01	.46	.02	<.05	<.01	--	--
NOV 04...	--	--	--	--	--	<.01	.24	<.02	<.05	<.01	--	--
DEC 09...	--	--	--	--	--	<.01	.44	.03	<.05	.01	--	--
JAN 13...	30	4.5	.5	10	157	.02	.20	.02	<.05	<.01	<10.0	<1
FEB 10...	--	--	--	--	--	<.01	.079	<.02	<.05	.01	--	--
MAR 03...	--	--	--	--	--	<.01	.079	<.02	<.05	<.01	--	--
APR 14...	--	--	--	--	--	.03	.42	.36	.09	.08	--	--
MAY 05...	--	--	--	--	--	<.01	.40	.05	<.05	.03	--	--
JUN 09...	--	--	--	--	--	<.01	.018	<.02	<.05	.01	--	--
JUL 14...	39	12	.3	8.6	204	<.01	1.1	.03	<.05	.01	E9.6	<1
AUG 11...	--	--	--	--	--	<.01	.12	<.02	<.05	<.01	--	--
SEP 10...	--	--	--	--	--	<.01	.15	<.02	<.05	<.01	--	--

DATE	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)	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, 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 15...	--	--	<1	130	--	--	--	--	--	--	<.20	--
NOV 04...	--	--	<1	50	--	--	--	--	--	--	<.20	--
DEC 09...	--	--	<1	120	--	--	--	--	--	--	<.20	--
JAN 13...	<1	<1.0	<1	90	<1	20	<.1	<1	<1	<1	<.20	<20
FEB 10...	--	--	<1	80	--	--	--	--	--	--	<.20	--
MAR 03...	--	--	1	130	--	--	--	--	--	--	<.20	--
APR 14...	--	--	2	593	--	--	--	--	--	--	<.20	--
MAY 05...	--	--	2	2310	--	--	--	--	--	--	<.20	--
JUN 09...	--	--	1	668	--	--	--	--	--	--	<.20	--
JUL 14...	<1	<1.0	1	151	<1	41.7	<.1	<1	<1	--	<.20	<20
AUG 11...	--	--	1	166	--	--	--	--	--	--	<.20	--
SEP 10...	--	--	2	152	--	--	--	--	--	--	<.20	--

E Estimated.

PLATTE RIVER BASIN

06752260 CACHE LA POUFRE RIVER AT FORT COLLINS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	15.5	12.5	13.7	9.2	7.7	8.2	5.9	3.7	5.1	---	---	---
2	13.7	11.8	12.5	7.9	6.4	7.1	5.9	3.9	5.2	---	---	---
3	12.9	12.1	12.4	6.5	5.7	6.1	5.6	3.4	4.8	---	---	---
4	13.0	11.0	12.0	6.9	.2	6.0	5.1	3.2	4.2	---	---	---
5	11.0	9.2	10.0	6.7	5.8	6.3	4.5	2.7	3.3	---	---	---
6	12.3	7.8	9.9	7.6	6.1	6.7	3.2	2.0	2.7	---	---	---
7	14.0	8.6	11.2	6.8	3.8	5.0	2.0	.5	1.3	---	---	---
8	15.3	10.2	12.6	5.6	4.2	4.8	.8	.0	.4	---	---	---
9	15.9	11.2	13.4	5.0	3.4	4.5	1.2	.5	.8	---	---	---
10	15.2	11.3	13.3	3.4	1.2	2.4	1.0	.0	.3	---	---	---
11	14.2	10.8	12.3	4.2	1.0	2.7	.7	.0	.2	---	---	---
12	12.4	9.5	10.9	5.1	2.4	3.9	.9	.0	.4	---	---	---
13	12.5	8.7	10.7	6.2	3.2	4.7	1.1	.0	.6	---	---	---
14	14.5	10.6	12.4	7.2	5.0	6.3	2.2	.0	1.1	---	---	---
15	15.4	11.9	13.4	6.9	5.2	6.1	2.5	.4	1.6	---	---	---
16	13.7	9.2	11.7	6.9	5.2	6.3	2.5	.8	1.8	---	---	---
17	10.0	8.3	9.0	6.4	5.0	5.8	3.2	.1	1.7	---	---	---
18	11.7	6.8	9.0	6.0	4.2	5.2	2.9	.0	1.6	---	---	---
19	12.1	7.4	9.7	5.3	3.6	4.6	---	---	---	---	---	---
20	10.3	8.3	9.3	4.4	2.1	3.3	---	---	---	---	---	---
21	10.8	6.8	8.8	4.7	1.8	3.4	---	---	---	---	---	---
22	12.2	7.6	9.8	6.7	4.0	5.4	---	---	---	---	---	---
23	13.3	8.9	11.0	5.9	3.7	5.0	---	---	---	---	---	---
24	13.3	9.2	11.1	5.8	3.3	4.8	---	---	---	---	---	---
25	11.3	9.3	10.3	5.2	3.2	4.4	---	---	---	---	---	---
26	12.9	10.0	11.4	6.2	3.5	5.0	---	---	---	---	---	---
27	12.4	10.7	11.3	6.6	4.3	5.7	---	---	---	---	---	---
28	11.8	10.1	11.0	6.3	5.0	5.6	---	---	---	---	---	---
29	11.9	9.0	10.5	6.1	4.5	5.4	---	---	---	---	---	---
30	10.1	8.6	9.4	5.8	3.6	5.0	---	---	---	---	---	---
31	8.7	7.9	8.3	---	---	---	---	---	---	---	---	---
MONTH	15.9	6.8	11.0	9.2	.2	5.2	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7.9	4.5	6.1	11.4	6.3	8.9	---	---	---
2	---	---	---	6.4	3.3	4.8	6.3	3.7	5.0	---	---	---
3	---	---	---	5.9	1.8	4.0	8.1	3.1	5.4	---	---	---
4	---	---	---	7.2	4.1	5.6	11.2	4.7	7.5	---	---	---
5	---	---	---	6.8	4.1	5.3	12.8	6.6	9.2	---	---	---
6	---	---	---	4.7	1.8	3.5	13.9	7.1	10.2	---	---	---
7	---	---	---	6.5	2.9	4.8	16.2	8.6	11.8	---	---	---
8	---	---	---	7.9	4.6	6.3	15.0	9.6	11.8	---	---	---
9	---	---	---	7.5	3.3	5.9	14.6	8.8	10.7	---	---	---
10	---	---	---	7.9	4.7	6.6	10.0	6.4	8.0	11.6	---	---
11	2.7	.0	.8	6.7	4.5	5.3	12.3	4.9	8.5	9.6	7.2	8.4
12	1.7	.0	.7	4.9	2.9	4.1	16.0	7.0	11.3	11.9	6.4	8.8
13	3.8	.0	1.9	6.7	1.6	4.4	18.0	9.3	13.3	13.3	8.0	10.4
14	3.5	.6	2.4	9.1	4.4	7.0	13.4	8.9	11.1	14.0	9.4	11.5
15	3.7	1.8	2.9	8.6	6.0	7.0	11.3	6.4	8.4	14.7	9.6	11.9
16	3.6	1.3	2.6	8.5	5.0	7.0	7.6	4.4	5.9	12.3	9.0	10.5
17	3.2	.8	2.1	9.0	5.0	7.3	12.5	3.3	7.4	13.8	7.6	10.3
18	3.2	.0	1.9	9.4	4.9	7.4	15.7	7.0	10.9	14.9	8.5	11.3
19	4.7	1.5	3.3	10.7	5.9	8.5	15.1	9.2	12.4	15.1	9.7	12.2
20	3.6	.8	2.5	12.0	7.3	9.8	16.3	11.4	13.5	14.4	11.0	12.6
21	3.1	.2	1.9	12.2	8.2	10.3	15.8	11.2	13.0	16.2	11.6	13.5
22	2.5	.5	1.5	10.6	7.6	9.3	11.8	6.5	8.5	15.3	11.6	13.3
23	5.0	.0	2.1	11.6	6.6	9.4	6.9	4.9	5.7	16.8	12.5	14.1
24	5.5	2.5	4.0	12.9	8.6	10.9	11.0	5.5	7.7	14.1	11.9	13.2
25	6.5	2.8	4.9	13.4	9.1	11.2	9.5	5.0	7.4	12.7	11.3	11.8
26	6.8	3.8	5.2	13.3	9.4	11.5	12.4	7.7	9.8	14.2	10.6	12.0
27	5.1	1.4	3.6	14.0	9.9	11.7	16.2	9.0	12.2	11.7	10.2	11.1
28	6.1	2.9	4.5	9.9	7.2	8.6	13.1	11.3	12.3	13.9	9.7	11.5
29	---	---	---	11.5	5.7	8.7	11.3	7.3	8.7	13.5	10.8	11.7
30	---	---	---	13.7	7.8	10.6	---	---	---	12.2	10.7	11.4
31	---	---	---	14.1	8.2	11.4	---	---	---	10.9	9.9	10.6
MONTH	---	---	---	14.1	1.6	7.6	---	---	---	---	---	---

PLATTE RIVER BASIN

06752260 CACHE LA POUDE RIVER AT FORT COLLINS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.3	8.7	10.5	17.0	12.6	14.7	15.8	14.6	15.1	19.4	15.7	17.7
2	13.2	10.5	11.6	16.0	14.2	14.9	17.4	14.4	15.6	19.1	16.0	17.9
3	13.2	10.3	11.7	17.6	14.1	15.4	19.2	14.6	16.8	18.8	16.7	17.8
4	13.5	10.6	11.8	18.3	14.4	16.2	17.4	15.0	15.9	17.9	15.8	17.0
5	11.6	8.1	10.2	18.6	14.7	16.6	17.9	15.1	16.3	19.4	15.7	17.8
6	11.5	7.8	9.4	18.7	16.1	17.1	20.3	16.0	17.9	19.9	16.6	18.3
7	14.1	9.8	11.7	20.2	15.9	17.9	21.1	16.6	19.1	19.1	15.3	17.6
8	15.0	11.1	12.9	18.1	15.4	16.8	21.9	17.8	20.0	17.8	15.3	16.8
9	14.0	11.6	12.6	18.5	13.9	16.3	19.6	16.0	17.9	17.7	14.4	16.4
10	12.6	10.8	11.5	19.4	14.6	17.0	20.9	15.8	18.2	17.4	14.9	16.1
11	13.5	9.5	11.4	18.6	14.5	16.6	21.3	16.4	18.9	16.3	14.2	15.3
12	13.0	10.6	11.6	19.6	14.2	17.0	20.2	15.6	18.0	15.6	13.3	14.6
13	13.3	9.7	11.2	20.9	14.6	17.8	20.9	15.7	18.3	15.3	12.3	14.1
14	12.7	11.7	12.3	20.0	16.5	18.1	20.9	17.1	19.2	16.3	13.1	14.8
15	11.8	10.4	10.9	18.0	14.3	16.1	19.8	17.6	18.4	17.0	13.6	15.3
16	10.6	9.7	10.1	16.8	14.2	15.5	20.4	15.5	18.1	17.5	14.2	15.9
17	12.4	10.0	11.3	18.2	14.3	16.1	19.1	16.9	17.9	16.8	13.0	15.3
18	12.3	10.3	11.4	16.6	14.6	15.3	19.8	14.9	17.5	17.8	14.3	16.0
19	12.9	11.3	12.0	17.9	14.0	15.6	19.8	16.5	18.4	16.3	12.4	14.3
20	13.0	11.1	12.0	18.6	13.6	15.9	18.3	15.5	17.2	12.8	11.6	12.2
21	13.1	11.4	12.0	20.4	14.5	17.2	19.6	15.7	17.7	15.6	10.3	12.9
22	13.7	11.1	12.3	18.0	14.9	16.6	21.2	17.3	19.4	15.9	11.9	14.1
23	14.2	11.8	13.1	19.8	14.1	16.6	20.1	15.8	18.5	16.4	13.4	15.1
24	14.2	12.0	13.2	19.6	14.4	17.0	21.1	16.8	19.2	16.6	14.4	15.6
25	14.4	12.7	13.4	18.8	15.5	17.1	19.9	17.0	18.1	17.2	13.6	15.7
26	14.9	12.5	13.7	19.5	14.3	16.9	20.8	15.2	17.9	17.1	14.1	15.2
27	14.8	13.0	13.8	19.8	15.1	17.4	20.0	16.7	18.7	14.2	11.8	12.6
28	15.7	12.8	14.2	19.5	15.5	17.3	19.8	17.6	18.6	11.8	9.3	10.3
29	16.3	12.7	14.2	17.5	14.6	16.0	20.4	16.6	18.7	12.1	8.5	10.3
30	15.9	12.9	14.5	17.7	14.6	16.0	19.8	16.2	18.3	13.5	10.7	12.1
31	---	---	---	16.8	14.7	15.7	19.4	15.7	17.8	---	---	---
MONTH	16.3	7.8	12.1	20.9	12.6	16.5	21.9	14.4	18.0	19.9	8.5	15.2

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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

## PLATTE RIVER BASIN

06752260 CACHE LA POUFRE RIVER AT FORT COLLINS, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	8.6	7.7	8.1	8.0	7.7	7.8	---	---	---
2	---	---	---	8.4	7.6	8.0	7.9	7.6	7.8	---	---	---
3	---	---	---	8.5	7.5	7.9	8.0	7.6	7.8	---	---	---
4	---	---	---	8.3	7.4	7.8	8.2	7.6	7.9	---	---	---
5	---	---	---	8.3	7.3	7.8	8.4	7.7	7.9	---	---	---
6	---	---	---	8.2	7.3	7.8	8.4	7.7	8.0	---	---	---
7	---	---	---	8.3	7.4	7.8	8.4	7.7	8.0	---	---	---
8	---	---	---	8.6	7.6	8.1	8.1	7.5	7.7	---	---	---
9	---	---	---	8.6	7.7	8.2	8.0	7.4	7.7	---	---	---
10	---	---	---	8.6	7.7	8.2	8.1	7.5	7.8	---	---	---
11	8.5	7.6	8.1	8.5	7.7	8.1	8.1	7.5	7.8	---	---	---
12	8.5	7.6	8.0	8.4	7.8	8.0	8.1	7.4	7.6	8.1	8.0	8.0
13	8.6	7.8	8.2	8.4	7.7	8.0	7.8	7.3	7.5	8.1	7.9	8.0
14	8.6	7.8	8.2	8.4	7.7	8.0	8.4	7.2	7.6	8.1	7.8	8.0
15	8.9	7.8	8.3	8.3	7.6	7.9	8.2	7.4	7.7	8.1	8.0	8.0
16	8.9	8.0	8.4	8.4	7.6	8.0	8.1	7.4	7.7	8.1	8.0	8.0
17	8.9	8.0	8.4	8.4	7.6	8.0	8.2	7.5	7.8	8.2	7.9	8.0
18	8.9	8.1	8.5	8.4	7.6	8.0	8.4	7.5	7.8	8.1	7.9	8.0
19	9.0	8.1	8.5	8.4	7.6	8.0	8.3	7.4	7.8	8.2	7.9	8.0
20	9.0	8.1	8.5	8.4	7.6	8.0	8.4	7.4	7.8	8.2	7.9	8.0
21	9.1	8.2	8.6	8.4	7.6	8.0	8.3	7.4	7.7	8.3	7.9	8.0
22	9.0	8.2	8.6	8.3	7.7	8.0	7.7	7.3	7.5	8.2	7.9	8.0
23	9.0	8.1	8.5	8.5	7.6	8.0	7.8	7.3	7.6	8.2	7.8	8.0
24	8.9	8.0	8.4	8.6	7.7	8.2	8.2	7.5	7.8	8.0	7.8	7.9
25	8.9	8.0	8.4	8.6	7.9	8.2	8.0	7.4	7.7	8.1	7.8	7.9
26	8.8	7.9	8.4	8.5	7.8	8.2	8.2	7.7	7.9	8.2	7.8	7.9
27	8.7	7.8	8.2	8.5	7.9	8.1	8.5	7.6	7.9	8.0	7.8	7.9
28	8.6	7.8	8.2	8.2	7.7	7.9	8.2	7.6	7.9	8.2	7.8	7.9
29	---	---	---	8.4	7.7	8.0	7.9	7.5	7.7	7.9	7.6	7.8
30	---	---	---	8.4	7.7	8.1	---	e7.6	---	7.8	7.6	7.7
31	---	---	---	8.5	7.7	8.1	---	---	---	7.8	7.6	7.7
MONTH	---	---	---	8.6	7.3	8.0	---	7.2	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.8	7.6	7.7	---	---	---	---	---	---	8.9	7.8	8.2
2	7.8	7.5	7.7	---	---	---	---	---	---	8.9	7.8	8.3
3	7.7	7.5	7.6	---	---	---	---	---	---	8.8	7.9	8.3
4	7.7	7.5	7.5	---	---	---	---	---	---	8.7	7.9	8.3
5	7.6	7.5	7.5	---	---	---	---	---	---	8.6	7.9	8.4
6	7.7	7.5	7.6	---	---	---	---	---	---	8.8	8.0	8.4
7	7.8	7.5	7.6	---	---	---	---	---	---	8.6	7.9	8.3
8	7.9	7.6	7.7	---	---	---	---	---	---	8.8	8.0	8.4
9	7.7	7.4	7.6	---	---	---	---	---	---	8.7	7.9	8.4
10	7.7	7.4	7.4	---	---	---	---	---	---	8.7	7.5	8.2
11	7.8	7.4	7.5	---	---	---	---	---	---	8.6	7.7	8.1
12	7.8	7.5	7.6	---	---	---	8.2	7.6	7.8	8.6	7.8	8.2
13	7.9	7.5	7.7	---	---	---	8.2	7.5	7.8	8.5	7.8	8.2
14	7.8	7.5	7.7	---	---	---	8.4	7.6	8.0	8.5	7.9	8.2
15	7.9	7.6	7.7	---	---	---	8.3	7.6	7.9	8.4	8.1	8.2
16	7.8	7.7	7.7	---	---	---	8.3	7.5	7.9	8.6	8.0	8.3
17	7.9	7.7	7.8	---	---	---	8.3	7.5	7.8	8.6	8.0	8.2
18	7.8	7.7	7.8	---	---	---	8.2	7.5	7.8	8.4	8.0	8.2
19	7.8	7.7	7.7	---	---	---	8.3	7.5	7.8	8.2	8.1	8.2
20	7.8	7.7	7.7	---	---	---	8.1	7.5	7.8	8.4	8.0	8.2
21	7.8	7.7	7.7	---	---	---	8.3	7.5	7.8	8.6	8.0	8.3
22	7.8	7.7	7.7	---	---	---	8.4	7.5	7.8	8.5	8.0	8.2
23	7.9	7.7	7.8	---	---	---	8.2	7.5	7.8	8.6	8.0	8.3
24	---	---	---	---	---	---	8.3	7.5	7.8	8.5	8.1	8.3
25	---	---	---	---	---	---	8.2	7.5	7.8	8.5	8.1	8.3
26	---	---	---	---	---	---	8.6	7.7	8.1	8.5	8.1	8.3
27	---	---	---	---	---	---	8.7	7.7	8.1	8.5	8.1	8.3
28	---	---	---	---	---	---	8.6	7.8	8.2	8.4	8.1	8.2
29	---	---	---	---	---	---	8.7	7.8	8.2	8.5	8.1	8.3
30	---	---	---	---	---	---	8.7	7.7	8.1	8.6	8.1	8.3
31	---	---	---	---	---	---	8.7	7.8	8.2	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	8.9	7.5	8.3

e Estimated

06752260 CACHE LA POUFRE RIVER AT FORT COLLINS, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	470	404	463	515	207	354	303	273	284	---	---	---
2	443	378	417	224	197	209	315	281	299	---	---	---
3	450	422	437	232	192	207	300	277	287	---	---	---
4	434	351	394	249	222	234	306	277	290	---	---	---
5	431	401	416	252	231	242	339	291	316	---	---	---
6	437	418	430	297	238	265	360	327	343	---	---	---
7	448	420	436	349	232	259	394	336	360	---	---	---
8	454	422	439	282	236	264	417	366	397	---	---	---
9	449	420	436	296	258	279	438	378	411	---	---	---
10	444	409	426	283	244	264	435	397	414	---	---	---
11	433	392	417	386	264	303	475	360	417	---	---	---
12	432	396	421	434	311	389	396	291	364	---	---	---
13	420	338	356	311	260	287	353	---	---	---	---	---
14	360	336	349	269	224	243	292	---	---	---	---	---
15	380	351	366	246	226	234	285	254	267	---	---	---
16	356	146	206	250	227	238	271	246	259	---	---	---
17	469	243	405	259	233	245	271	235	250	---	---	---
18	497	469	482	262	233	248	274	---	---	---	---	---
19	504	476	490	259	239	247	---	---	---	---	---	---
20	511	473	495	302	246	269	---	---	---	---	---	---
21	506	470	487	329	281	307	---	---	---	---	---	---
22	507	468	486	336	239	300	---	---	---	---	---	---
23	512	471	493	248	223	233	---	---	---	---	---	---
24	511	469	491	287	244	271	---	---	---	---	---	---
25	508	474	490	279	255	264	---	---	---	---	---	---
26	512	473	493	289	259	270	---	---	---	---	---	---
27	549	261	472	286	257	267	---	---	---	---	---	---
28	418	174	310	290	265	275	---	---	---	---	---	---
29	418	376	398	308	285	295	---	---	---	---	---	---
30	412	329	391	305	269	279	---	---	---	---	---	---
31	413	354	382	---	---	---	---	---	---	---	---	---
MONTH	549	146	425	515	192	268	---	---	---	---	---	---
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	270	225	253	367	323	342	---	---	---
2	---	---	---	255	228	243	358	310	327	---	---	---
3	---	---	---	261	232	248	402	334	355	---	---	---
4	---	---	---	310	249	265	360	344	349	---	---	---
5	---	---	---	269	218	237	384	354	368	---	---	---
6	---	---	---	257	204	235	382	327	355	---	---	---
7	---	---	---	285	221	260	406	367	385	---	---	---
8	---	---	---	283	213	247	411	379	394	---	---	---
9	---	---	---	242	213	221	434	397	410	---	---	---
10	---	---	---	249	231	240	401	384	393	---	---	---
11	243	132	210	249	226	234	423	393	405	159	145	150
12	283	207	253	440	230	258	443	423	433	157	151	154
13	268	190	231	254	222	232	457	439	448	203	154	169
14	236	199	219	258	242	248	485	336	403	242	162	188
15	235	197	215	248	223	234	405	330	352	169	162	165
16	234	212	221	241	222	229	343	311	326	168	155	162
17	254	222	235	246	226	233	377	343	361	165	155	159
18	245	176	221	242	228	233	406	376	387	163	154	158
19	247	223	233	263	235	247	417	366	392	160	151	155
20	262	226	239	271	252	260	383	333	358	155	139	148
21	260	232	246	274	257	264	370	288	334	145	136	141
22	252	222	238	264	247	253	319	218	253	141	126	133
23	247	184	218	261	245	252	419	222	350	130	116	122
24	254	197	232	271	253	261	453	413	432	118	93	104
25	256	226	249	266	214	256	454	271	383	101	94	97
26	266	230	247	274	204	236	524	440	493	99	91	95
27	271	240	254	276	221	258	528	454	499	96	88	91
28	280	239	265	287	223	262	499	400	470	93	86	89
29	---	---	---	296	264	283	407	166	221	94	81	86
30	---	---	---	321	287	299	166	128	140	82	73	76
31	---	---	---	351	314	326	---	---	---	76	71	72
MONTH	---	---	---	440	204	252	528	128	371	---	---	---

## PLATTE RIVER BASIN

06752260 CACHE LA POUFRE RIVER AT FORT COLLINS, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	79	72	75	67	57	61	87	73	80	167	109	147
2	79	73	76	67	53	57	92	80	85	169	133	150
3	79	65	71	57	52	54	104	86	96	185	159	168
4	72	59	65	61	53	55	163	75	109	193	178	185
5	72	63	66	68	56	59	170	83	118	209	176	189
6	80	66	73	78	64	69	132	96	109	229	179	210
7	83	74	78	97	71	78	190	130	163	229	175	200
8	84	71	76	113	86	97	209	140	185	212	172	192
9	80	60	68	114	82	95	148	112	130	214	177	199
10	77	60	66	115	88	100	129	110	120	199	182	192
11	70	56	63	119	90	100	127	110	118	203	164	187
12	70	59	63	166	89	113	130	117	122	190	174	183
13	68	58	63	198	100	134	159	119	134	208	184	190
14	69	60	63	349	83	188	158	143	149	259	206	235
15	64	54	57	108	86	94	167	124	145	274	250	261
16	63	50	55	103	78	89	152	132	140	274	227	261
17	63	56	58	88	76	80	183	138	156	227	177	192
18	59	51	54	89	75	81	174	133	148	271	200	245
19	55	48	50	86	76	80	178	129	156	279	264	270
20	52	47	49	84	67	73	147	124	135	271	217	249
21	52	47	49	91	74	81	166	118	140	230	193	214
22	54	49	51	93	79	86	173	128	154	200	178	185
23	53	47	49	103	76	88	162	119	135	249	200	228
24	52	40	44	94	81	88	165	132	148	264	247	257
25	47	42	44	92	75	82	147	120	133	269	260	265
26	47	41	43	89	76	82	133	111	120	274	265	269
27	53	44	46	92	81	86	138	106	122	282	267	274
28	56	50	53	92	79	84	137	112	123	308	228	282
29	57	51	53	86	78	81	157	128	142	278	249	262
30	62	53	56	88	78	82	159	116	141	277	245	260
31	---	---	---	90	81	85	174	130	150	---	---	---
MONTH	84	40	59	349	52	87	209	73	132	308	109	220



PLATTE RIVER BASIN

06752270 CACHE LA POUDDRE RIVER BELOW FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°34'01", long 105°01'36", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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)	SODIUM AD-SORP-TION RATIO (00931)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CAC03) (90410)	
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)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
OCT 13...	1330	15	755	8.9	12.5	14.2	340	91	27	--	--	200	
NOV 02...	1500	97	321	8.6	7.5	10.1	130	38	9.4	--	--	98	
DEC 07...	1515	11	689	9.1	3.5	15.8	320	86	24	--	--	184	
JAN 11...	1550	71	351	8.8	4.0	14.7	160	44	11	13	.5	111	
FEB 08...	1245	42	384	9.0	6.5	15.1	170	47	12	--	--	116	
MAR 01...	1515	39	380	9.6	9.0	16.1	170	49	12	--	--	117	
APR 12...	1110	18	758	8.6	10.0	12.7	330	86	27	--	--	181	
MAY 03...	1525	3290	156	8.6	9.2	9.9	62	18	4.1	--	--	57	
JUN 07...	1650	890	98	8.1	14.5	8.8	40	11	2.8	--	--	36	
JUL 12...	1200	43	372	8.6	20.5	10.0	150	41	11	15	.5	90	
AUG 09...	1400	120	270	8.6	20.5	9.0	110	32	8.3	--	--	76	
SEP 08...	1445	111	327	9.0	19.5	12.0	140	39	10	--	--	95	
OCT 13...	--	--	--	--	--	.03	2.3	.03	.29	.33	--	--	
NOV 02...	--	--	--	--	--	<.01	.67	<.02	.08	.08	--	--	
DEC 07...	--	--	--	--	--	.01	1.5	.03	.10	.10	--	--	
JAN 11...	59	7.7	.6	9.2	228	.04	.85	.03	.09	.10	<10.0	<1	
FEB 08...	--	--	--	--	--	.03	.53	.05	E.05	.06	--	--	
MAR 01...	--	--	--	--	--	.04	.55	.04	.10	.09	--	--	
APR 12...	--	--	--	--	--	.07	1.2	.52	.39	.34	--	--	
MAY 03...	--	--	--	--	--	<.01	.44	.05	E.05	.04	--	--	
JUN 07...	--	--	--	--	--	<.01	.068	<.02	<.05	.01	--	--	
JUL 12...	80	7.8	.3	8.1	243	<.01	.67	<.02	.06	.06	13.0	<1	
AUG 09...	--	--	--	--	--	<.01	.36	<.02	E.04	.04	--	--	
SEP 08...	--	--	--	--	--	<.01	.63	<.02	.09	.07	--	--	

E Estimated.

## PLATTE RIVER BASIN

06752270 CACHE LA POUFRE RIVER BELOW FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	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 13...	--	--	<1	110	--	--	--	--	--	<.20	--
NOV 02...	--	--	1	230	--	--	--	--	--	<.20	--
DEC 07...	--	--	<1	120	--	--	--	--	--	<.20	--
JAN 11...	<1	<1.0	2	100	4	20	<.1	<1	1	<.20	<20
FEB 08...	--	--	<1	100	--	--	--	--	--	<.20	--
MAR 01...	--	--	1	120	--	--	--	--	--	<.20	--
APR 12...	--	--	<1	219	--	--	--	--	--	<.20	--
MAY 03...	--	--	2	3870	--	--	--	--	--	<.20	--
JUN 07...	--	--	1	384	--	--	--	--	--	<.20	--
JUL 12...	<1	<1.0	1	208	<1	27.8	<.1	<1	1	<.20	<20
AUG 09...	--	--	2	232	--	--	--	--	--	<.20	--
SEP 08...	--	--	2	195	--	--	--	--	--	<.20	--

06752280 CACHE LA POUDBRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO

LOCATION.--Lat 40 33'07", long 105 00'39", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--Records good, 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	13	64	78	59	51	10	e5750	e1950	267	219	55
2	7.3	49	47	83	63	52	10	e4150	e1850	364	180	59
3	5.8	47	49	73	66	49	10	e3300	e1750	560	115	47
4	7.4	27	48	67	57	44	10	e2650	1380	512	148	31
5	5.2	18	43	77	55	60	9.5	e2050	1320	381	137	29
6	4.8	9.0	37	74	54	51	9.3	e1600	1080	203	177	23
7	4.9	31	21	75	56	28	9.1	e1400	887	163	70	35
8	5.1	22	16	76	53	21	8.8	e1300	883	70	23	30
9	5.1	13	14	72	51	22	8.5	e1250	754	36	60	23
10	5.1	13	14	68	52	17	8.4	e1350	696	34	56	25
11	4.8	7.4	16	70	43	21	8.4	e1200	732	34	58	31
12	5.0	4.7	18	68	24	23	7.0	e1100	741	26	58	48
13	5.6	26	33	67	48	23	2.7	e800	868	22	49	47
14	5.7	68	e42	63	53	18	4.7	e550	999	18	60	18
15	5.8	85	47	59	52	26	3.8	e600	1210	49	53	11
16	45	82	45	56	45	30	3.6	e600	1560	104	40	18
17	19	80	56	56	41	28	3.0	e700	1630	215	13	62
18	6.5	73	65	63	41	26	2.8	e750	1980	185	15	24
19	6.2	80	53	97	43	21	2.8	e800	2010	192	6.2	21
20	6.5	73	34	93	38	18	3.6	e900	1940	239	43	49
21	6.3	61	44	83	36	17	3.3	e950	1800	155	44	91
22	6.1	73	47	61	45	19	57	e1000	1630	121	8.6	122
23	6.2	87	63	49	73	21	64	e1150	1580	140	21	66
24	6.1	76	78	64	91	18	14	e1450	1530	177	8.9	51
25	6.2	75	98	60	58	16	35	e1450	1340	167	9.0	45
26	6.4	70	116	62	57	16	16	e1400	1170	147	23	49
27	9.3	76	116	55	51	14	13	e1450	977	121	27	61
28	31	75	114	52	48	12	13	e1450	631	136	74	61
29	8.1	73	96	48	---	12	1160	e1650	481	144	40	42
30	14	72	87	53	---	11	e5650	e1900	369	143	17	38
31	7.5	---	81	59	---	9.7	---	e2050	---	174	26	---
TOTAL	273.2	1559.1	1702	2081	1453	794.7	7161.3	48700	37728	5299	1878.7	1312
MEAN	8.81	52.0	54.9	67.1	51.9	25.6	239	1571	1258	171	60.6	43.7
MAX	45	87	116	97	91	60	5650	5750	2010	560	219	122
MIN	4.8	4.7	14	48	24	9.7	2.7	550	369	18	6.2	11
AC-FT	542	3090	3380	4130	2880	1580	14200	96600	74830	10510	3730	2600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	20.9	32.6	27.3	27.9	27.8	33.2	121	476	964	222	52.6	32.7								
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 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1980 - 1999

ANNUAL TOTAL	38454.8	109942.0		
ANNUAL MEAN	105	301		
HIGHEST ANNUAL MEAN			700	1983
LOWEST ANNUAL MEAN			19.4	1989
HIGHEST DAILY MEAN	713	Jun 10	5750	May 1 1999
LOWEST DAILY MEAN	3.9	Aug 25	2.7	Apr 13 1989
ANNUAL SEVEN-DAY MINIMUM	4.8	Sep 24	3.3	Apr 15 1995
INSTANTANEOUS PEAK FLOW			a7200	May 1 1999
INSTANTANEOUS PEAK STAGE			b11.13	May 1 1999
ANNUAL RUNOFF (AC-FT)	76280	218100		
10 PERCENT EXCEEDS	279	1180	334	
50 PERCENT EXCEEDS	51	53	12	
90 PERCENT EXCEEDS	6.2	7.4	4.0	

e Estimated

a From slope-area measurement of peak flow.

b From highwater marks.

## PLATTE RIVER BASIN

06752280 CACHE LA POUVRE 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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE 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)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	
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)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
OCT													
13...	1130		5.9	1536	8.5	10.0	10.4	730	190	65	--	--	205
NOV													
02...	1325		52	508	8.6	6.8	10.6	220	59	17	--	--	116
DEC													
07...	1400		17	869	8.9	3.5	15.6	400	110	32	--	--	171
JAN													
11...	1425		78	441	9.1	4.0	13.5	200	55	15	17	.5	117
FEB													
08...	1030		49	432	8.9	5.5	14.0	180	51	14	--	--	118
MAR													
01...	1320		59	395	9.2	7.5	15.8	180	50	13	--	--	116
APR													
12...	1255		8.9	1151	8.6	12.8	12.1	520	140	45	--	--	181
MAY													
03...	1705	e3000		193	8.3	9.5	9.4	76	22	5.3	--	--	60
JUN													
07...	1420		894	109	8.1	14.0	9.1	44	12	3.1	--	--	36
JUL													
12...	1440		12	930	8.3	24.0	8.7	410	100	35	40	.9	121
AUG													
09...	1515		61	419	8.5	22.5	7.3	180	48	14	--	--	84
SEP													
08...	1600		41	514	9.0	21.0	12.2	220	60	18	--	--	134

e Estimated.  
E Estimated.

PLATTE RIVER BASIN

06752280 CACHE LA POUFRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	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											
13...	--	--	1	140	--	--	--	--	--	<.20	--
NOV											
02...	--	--	<1	110	--	--	--	--	--	<.20	--
DEC											
07...	--	--	<1	100	--	--	--	--	--	<.20	--
JAN											
11...	<1	<1.0	<1	110	<1	20	<.1	<1	1	<.20	<20
FEB											
08...	--	--	<1	90	--	--	--	--	--	<.20	--
MAR											
01...	--	--	1	130	--	--	--	--	--	<.20	--
APR											
12...	--	--	<1	267	--	--	--	--	--	<.20	--
MAY											
03...	--	--	2	6020	--	--	--	--	--	<.20	--
JUN											
07...	--	--	1	391	--	--	--	--	--	<.20	--
JUL											
12...	<1	<1.0	1	261	<1	56.2	<.1	2	3	<.20	<20
AUG											
09...	--	--	1	239	--	--	--	--	--	<.20	--
SEP											
08...	--	--	2	221	--	--	--	--	--	<.20	--

PLATTE RIVER BASIN

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO

LOCATION.--Lat 40°24'44", long 104°33'46", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 Apr. 23 to Sept. 30, 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 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	545	948	1190	1200	786	851	320	17600	7650	1570	3130	895
2	619	992	1160	1140	785	770	358	18800	7010	1200	3220	1380
3	736	1140	1110	1100	728	689	520	15400	6280	1160	2380	1940
4	825	1050	1120	1090	687	695	691	11900	5850	959	1850	2180
5	898	1040	1120	1110	668	712	609	9990	5020	797	3700	1900
6	963	993	1120	1100	723	739	627	8620	4570	650	6260	1760
7	932	978	1130	1090	741	724	567	6980	3840	520	4790	1620
8	864	1120	1100	1120	760	666	448	5800	3180	422	4120	1390
9	877	1130	1110	1110	773	598	369	5080	2620	342	3920	1200
10	815	1090	1100	1060	692	560	324	4810	2580	531	3520	1140
11	772	e1070	1040	1050	639	542	320	4760	3730	796	4350	1120
12	771	e1030	1040	1070	636	538	305	4180	3790	984	3570	1130
13	790	e1020	1020	1050	650	561	271	4180	4350	938	2690	1140
14	773	1010	1040	1040	648	600	280	3440	4340	675	2280	1120
15	738	1150	1070	1030	666	e579	1000	3080	4850	545	1860	1050
16	773	1210	1080	1030	669	554	998	2950	6280	488	1560	1020
17	884	e1170	1060	1010	660	605	850	3280	7120	544	1300	994
18	978	e1110	1110	1010	660	627	722	3090	7770	690	1240	1020
19	881	e1070	1070	1040	660	629	610	2720	8700	811	1160	1040
20	840	e1040	980	1070	731	639	475	2590	8590	1270	949	1280
21	822	e1080	961	1040	779	622	407	2800	8030	1420	977	1720
22	836	e1140	e1010	941	783	569	547	2650	7100	706	870	1730
23	845	e1170	975	864	798	542	e2520	2590	6400	478	813	1540
24	861	e1220	959	855	821	526	e2920	3120	6080	419	751	1370
25	889	e1280	1010	836	866	493	e2270	3570	5040	479	648	1270
26	869	1300	1060	824	894	464	e2360	4780	4170	668	564	1160
27	883	1290	e1080	815	882	436	e1910	4990	3640	774	495	1140
28	966	1290	e1100	788	820	405	1740	5780	3060	617	542	1330
29	1210	1210	1160	777	---	419	2500	6360	2380	666	869	1770
30	1070	1190	1180	771	---	357	8320	7160	1870	1170	938	1690
31	981	---	1200	771	---	326	---	7490	---	1300	797	---
TOTAL	26506	33531	33465	30802	20605	18037	36158	190540	155890	24589	66113	41039
MEAN	855	1118	1080	994	736	582	1205	6146	5196	793	2133	1368
MAX	1210	1300	1200	1200	894	851	8320	18800	8700	1570	6260	2180
MIN	545	948	959	771	636	326	271	2590	1870	342	495	895
AC-FT	52570	66510	66380	61100	40870	35780	71720	377900	309200	48770	131100	81400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, BY WATER YEAR (WY)

MEAN	884	950	866	838	852	941	1135	2609	3498	1085	887	831
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1976 - 1999

ANNUAL TOTAL	444660	677275	
ANNUAL MEAN	1218	1856	a1281
HIGHEST ANNUAL MEAN			3631
LOWEST ANNUAL MEAN			456
HIGHEST DAILY MEAN	4370	May 8	18800
LOWEST DAILY MEAN	267	Jun 28	271
ANNUAL SEVEN-DAY MINIMUM	302	Jun 26	331
INSTANTANEOUS PEAK FLOW			20700
INSTANTANEOUS PEAK STAGE			11.50
ANNUAL RUNOFF (AC-FT)	882000	1343000	928100
10 PERCENT EXCEEDS	2230	4650	2190
50 PERCENT EXCEEDS	1080	1040	780
90 PERCENT EXCEEDS	503	546	328

- e Estimated
- a Average discharge for 71 years (water years 1902-03, 1906-74), 777 ft<sup>3</sup>/s; 562900 acre-ft/yr, prior to completion of Chatfield Dam.
- b Maximum daily discharge for period of record, 31000 ft<sup>3</sup>/s, Jun 7, 1921.
- c Minimum daily discharge for period of record, 28 ft<sup>3</sup>/s, Apr 30, 1955.
- d Maximum discharge and stage for period of record, 31500 ft<sup>3</sup>/s, May 8, 1973, gage height, 11.73 ft.
- f Maximum gage height for statistical period, 11.50 ft, May 1, 1999.

PLATTE RIVER BASIN

06754000 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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L 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 07...	1115	925	1270	8.2	11.2	8.3	420	95	44	100
NOV 10...	0945	1020	1320	8.4	4.2	10.2	420	95	43	100
DEC 09...	1110	1070	1210	8.0	3.0	11.1	400	97	38	100
JAN 20...	1150	1040	1210	8.2	6.1	10.2	410	96	41	100
FEB 09...	1130	750	1320	8.4	6.6	11.2	430	100	44	110
MAR 03...	1330	695	1270	8.4	8.6	12.5	400	94	41	100
APR 06...	1115	607	1260	8.3	10.5	10.4	390	92	38	110
MAY 04...	1115	11900	627	8.3	9.9	8.1	210	52	20	45
JUN 09...	1230	2590	655	8.5	19.1	8.1	210	51	19	50
JUL 07...	1050	552	1110	7.8	25.1	6.9	410	94	42	77
AUG 23...	1050	793	1140	8.3	20.1	7.4	400	92	41	93
SEP 09...	1030	1170	1160	8.4	16.6	7.4	410	93	43	95

DATE	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD 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)
OCT 07...	2	7.0	239	--	196	219	330	57	1.1
NOV 10...	2	6.1	199	18	193	206	340	62	.9
DEC 09...	2	7.3	231	--	189	201	320	66	1
JAN 20...	2	7.5	232	--	190	194	330	65	1
FEB 09...	2	6.8	240	6	209	208	360	68	1
MAR 03...	2	6.8	242	2	205	--	350	71	1.0
APR 06...	3	8.1	217	--	180	--	320	82	.9
MAY 04...	1	5.2	129	--	107	--	160	25	.7
JUN 09...	1	3.8	--	--	104	--	160	30	.7
JUL 07...	2	5.5	209	--	173	--	320	36	.8
AUG 23...	2	6.2	212	4	182	--	320	51	.9
SEP 09...	2	6.3	209	4	179	--	330	53	.9

## PLATTE RIVER BASIN

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued  
(National Water-Quality Assessment Program station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	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 DIS- SOLVED (MG/L AS N) (00607)
OCT 07...	11	873	800	1.19	2180	.06	6.0	.64	.50
NOV 10...	11	881	810	1.20	2430	.09	6.8	.75	.73
DEC 09...	10	837	786	1.14	2420	.07	6.5	--	--
JAN 20...	9.8	852	805	1.16	2390	.16	7.2	1.1	.78
FEB 09...	8.3	912	861	1.24	1850	.06	8.2	1.0	1.3
MAR 03...	7.6	882	833	1.20	1660	.08	7.0	.74	.65
APR 06...	8.1	854	802	1.16	1400	.05	5.6	.47	.81
MAY 04...	11	--	388	.53	12500	.03	1.8	.18	.01
JUN 09...	11	440	401	.60	3080	.02	2.8	.06	.35
JUL 07...	12	768	713	1.04	1140	.09	4.5	.34	.48
AUG 23...	12	802	743	1.09	1720	.03	5.0	.04	.47
SEP 09...	12	804	764	1.09	2540	.05	5.2	.23	.40
DATE	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 07...	1.7	1.1	.71	.52	.51	5.2	--	E6	14
NOV 10...	1.6	1.5	.85	.79	.7	4.6	1.2	E6	17
DEC 09...	1.6	--	.88	.92	.84	4.4	1.2	E10	19
JAN 20...	2.3	1.9	1.1	.96	.88	5.3	1	16	21
FEB 09...	1.9	2.3	1.0	.91	.88	5.2	1.0	13	22
MAR 03...	1.8	1.4	1.0	.92	.91	4.6	.9	11	23
APR 06...	2.2	1.3	1.1	.83	.71	5.2	3.1	E9	18
MAY 04...	1.8	.2	.77	.19	.18	9.4	4.3	29	14
JUN 09...	.7	.4	.44	.26	.23	5.2	2.5	E7	10
JUL 07...	1.5	.8	.52	.32	.28	5.1	3.7	<10	25
AUG 23...	1.1	.5	.40	.31	.25	4.6	--	<10	15
SEP 09...	1.1	.6	.60	.43	.35	4.9	1.6	<10	12

E Estimated



PLATTE RIVER BASIN

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued  
 (National Water-Quality Assessment Program station)

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
07...	1115	925	88	220	77
NOV					
10...	0945	1020	56	154	69
DEC					
09...	1110	1070	43	124	67
JAN					
20...	1150	1040	38	107	67
FEB					
09...	1130	750	19	38	76
MAR					
03...	1330	695	30	56	65
APR					
06...	1115	607	69	113	82
MAY					
04...	1115	11900	645	20700	50
JUN					
09...	1230	2590	100	699	82
JUL					
07...	1050	552	170	253	92
AUG					
23...	1050	793	55	118	88
SEP					
09...	1030	1170	64	202	82

## PLATTE RIVER BASIN

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO

LOCATION.--Lat 40°19'19", long 103°55'17", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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 fair except 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	556	684	408	1600	701	416	32	6040	6660	1340	882	802
2	545	677	425	1420	704	401	33	13000	6740	1120	2610	905
3	624	677	430	1240	903	400	34	16000	6170	930	2210	1530
4	711	737	372	1200	931	397	30	12400	5610	863	1630	2090
5	789	719	353	1180	910	375	29	9210	4920	697	1530	2060
6	836	689	349	1150	881	346	29	7390	4320	575	4290	1830
7	886	658	332	1150	923	358	28	6170	3930	470	5440	1700
8	882	639	331	1140	936	369	29	5140	3160	396	4330	1660
9	864	685	432	1060	941	375	32	4380	2620	339	3720	1500
10	857	724	583	973	982	352	34	4130	2140	267	3350	1400
11	844	667	579	937	902	178	40	3800	2410	437	2910	1280
12	841	667	553	908	860	100	e35	3600	3540	705	3720	1230
13	777	598	562	892	862	94	58	3280	4020	826	2700	1240
14	632	387	561	884	878	89	152	3110	4460	780	2110	1280
15	545	351	570	879	870	112	195	2520	4440	587	1790	1300
16	536	363	602	868	772	148	231	2440	5230	472	1450	1240
17	561	393	616	840	736	149	247	2400	6250	424	1130	1210
18	610	407	617	831	734	117	209	2690	6610	458	927	1180
19	676	428	655	837	746	135	173	2460	7020	629	821	1220
20	661	432	749	858	774	164	163	2300	7900	763	759	1240
21	668	446	474	890	817	174	158	2180	7860	1110	666	1460
22	658	472	449	875	844	172	150	2500	7200	855	715	1480
23	647	482	e480	812	841	154	194	2190	6270	500	665	1460
24	574	483	e670	756	851	e130	1620	2320	5640	369	604	1350
25	569	484	e850	739	864	e113	1800	2860	5040	371	555	1230
26	540	483	e970	739	653	e95	1420	3500	3910	414	490	1150
27	539	478	e1010	735	507	e78	1470	4490	3210	406	420	1130
28	562	475	e1050	733	443	e63	1270	4830	2640	356	427	1230
29	613	466	e1010	718	---	e50	1280	5360	2100	310	570	1370
30	711	408	e1010	702	---	e40	2680	5880	1650	299	819	1770
31	714	---	e1080	701	---	e34	---	6420	---	540	874	---
TOTAL	21028	16259	19132	29247	22766	6178	13855	154990	143670	18608	55114	41527
MEAN	678	542	617	943	813	199	462	5000	4789	600	1778	1384
MAX	886	737	1080	1600	982	416	2680	16000	7900	1340	5440	2090
MIN	536	351	331	701	443	34	28	2180	1650	267	420	802
AC-FT	41710	32250	37950	58010	45160	12250	27480	307400	285000	36910	109300	82370

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, BY WATER YEAR (WY)

MEAN	558	520	600	754	689	535	823	1911	2590	820	680	706
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1976 - 1999

ANNUAL TOTAL	335747	542374	
ANNUAL MEAN	920	1486	a931
HIGHEST ANNUAL MEAN			2995
LOWEST ANNUAL MEAN			231
HIGHEST DAILY MEAN	3490	16000	May 3 e,b16300 Jun 11 1995
LOWEST DAILY MEAN	116	28	Apr 7 1999
ANNUAL SEVEN-DAY MINIMUM	243	30	Apr 3 1999
INSTANTANEOUS PEAK FLOW		18400	May 3 c18400 May 3 1999
INSTANTANEOUS PEAK STAGE		10.42	May 3 10.42 May 3 1999
ANNUAL RUNOFF (AC-FT)	666000	1076000	674800
10 PERCENT EXCEEDS	1700	4060	1700
50 PERCENT EXCEEDS	683	780	482
90 PERCENT EXCEEDS	374	173	164

e Estimated

a Average discharge for 22 years (water years 1953-74), 572 ft<sup>3</sup>/s; 414400 acre-ft/yr, prior to completion of Chatfield Dam.

b Maximum daily discharge for period of record, 20800 ft<sup>3</sup>/s, May 9, 1973.

c Maximum discharge and stage for period of record, 26800 ft<sup>3</sup>/s, May 8, 1973, gage height, 11.68 ft, from rating curve extended above 16000 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 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)	
NOV 06...	0945	740	1365	8.4	7.0	10.6	81	92	470	110	46	120	
MAR 04...	0830	330	1438	8.4	5.1	10.4	K16	K42	500	120	48	130	
MAY 13...	0845	3600	809	8.3	12.5	8.3	K84	K120	280	68	27	64	
AUG 12...	1000	4300	616	8.2	21.5	6.9	K1200	--	200	49	18	49	
DATE	RATIO	SODIUM AD-SORP-TION (MG/L AS K) (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 (TONS PER DAY) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
NOV 06...	2	7.5	227	390	64	1.0	13	977	914	1.33	1950	.02	
MAR 04...	3	6.8	228	430	77	1.0	12	1040	988	1.41	925	.02	
MAY 13...	2	5.1	137	220	37	.8	13	720	528	.98	7060	.01	
AUG 12...	2	4.3	70	140	29	.7	11	398	356	.54	4660	<.01	
DATE	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)	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)	
NOV 06...	5.8	.05	.4	--	.46	.44	43	<1.6	256	<8	<14	<7	
MAR 04...	5.7	<.02	.5	.46	.41	.39	46	<1.6	269	<8	<14	<7	
MAY 13...	3.1	<.02	1.0	.51	.24	.22	38	<1.6	136	<8	<14	<7	
AUG 12...	2.4	<.02	1.5	.68	.24	.24	32	<1.6	112	<8	<14	<7	
DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	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)	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)	
NOV 06...	<10	<10	<100	36	7	<50	<40	4	<4	1300	<10	<20	
MAR 04...	<10	<10	<100	36	8	<50	<40	3	<4	1300	11	<20	
MAY 13...	<10	<10	<100	21	5	<50	<40	2	<4	760	<10	E8	
AUG 12...	E8	E7	<100	15	E2	<50	<40	3	<4	550	E8	<20	

E Estimated.

K Based on non-ideal colony count.

PLATTE RIVER BASIN

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> and NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> (three channels) sec.33, T.12 N., R.44 W., Sedgwick County, Hydrologic Unit 10190018, on left bank of channel 4 (left channel) 215 ft downstream from bridge, on right bank of channel 2, 5 ft downstream from bridge on U.S. Highway 385, and on left bank of channel 1, 5 ft upstream from bridge on U.S. Highway 385, 0.9 mi southeast of Julesburg, 3.0 mi upstream from Colorado-Nebraska State line, and 8 mi downstream from Lodgepole Creek.

DRAINAGE AREA.--23,193 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1902 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Julesburg" 1903-8, 1915-16, and as "at Ovid" 1922-24. Water-quality data available, October 1945 to September 1995.

REVISED RECORDS.--WSP 1310: 1902, 1906-7, 1948(P). WSP 1440: 1903-4. WDR CO-86-1: Drainage area.

GAGE.--Three water-stage recorders with satellite telemetry. Datum of gages is 3,446.76 ft above sea level. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1956. Since Oct. 1, 1956, water-stage recorders on channels nos. 2 and 4. Channel no. 2: Oct. 1, 1956 to Sept. 22, 1965, at site 300 ft downstream at present datum. Channel no. 4: Oct. 1, 1956 to Dec. 10, 1958, at site 135 ft downstream at present datum. Since May 11, 1973, supplementary water-stage recorder on channel no. 2 at bridge 800 ft upstream at same datum. Since Aug. 16, 1996, water-stage recorder on channel no. 1; satellite telemetry installed Oct. 24, 1996.

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 1,200,000 acres upstream from station, 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	568	656	376	e530	727	662	284	790	4610	2140	229	342
2	560	730	379	e450	710	581	288	e1410	4870	1660	476	384
3	576	840	373	e450	707	595	284	e4070	5240	1310	677	456
4	618	790	373	e480	670	747	282	e6010	5310	1070	909	670
5	748	768	377	e580	645	783	294	e7800	5130	858	1860	766
6	841	725	369	e770	726	802	297	14100	4770	702	1920	1270
7	973	781	354	e710	740	781	287	13200	4280	579	1960	1660
8	1020	769	413	e670	737	763	265	10500	3980	477	3120	1720
9	1080	740	353	e750	733	740	252	8370	3690	372	4440	1700
10	1150	704	359	e850	745	719	262	6610	3080	283	4240	1660
11	1160	675	355	e1050	762	671	235	5710	2620	219	4110	1540
12	1160	679	379	e1250	752	612	219	e4940	2310	174	3960	1480
13	1160	687	466	e1550	743	595	183	e4490	2220	148	3530	1400
14	1160	660	508	e1450	784	537	158	e4110	2770	134	3870	1370
15	1180	624	527	e1550	810	504	188	e3650	3320	133	3160	1340
16	1140	512	511	e1550	855	484	190	e3280	4000	132	2470	1340
17	1040	446	479	e1550	786	473	164	e2900	3930	123	2490	1350
18	969	408	459	e950	717	456	127	2620	4250	122	2570	1200
19	940	372	e500	e1150	685	437	101	2420	4870	142	1530	1110
20	949	359	e360	e850	643	436	106	2230	5580	166	1250	1140
21	1000	358	e300	640	666	416	133	2080	5990	514	1030	1160
22	1030	347	e310	636	670	398	160	2020	6270	512	941	1180
23	989	348	e320	629	664	393	166	1840	6310	476	883	1240
24	953	349	e400	624	659	380	150	1860	6070	420	823	1460
25	957	367	e550	672	673	369	149	1830	5290	393	740	1590
26	957	371	e650	753	708	353	164	1770	4560	339	642	1440
27	923	373	e670	762	715	334	510	1880	5010	263	561	1460
28	877	386	e650	769	708	323	746	2230	4580	235	531	1480
29	729	393	e650	744	---	306	731	3040	3600	218	579	1500
30	666	390	e610	736	---	292	732	3560	2680	212	435	1530
31	657	---	e570	723	---	284	---	4070	---	192	388	---
TOTAL	28730	16607	13950	26828	20140	16226	8107	135390	131190	14718	56324	37938
MEAN	927	554	450	865	719	523	270	4367	4373	475	1817	1265
MAX	1180	840	670	1550	855	802	746	14100	6310	2140	4440	1720
MIN	560	347	300	450	643	284	101	790	2220	122	229	342
AC-FT	56990	32940	27670	53210	39950	32180	16080	268500	260200	29190	111700	75250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1999, BY WATER YEAR (WY)

MEAN	314	357	414	532	613	559	556	1090	1534	314	192	255
MAX	2427	2358	1371	1571	1864	2200	2808	9922	12200	5059	1882	1964
(WY)	1985	1985	1985	1998	1930	1939	1983	1980	1983	1983	1997	1984
MIN	5.85	23.0	18.8	89.9	78.9	56.9	17.3	24.1	8.33	2.15	2.52	5.60
(WY)	1904	1911	1912	1965	1935	1904	1904	1911	1910	1903	1902	1903

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1902 - 1999	
ANNUAL TOTAL	316473	506148		
ANNUAL MEAN	867	1387	564	
HIGHEST ANNUAL MEAN			2882	1983
LOWEST ANNUAL MEAN			76.3	1956
HIGHEST DAILY MEAN	2510	Jun 9	14100	May 6
LOWEST DAILY MEAN	50	Jul 11	101	Apr 19
ANNUAL SEVEN-DAY MINIMUM	55	Jul 7	133	Jul 13
INSTANTANEOUS PEAK FLOW			14600	May 6
INSTANTANEOUS PEAK STAGE			b9.45	May 6
ANNUAL RUNOFF (AC-FT)	627700	1004000	408900	
10 PERCENT EXCEEDS	1580	3970	1180	
50 PERCENT EXCEEDS	831	730	237	
90 PERCENT EXCEEDS	80	283	29	

e Estimated

a Also occurred Aug 19-20, 1902, and Jul 25 to Aug 7, 1903.

b Gage height recorded for channel #1.

c From floodmarks in gage well.

07079300 EAST FORK ARKANSAS RIVER AT HIGHWAY 24 NEAR LEADVILLE, CO

LOCATION.--Lat 39°16'21", long 106°18'21", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 fair 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e23	18	e18	e11	e10	e9.5	e13	14	e150	263	61	46
2	e23	19	e17	e11	e10	e10	e13	13	e165	254	59	44
3	e23	18	e17	e11	e10	e9.5	e13	13	e190	204	61	41
4	e23	18	e17	e11	e10	e10	e12	12	203	180	60	38
5	e23	18	e16	e11	e10	e10	e12	12	187	172	72	35
6	e23	18	e16	e11	e10	e10	e12	13	167	180	91	34
7	23	e18	e15	e11	e10	e10	e13	15	195	160	70	32
8	23	e18	e15	e11	e10	e9.5	e12	18	233	153	59	30
9	23	e18	e15	e10	e10	e10	e12	20	268	145	54	28
10	24	e18	e15	e10	e10	e11	e11	22	256	135	62	28
11	23	e18	e14	e10	e9.5	e11	e11	22	228	128	58	30
12	24	e17	e13	e10	e10	e11	e11	22	223	108	51	30
13	24	e17	e12	e10	e10	e11	e12	24	221	106	45	28
14	24	e18	e12	e10	e10	e11	e11	30	243	114	42	26
15	24	e18	e11	e10	e10	e10	e10	e33	233	108	42	27
16	23	e18	e11	e10	e10	e10	e10	e38	203	108	39	30
17	23	e18	e11	e10	e10	e11	e10	e37	214	129	39	29
18	e21	e18	e11	e10	e10	e11	11	e41	216	99	40	29
19	21	e18	e11	e10	e10	e11	11	e55	271	101	37	29
20	21	e18	e10	e10	e10	e11	10	e70	285	94	38	34
21	20	e18	e10	e10	e10	e12	10	e80	320	109	44	33
22	19	e18	e11	e10	e10	e12	11	e100	310	119	42	30
23	20	e18	e11	e10	e10	e12	11	e115	349	114	37	27
24	20	e17	e11	e10	e10	e12	12	e150	321	96	35	31
25	20	e17	e11	e10	e10	e12	12	e180	335	82	35	33
26	19	e17	e11	e10	e10	e12	12	e125	375	72	36	29
27	20	e18	e11	e10	e10	e12	12	e120	312	63	50	27
28	20	e18	e11	e10	e9.7	e11	12	e105	298	67	76	27
29	19	e19	e11	e10	---	e11	13	e145	278	56	56	25
30	19	e19	e11	e10	---	e12	15	e140	261	56	47	25
31	19	---	e11	e10	---	e13	---	e160	---	68	45	---
TOTAL	674	538	397	318	279.2	338.5	350	1944	7510	3843	1583	935
MEAN	21.7	17.9	12.8	10.3	9.97	10.9	11.7	62.7	250	124	51.1	31.2
MAX	24	19	18	11	10	13	15	180	375	263	91	46
MIN	19	17	10	10	9.5	9.5	10	12	150	56	35	25
AC-FT	1340	1070	787	631	554	671	694	3860	14900	7620	3140	1850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
MEAN	19.0	14.8	12.2	10.5	10.3	10.6	13.7	89.8	238	103	43.1	25.5
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1990 - 1999

ANNUAL TOTAL	14375.9	18709.7	
ANNUAL MEAN	39.4	51.3	50.5
HIGHEST ANNUAL MEAN			73.0
LOWEST ANNUAL MEAN			34.5
HIGHEST DAILY MEAN	255	Jun 3	811
LOWEST DAILY MEAN	9.9	Feb 5	6.0
ANNUAL SEVEN-DAY MINIMUM	11	Jan 30	9.8
INSTANTANEOUS PEAK FLOW			a593
INSTANTANEOUS PEAK STAGE			4.41
ANNUAL RUNOFF (AC-FT)	28510	37110	36600
10 PERCENT EXCEEDS	106	162	144
50 PERCENT EXCEEDS	19	18	18
90 PERCENT EXCEEDS	12	10	9.8

e Estimated  
a From rating curve extended above 517 ft<sup>3</sup>/s.

07081200 ARKANSAS RIVER NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'26", long 106°20'35", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 21, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, on right bank, 500 ft downstream from confluence of East Fork Arkansas River and Tennessee Creek, 0.5 mi downstream from highway bridge, and 2.8 mi northwest of Leadville.

DRAINAGE AREA.--98.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to September 1983. April 1990 to current year. Water-quality data available, May 1990 to September 1996.

REVISED RECORDS.--WDR CO-91-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,730 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Transmountain diversions from Colorado River Basin enters above this station (see elsewhere in this report). Small diversions upstream for irrigation and municipal use, amounts unknown. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	29	e20	e17	e12	e14	e33	37	298	333	107	73
2	37	30	e20	e16	e12	e14	e28	35	330	319	100	69
3	33	31	e21	e16	e12	e14	e26	35	368	279	94	67
4	35	e26	e20	e16	e13	e14	e24	32	371	259	85	61
5	33	e24	e20	e16	e13	e14	e21	30	345	242	89	56
6	31	e24	e19	e15	e13	e14	e21	30	286	261	108	53
7	31	e24	e19	e15	e13	e14	e24	33	301	240	93	50
8	32	e23	e18	e15	e13	e14	e26	62	416	226	83	45
9	32	e23	e17	e15	e13	e14	e24	76	406	213	73	43
10	30	e23	e18	e15	e12	e15	e22	70	404	194	83	43
11	29	e24	e18	e14	e12	e15	e23	54	369	182	80	47
12	28	e24	e18	e14	e12	e15	26	49	382	158	72	53
13	28	e24	e18	e14	e13	e15	33	69	373	148	65	46
14	28	e24	e18	e14	e13	e15	35	84	391	154	62	43
15	28	e24	e18	e14	e13	e15	e31	89	437	145	61	44
16	28	e24	e18	e14	e13	e15	e26	98	385	141	57	51
17	28	e23	e18	e14	e13	e16	e27	91	400	162	57	47
18	27	e22	e18	e14	e13	e16	e29	98	374	135	62	48
19	27	e21	e18	e14	e13	e16	59	128	419	134	56	45
20	27	e20	e17	e14	e12	e17	55	159	419	143	57	55
21	27	e20	e17	e13	e12	e18	53	189	439	134	63	50
22	27	e21	e17	e13	e12	e18	44	223	406	140	62	44
23	27	e21	e17	e13	e12	e18	35	258	426	137	55	42
24	27	e21	e17	e13	e13	20	32	328	477	125	52	47
25	26	e20	e17	e13	e13	23	42	392	539	117	56	50
26	28	e21	e17	e13	e13	26	40	264	508	117	59	44
27	30	e21	e17	e12	e13	28	42	254	428	109	87	41
28	33	e21	e17	e12	e13	e28	45	224	388	114	93	40
29	31	e22	e17	e11	---	e29	52	295	353	107	81	39
30	30	e21	e17	e12	---	e32	47	285	332	99	72	38
31	30	---	e17	e12	---	e33	---	328	---	117	71	---
TOTAL	923	696	558	433	354	569	1025	4399	11770	5384	2295	1474
MEAN	29.8	23.2	18.0	14.0	12.6	18.4	34.2	142	392	174	74.0	49.1
MAX	37	31	21	17	13	33	59	392	539	333	108	73
MIN	26	20	17	11	12	14	21	30	286	99	52	38
AC-FT	1830	1380	1110	859	702	1130	2030	8730	23350	10680	4550	2920

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1999, BY WATER YEAR (WY)

MEAN	26.7	21.4	16.6	14.7	14.4	15.3	29.5	166	356	141	62.4	35.0
MAX	38.3	28.9	21.7	19.0	20.5	20.8	52.9	412	707	382	138	55.8
(WY)	1971	1971	1983	1996	1973	1971	1989	1996	1997	1995	1997	1982
MIN	16.5	11.6	11.6	9.15	7.93	8.82	12.7	55.3	114	35.9	23.8	16.7
(WY)	1978	1977	1978	1977	1978	1974	1970	1981	1977	1977	1977	1974

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1968 - 1999

ANNUAL TOTAL	23412	29880	
ANNUAL MEAN	64.1	81.9	76.0
HIGHEST ANNUAL MEAN			120
LOWEST ANNUAL MEAN			32.4
HIGHEST DAILY MEAN	337	Jun 3	539 Jun 25
LOWEST DAILY MEAN	e16	Feb 3	e11 Jan 29
ANNUAL SEVEN-DAY MINIMUM	17	Jan 28	12 Jan 27
INSTANTANEOUS PEAK FLOW			640 Jun 26
INSTANTANEOUS PEAK STAGE			3.79 Jun 26
ANNUAL RUNOFF (AC-FT)	46440	59270	55040
10 PERCENT EXCEEDS	177	285	218
50 PERCENT EXCEEDS	30	30	27
90 PERCENT EXCEEDS	18	13	13

e Estimated

a Also occurred Feb 4-20, 1978.

b From rating curve extended above 950 ft<sup>3</sup>/s.

07083000 HALFMOON CREEK NEAR MALTA, CO

LOCATION.--Lat 39°10'20", long 106°23'19", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.13, T.10 S., R.81 W., Lake County, Hydrologic Unit 11020001, on right bank 1.4 mi upstream from culvert on Halfmoon Campground road, 3.3 mi upstream from mouth, and 4.3 mi southwest of Malta.

DRAINAGE AREA.--23.6 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1946 to current year. Surface-water Hydrologic Benchmark station only, April 1996 to current year. Water-quality data available, November 1966 to March 1996 (Hydrologic Benchmark station). Daily record for water temperature available May 1967 to September 1982.

REVISED RECORDS.--WSP 2121: Drainage area at site 1.4 mi downstream. WRD Colo. 1968: 1967 (M). WDR CO-79-1: 1976 (M). WDR CO-80-1: 1954 (M).

GAGE.--Water-stage recorder with satellite telemetry. Concrete control since 1966. Elevation of gage is 9,830 ft above sea level, from topographic map. Prior to Oct. 19, 1966, at sites 1.4 mi downstream at different datums.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation or diversion 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	8.2	e7.0	e4.0	e4.5	e4.0	e3.1	6.7	106	295	62	32
2	15	9.0	e7.5	e4.0	e4.5	e4.0	e3.1	7.2	110	262	69	32
3	13	8.1	e7.5	e4.1	e4.5	e3.7	e3.1	6.2	112	240	60	32
4	14	e8.0	e6.5	e4.1	e4.5	e3.5	e3.2	5.5	118	184	56	29
5	13	e8.0	e6.3	e4.2	e4.5	e3.3	e3.2	5.2	107	162	57	27
6	14	e8.0	e6.0	e4.2	e4.5	e3.2	e3.2	5.0	97	156	60	25
7	14	e7.5	e5.8	e4.3	e4.5	e3.1	e3.2	5.4	122	145	54	24
8	14	e7.0	e5.5	e4.3	e4.5	e3.1	e3.3	7.6	158	136	50	23
9	13	e6.5	e5.2	e4.4	e4.5	e3.1	e3.3	11	191	136	49	22
10	13	e6.5	e5.0	e4.4	e4.5	e3.1	e3.4	12	198	127	54	21
11	12	e8.5	e5.0	e4.4	e4.5	e3.0	e3.5	10	182	112	52	25
12	11	e9.0	e5.0	e4.5	e4.5	e3.0	3.7	9.5	214	100	47	25
13	11	e9.0	e4.9	e4.5	e4.5	e3.0	3.8	12	198	94	43	22
14	11	e9.0	e4.8	e4.5	e4.5	e3.0	3.9	16	210	95	41	20
15	11	e8.0	e4.8	e4.5	e4.5	e2.9	3.6	17	188	89	40	25
16	10	e7.0	e4.7	e4.5	e4.5	e2.9	e4.0	20	172	88	37	26
17	9.9	e7.0	e4.3	e4.5	e4.5	e2.9	e4.5	19	156	92	37	26
18	e10	e6.5	e4.0	e4.5	e4.5	e2.9	e5.0	22	166	80	34	28
19	e10	e6.5	e3.8	e4.5	e4.5	e2.9	5.2	31	188	82	33	28
20	9.5	e6.0	e3.7	e4.5	e4.5	e2.9	6.3	41	189	80	32	32
21	9.3	e6.5	e3.7	e4.5	e4.4	e2.9	6.9	53	196	76	34	30
22	9.1	e7.5	e3.7	e4.5	e4.4	e3.0	6.6	66	199	75	36	29
23	8.9	e6.5	e3.7	e4.5	e4.4	e3.0	5.3	84	289	76	32	27
24	e8.6	e6.5	e3.8	e4.5	e4.3	e3.0	6.9	103	326	73	31	31
25	8.8	e6.5	e3.8	e4.5	e4.3	e3.0	6.4	103	313	78	30	32
26	9.5	e6.5	e3.8	e4.5	e4.2	e3.0	5.8	81	300	86	29	31
27	9.7	e6.0	e3.8	e4.5	e4.1	e3.0	6.7	83	279	72	32	29
28	9.3	e6.5	e3.9	e4.5	e4.0	e3.0	6.7	101	288	67	35	27
29	9.1	e6.5	e3.9	e4.5	---	e3.0	6.6	116	306	63	33	26
30	8.7	e6.5	e3.9	e4.5	---	e3.0	5.5	107	278	62	32	25
31	8.6	---	e3.9	e4.5	---	e3.0	---	108	---	62	31	---
TOTAL	344.0	218.8	149.2	136.4	124.1	96.4	139.0	1274.3	5956	3545	1322	811
MEAN	11.1	7.29	4.81	4.40	4.43	3.11	4.63	41.1	199	114	42.6	27.0
MAX	16	9.0	7.5	4.5	4.5	4.0	6.9	116	326	295	69	32
MIN	8.6	6.0	3.7	4.0	4.0	2.9	3.1	5.0	97	62	29	20
AC-FT	682	434	296	271	246	191	276	2530	11810	7030	2620	1610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

MEAN	11.2	7.58	5.14	4.07	3.74	3.77	6.77	44.8	131	86.0	36.0	18.1
MAX	24.5	16.6	9.65	9.03	7.90	10.8	13.8	79.1	208	247	128	44.3
(WY)	1962	1962	1996	1996	1986	1947	1989	1996	1980	1995	1995	1961
MIN	6.23	4.40	3.19	1.65	1.70	1.20	2.70	17.7	61.2	22.9	14.3	8.03
(WY)	1956	1992	1993	1977	1948	1948	1973	1995	1977	1977	1950	1974

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1946 - 1999
ANNUAL TOTAL	9740.0	14116.2	
ANNUAL MEAN	26.7	38.7	
HIGHEST ANNUAL MEAN			29.9
LOWEST ANNUAL MEAN			55.3
HIGHEST DAILY MEAN	153	Jun 29	410
LOWEST DAILY MEAN	e3.7	Dec 20	a1.1
ANNUAL SEVEN-DAY MINIMUM	3.7	Dec 19	2.9
INSTANTANEOUS PEAK FLOW			b504
INSTANTANEOUS PEAK STAGE			3.74
ANNUAL RUNOFF (AC-FT)	19320	28000	21700
10 PERCENT EXCEEDS	77	114	90
50 PERCENT EXCEEDS	9.0	8.1	9.0
90 PERCENT EXCEEDS	4.0	3.4	3.2

e Estimated

a Also occurred Apr 2, 1948.

b From rating curve extended above 260 ft<sup>3</sup>/s.

c Maximum gage height for period of record, 3.82 ft, Jul 11, 1995.

## ARKANSAS RIVER BASIN

07086000 ARKANSAS RIVER AT GRANITE, CO

LOCATION.--Lat 39°02'34", long 106°15'55", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	133	105	294	329	346	159	155	598	1470	411	543
2	164	134	106	279	e325	348	151	145	626	1400	385	429
3	150	136	102	281	331	350	139	162	679	1250	390	349
4	161	125	99	e270	e328	352	140	153	733	1280	455	339
5	151	116	90	284	338	350	134	136	712	1290	433	333
6	144	122	100	281	336	353	129	127	644	1180	452	327
7	145	117	e98	286	336	350	144	133	636	959	570	307
8	143	114	e96	291	338	349	132	165	950	818	551	241
9	142	126	99	285	338	e340	91	203	1490	802	536	306
10	140	120	e96	291	337	323	86	214	1630	865	556	377
11	136	133	e96	288	e320	269	78	181	1600	957	557	314
12	134	132	e95	303	e315	236	85	165	1450	1040	516	322
13	133	126	e94	e312	e320	232	111	177	1380	1130	435	271
14	134	132	e93	e318	e325	234	131	218	1380	1110	397	224
15	131	131	e94	322	332	247	124	225	1420	1040	394	231
16	129	130	e97	321	e325	252	109	239	1410	888	389	237
17	127	126	e100	329	337	251	e105	229	1260	940	385	232
18	123	124	e102	328	334	231	117	230	1190	908	382	235
19	125	115	e103	330	345	193	135	232	1380	844	437	233
20	128	104	105	330	e330	193	174	276	1480	726	549	254
21	128	116	e96	330	e320	200	194	339	1690	535	590	265
22	128	120	e114	e326	338	196	191	373	1710	510	600	273
23	128	113	e150	331	e330	167	169	427	1700	477	583	268
24	123	113	e200	335	344	142	163	514	1910	401	578	279
25	124	109	e250	330	339	157	188	643	1910	400	582	285
26	137	111	e284	328	343	173	167	579	1920	411	566	272
27	138	110	255	e320	342	170	128	542	1850	375	567	265
28	148	108	253	e315	343	151	138	501	1670	383	427	261
29	139	113	287	321	---	146	155	555	1440	385	322	257
30	139	108	287	e310	---	159	183	570	1410	364	341	256
31	138	---	289	e318	---	159	---	608	---	406	501	---
TOTAL	4276	3617	4435	9587	9318	7619	4150	9416	39858	25544	14837	8785
MEAN	138	121	143	309	333	246	138	304	1329	824	479	293
MAX	166	136	289	335	345	353	194	643	1920	1470	600	543
MIN	123	104	90	270	315	142	78	127	598	364	322	224
AC-FT	8480	7170	8800	19020	18480	15110	8230	18680	79060	50670	29430	17430

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1999, 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	1999
MEAN	156	130	108	106	112	129	239	696	1283	907	540	246																																																																														
MAX	356	337	448	419	526	500	667	1711	2146	2367	1239	546																																																																														
(WY)	1977	1983	1983	1983	1985	1985	1985	1984	1984	1983	1984	1961																																																																														
MIN	82.4	64.3	48.5	39.8	45.0	55.0	97.1	191	432	217	151	104																																																																														
(WY)	1932	1945	1977	1918	1919	1919	1933	1935	1934	1934	1934	1990																																																																														

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1910 - 1999
ANNUAL TOTAL	144901	141442	
ANNUAL MEAN	397	388	389
HIGHEST ANNUAL MEAN			687
LOWEST ANNUAL MEAN			188
HIGHEST DAILY MEAN	2390	Jul 1	4990
LOWEST DAILY MEAN	e87	Mar 8	11
ANNUAL SEVEN-DAY MINIMUM	94	Mar 8	31
INSTANTANEOUS PEAK FLOW		2020	5360
INSTANTANEOUS PEAK STAGE		5.12	7.20
ANNUAL RUNOFF (AC-FT)	287400	280600	282000
10 PERCENT EXCEEDS	978	921	1050
50 PERCENT EXCEEDS	160	284	171
90 PERCENT EXCEEDS	102	113	74

e Estimated



07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

WATER-QUALITY RECORDS

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 and 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, 18.8°C, Aug. 2, 1999; minimum, 0.0°C, many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDITANCE: Maximum, 233 microsiemens, May 8; minimum, 75 microsiemens, Feb 22, Jun 26.

WATER TEMPERATURE: Maximum, 18.8° C, Aug 2; minimum, 0.0° C, many days.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	208	183	196	195	192	193	191	185	187	101	94	97
2	205	189	195	194	191	192	193	188	191	98	86	93
3	192	186	189	198	191	195	194	188	189	98	93	95
4	190	186	188	198	193	195	193	180	187	98	84	93
5	191	185	188	202	193	196	185	177	183	99	94	97
6	220	186	196	202	189	193	189	177	184	---	---	---
7	209	194	199	195	185	188	200	172	187	---	---	---
8	203	195	198	191	182	185	195	187	191	---	---	---
9	199	190	194	186	182	184	190	183	186	---	---	---
10	193	187	190	191	184	187	196	190	193	---	---	---
11	192	186	189	190	179	185	200	182	194	102	90	94
12	191	185	188	193	180	187	185	179	182	97	91	93
13	199	184	192	191	186	189	184	181	183	91	86	89
14	203	193	198	194	186	190	182	179	180	89	84	87
15	200	193	197	197	191	193	184	177	180	89	85	87
16	198	189	193	196	191	193	187	184	185	88	84	86
17	192	188	190	202	189	193	191	187	189	91	85	89
18	193	183	188	201	194	197	190	181	188	90	85	88
19	195	184	188	201	193	196	184	179	181	92	89	91
20	195	188	191	197	176	191	184	182	182	92	90	90
21	201	193	196	199	179	191	188	184	187	91	88	90
22	202	196	199	195	186	191	190	154	181	91	85	87
23	200	193	196	196	186	190	154	117	135	90	87	88
24	194	188	191	195	189	192	117	111	114	90	87	88
25	194	188	191	198	191	193	111	93	96	88	87	87
26	195	190	193	202	191	196	107	93	97	90	86	89
27	196	190	193	202	186	192	107	92	98	87	84	86
28	203	195	199	196	184	188	99	88	93	90	86	88
29	204	199	201	194	188	191	112	90	97	90	83	87
30	201	195	198	191	183	187	103	90	96	87	84	86
31	196	192	194	---	---	---	107	85	96	88	85	87
MONTH	220	183	193	202	176	191	200	85	162	---	---	---

## ARKANSAS RIVER BASIN

07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	90	85	87	90	81	84	165	148	152	186	177	180
2	89	85	88	89	84	86	151	144	147	198	177	184
3	89	84	86	92	80	85	150	143	147	205	183	190
4	90	85	86	90	83	86	151	138	145	206	192	198
5	92	87	89	85	82	83	154	137	146	211	197	202
6	88	84	86	83	82	83	156	144	149	213	200	203
7	89	85	87	85	82	83	166	150	155	230	194	203
8	88	85	87	84	81	83	194	150	168	233	196	204
9	93	84	88	93	79	84	200	176	185	199	170	179
10	91	88	90	93	86	89	203	181	188	179	160	168
11	92	76	83	---	---	---	200	180	189	189	169	176
12	90	81	85	---	---	---	203	181	191	193	175	181
13	101	80	86	---	---	---	207	174	191	189	177	182
14	93	82	86	---	---	---	186	167	173	186	161	170
15	88	84	86	---	---	---	174	165	169	177	157	166
16	93	82	86	---	---	---	172	156	164	172	150	160
17	91	85	88	---	---	---	170	153	164	164	149	158
18	90	78	85	---	---	---	174	163	167	166	155	161
19	90	83	87	---	---	---	182	157	165	172	155	167
20	86	82	84	---	---	---	185	142	155	168	140	159
21	87	81	84	---	---	---	154	135	142	149	140	144
22	89	75	82	---	---	---	151	131	140	142	123	135
23	90	82	86	---	---	---	150	133	142	125	117	121
24	89	81	85	---	---	---	160	141	147	121	110	116
25	92	85	87	168	152	157	160	148	152	117	110	112
26	90	80	85	164	148	156	185	146	154	127	117	123
27	89	78	84	162	150	155	190	179	184	130	125	128
28	91	79	84	165	149	154	189	173	179	135	128	133
29	---	---	---	168	143	153	188	174	180	133	121	126
30	---	---	---	168	147	155	188	167	175	125	120	123
31	---	---	---	167	149	153	---	---	---	124	116	119
MONTH	101	75	86	---	---	---	207	131	164	233	110	160
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	121	116	118	81	79	80	176	150	163	123	111	119
2	123	117	119	83	81	82	162	156	159	160	121	133
3	122	109	116	84	82	83	171	133	157	146	139	143
4	115	109	112	85	80	83	135	133	134	140	133	136
5	114	109	111	83	79	81	158	133	139	135	132	133
6	122	112	116	95	79	84	177	119	154	134	132	132
7	123	118	121	101	91	96	119	113	116	146	132	140
8	123	84	108	104	101	102	114	111	113	182	140	160
9	88	81	84	106	100	103	115	111	112	179	117	150
10	84	78	81	101	85	94	122	115	120	131	113	118
11	81	79	80	89	85	87	122	115	120	134	131	132
12	84	80	82	89	79	84	125	114	120	134	130	133
13	85	82	83	83	79	81	134	120	127	155	129	141
14	88	84	85	88	79	83	127	125	126	165	152	161
15	89	87	88	93	80	86	128	126	127	173	160	166
16	90	87	89	94	88	91	128	126	127	177	166	171
17	96	89	93	94	88	91	135	126	130	172	165	168
18	98	94	96	90	87	89	141	126	137	167	153	157
19	95	88	90	103	88	98	134	108	123	159	152	154
20	109	86	90	112	99	104	109	100	106	167	153	162
21	92	84	88	129	112	122	106	100	103	165	147	156
22	85	82	84	131	126	129	105	102	104	152	145	149
23	84	78	81	149	129	138	102	99	101	148	141	144
24	82	78	79	170	145	151	106	101	103	151	139	145
25	80	78	79	147	142	145	105	102	103	146	140	143
26	79	75	77	151	145	147	110	103	107	142	139	141
27	77	76	76	152	148	150	117	109	113	142	140	141
28	80	76	78	154	148	151	154	109	136	150	140	146
29	84	80	83	196	152	162	153	150	151	155	147	149
30	85	79	82	166	153	157	169	120	145	151	147	149
31	---	---	---	171	150	161	129	109	120	---	---	---
MONTH	123	75	92	196	79	110	177	99	126	182	111	146

ARKANSAS RIVER BASIN

07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	11.3	9.3	10.3	7.4	4.0	5.6	3.2	.0	1.5	3.1	1.7	2.1
2	11.1	6.7	8.8	6.9	3.8	5.2	3.2	.0	1.5	2.6	1.1	1.7
3	11.2	5.8	8.5	5.0	2.1	3.6	2.8	.0	1.2	2.3	.8	1.4
4	9.1	6.4	7.8	4.4	.0	2.4	2.5	.0	.9	2.9	.9	1.7
5	6.6	3.2	4.7	3.2	.0	1.8	.5	.1	.1	3.3	1.8	2.3
6	8.9	1.0	4.7	4.9	.9	2.8	.1	.1	.1	---	---	---
7	10.8	3.1	7.0	3.7	.9	2.2	.1	.1	.1	---	---	---
8	11.0	4.2	7.7	1.9	.3	1.2	.2	.1	.2	---	---	---
9	11.1	3.9	7.8	1.7	.0	.6	.2	.2	.2	---	---	---
10	11.0	4.6	8.0	.2	.0	.0	.2	.2	.2	---	---	---
11	10.8	3.8	7.4	.6	.0	.1	.2	.2	.2	3.3	1.0	1.7
12	9.6	3.4	6.6	3.0	.0	1.1	.3	.2	.3	2.7	.9	1.5
13	9.8	3.2	6.7	3.2	.0	1.3	.3	.3	.3	2.5	.9	1.4
14	11.8	6.2	8.9	4.8	.2	2.4	.3	.3	.3	2.7	.6	1.4
15	9.3	4.7	7.4	4.8	.0	2.6	.3	.3	.3	2.8	1.1	1.6
16	7.1	2.7	5.1	4.9	.4	2.7	.6	.3	.4	3.0	.8	1.6
17	5.3	2.5	3.9	3.9	.2	2.2	.7	.4	.4	2.9	1.3	1.7
18	7.8	.6	4.3	3.0	.0	1.6	.9	.4	.5	2.9	1.5	2.0
19	7.6	1.2	4.7	2.3	.0	.6	.5	.4	.4	3.3	1.4	2.0
20	6.3	2.8	4.4	.7	.0	.1	.5	.5	.5	2.8	1.0	1.7
21	7.5	3.9	5.4	2.4	.0	.9	.5	.5	.5	1.9	.9	1.2
22	8.2	5.0	6.4	4.5	.2	2.3	.5	.5	.5	2.8	.5	1.2
23	7.5	3.4	5.7	3.7	.0	1.9	.6	.5	.5	3.1	.5	1.6
24	8.1	1.8	5.1	3.6	.0	1.8	.6	.6	.6	2.0	1.2	1.5
25	6.2	3.1	5.0	3.3	.0	1.5	.6	.6	.6	2.5	.8	1.5
26	7.6	5.1	6.2	3.9	.0	2.0	1.4	.6	.9	2.1	.3	1.2
27	6.4	5.2	5.8	3.8	.0	2.0	2.4	1.1	1.5	2.1	.1	.8
28	7.3	3.8	5.4	3.2	.0	1.6	2.4	1.1	1.6	2.5	.1	.8
29	6.3	2.0	4.2	4.5	1.7	3.0	3.2	1.7	2.0	2.4	.0	.7
30	5.8	3.3	4.5	3.5	.0	1.9	3.3	1.6	2.1	2.9	.2	1.1
31	5.3	3.8	4.4	---	---	---	3.4	1.3	2.0	2.9	.2	1.1
MONTH	11.8	.6	6.2	7.4	.0	2.0	3.4	.0	.7	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2.7	.4	1.0	4.2	.5	1.6	4.9	1.6	3.5	3.4	1.4	2.5
2	2.6	.3	1.1	3.2	.5	1.4	4.3	.4	1.8	9.5	.7	4.7
3	2.9	.4	1.2	3.5	.2	1.4	5.0	.4	2.0	9.1	3.6	6.1
4	3.3	.3	1.4	3.3	.7	1.5	4.3	.5	1.8	8.8	2.1	5.3
5	3.3	.9	1.6	3.0	.8	1.4	7.9	.5	3.4	8.5	.0	4.0
6	3.0	.8	1.5	3.3	.7	1.4	9.3	.5	4.6	9.0	.0	4.1
7	3.3	.9	1.7	3.3	.6	1.5	8.9	1.7	5.2	12.3	1.3	6.5
8	3.4	.9	1.6	3.5	.5	1.5	7.8	1.1	4.8	13.5	3.4	8.4
9	3.5	.8	1.6	3.5	.3	1.4	5.3	.8	3.3	13.5	4.3	8.9
10	2.1	.0	1.2	3.7	.8	1.7	5.7	.5	2.5	9.1	3.7	6.4
11	1.5	.0	.3	---	---	---	7.3	.5	3.6	7.7	.9	4.1
12	3.1	.0	1.1	---	---	---	11.6	1.6	6.3	11.2	1.3	6.2
13	3.6	.2	1.3	---	---	---	8.3	2.7	5.9	14.7	4.9	9.4
14	3.4	.3	1.3	---	---	---	7.9	2.1	5.0	12.8	5.8	9.2
15	2.4	.2	1.2	---	---	---	5.9	.8	3.1	13.7	4.5	8.8
16	3.1	.0	1.1	---	---	---	1.8	.4	.9	11.7	4.8	8.4
17	1.8	.3	1.0	---	---	---	7.5	.4	3.0	12.7	3.0	7.7
18	3.2	.1	1.1	---	---	---	10.6	.6	5.3	14.0	3.8	8.8
19	2.8	.5	1.3	---	---	---	11.0	2.3	6.4	13.9	5.3	9.6
20	3.1	.1	1.1	---	---	---	10.2	1.8	6.2	14.6	5.5	9.7
21	3.0	.0	1.1	---	---	---	8.9	3.8	6.3	13.8	6.8	10.0
22	2.6	.1	.9	---	---	---	7.0	2.7	4.7	12.5	5.2	9.1
23	3.4	.0	1.2	---	---	---	4.2	1.0	2.4	12.5	6.3	9.4
24	3.3	.5	1.3	---	---	---	8.3	1.1	4.0	11.8	5.3	8.3
25	3.7	.2	1.4	9.8	2.7	5.8	7.3	2.8	4.8	9.3	5.2	7.0
26	3.3	.0	1.2	8.1	2.3	5.2	7.0	2.6	4.4	11.5	5.6	8.2
27	2.9	.1	1.1	6.7	2.5	4.5	11.1	3.3	6.7	10.7	5.4	7.7
28	3.7	.2	1.4	7.7	.2	3.4	7.6	3.8	6.0	12.8	5.6	8.9
29	---	---	---	8.7	.2	4.1	6.0	3.0	4.7	10.3	6.0	8.5
30	---	---	---	8.1	.9	4.4	4.6	1.5	3.0	12.0	5.3	8.7
31	---	---	---	7.2	1.4	4.2	---	---	---	11.1	6.0	8.7
MONTH	3.7	.0	1.2	---	---	---	11.6	.4	4.2	14.7	.0	7.5

## ARKANSAS RIVER BASIN

07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.7	4.9	8.7	15.6	11.3	13.4	17.4	11.3	13.8	15.7	13.4	14.5
2	10.8	5.6	8.5	13.8	11.5	12.7	18.8	11.7	14.6	15.7	12.5	14.0
3	12.2	5.1	8.6	14.4	10.4	12.4	17.1	11.8	14.2	16.1	11.2	13.4
4	10.4	5.5	8.2	14.8	11.3	13.1	15.2	12.7	13.9	16.2	10.0	12.8
5	10.1	4.7	7.3	15.5	11.7	13.5	17.0	12.8	14.5	16.7	10.4	13.2
6	12.3	4.9	8.3	15.4	11.6	13.4	16.9	12.3	14.3	16.4	10.0	13.1
7	13.3	5.9	9.6	15.8	11.3	13.5	16.9	12.6	14.8	16.6	10.6	13.4
8	12.4	5.9	9.4	15.5	12.5	13.7	17.4	13.1	15.2	16.3	10.1	13.0
9	12.2	8.1	10.3	16.7	12.1	14.1	15.7	13.4	14.8	15.7	7.3	11.8
10	10.8	8.4	9.8	16.3	11.8	13.9	16.2	13.7	14.7	15.0	12.3	13.6
11	11.4	7.7	9.6	15.1	12.3	13.8	16.4	13.0	14.7	14.3	10.9	12.2
12	11.4	8.5	10.1	16.0	12.3	14.2	17.0	12.5	14.6	15.1	9.1	11.8
13	11.5	7.8	9.7	15.9	12.8	14.4	18.0	12.0	14.8	15.1	9.7	12.2
14	11.5	8.8	10.1	15.3	13.8	14.5	16.6	11.9	14.1	12.6	7.5	10.3
15	10.4	8.4	9.5	15.4	13.4	14.2	16.7	13.4	14.4	12.6	9.0	10.6
16	10.8	8.3	9.6	15.7	12.6	14.0	16.8	11.2	14.0	14.3	8.8	11.1
17	11.0	8.7	9.7	15.6	12.7	14.0	16.2	12.8	14.5	14.9	8.6	11.3
18	12.6	7.7	10.0	14.6	13.2	13.9	17.9	11.8	14.6	14.7	9.1	11.4
19	11.8	8.2	10.3	15.1	13.0	13.9	15.6	12.6	14.4	11.5	8.3	9.9
20	12.3	8.4	10.4	17.1	12.6	14.6	16.4	13.4	14.8	11.6	8.5	9.9
21	11.1	8.5	10.0	15.7	12.0	13.9	16.6	14.1	15.2	13.6	6.2	9.6
22	13.2	9.1	11.0	14.7	11.4	13.2	18.1	14.0	15.7	14.1	7.4	10.6
23	13.8	8.8	11.3	16.6	11.1	13.7	17.9	13.8	15.6	14.5	9.1	11.6
24	14.0	9.4	11.8	15.3	10.4	13.2	17.1	13.7	15.3	13.3	10.1	11.5
25	14.4	9.7	12.1	15.1	11.0	12.9	16.9	13.9	15.3	14.9	9.4	11.8
26	14.5	9.7	12.2	15.9	9.8	12.9	17.7	13.5	15.4	14.4	9.4	11.7
27	14.9	10.6	12.8	15.8	10.4	13.3	16.3	13.4	14.8	11.5	8.3	9.7
28	15.0	10.3	12.6	16.1	11.7	13.8	14.8	12.4	13.6	10.6	6.1	8.0
29	14.5	10.4	12.6	17.8	10.8	13.9	15.4	10.0	12.8	11.5	4.6	7.9
30	15.4	10.7	13.0	16.9	11.4	14.0	15.8	10.2	13.2	12.3	6.1	9.0
31	---	---	---	16.7	11.6	14.1	16.8	12.6	14.7	---	---	---
MONTH	15.4	4.7	10.2	17.8	9.8	13.7	18.8	10.0	14.6	16.7	4.6	11.5

07087050 ARKANSAS RIVER BELOW GRANITE, CO

LOCATION.--Lat 38°59'42", long 106°13'11", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.22, T.12 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on right bank 500 ft east of U.S. Highway 24, 1.0 mi downstream from Pine Creek, and 4.8 mi southeast of Granite.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--March to September 1999 (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,620 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.

EXTREMES FOR CURRENT SEASON.--Maximum discharge 2380 ft<sup>3</sup>/s, June 25, 1999, gage height, 7.76 ft, from rating curve extended above 1930 ft<sup>3</sup>/s,; minimum daily discharge, 115 ft<sup>3</sup>/s, Apr. 10-12, 1999.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	194	169	1050	1930	763	964
2	---	---	---	---	---	---	187	159	1050	1870	643	796
3	---	---	---	---	---	e397	172	177	1110	1750	584	592
4	---	---	---	---	---	403	164	171	1180	1740	681	568
5	---	---	---	---	---	402	164	155	1150	1750	703	552
6	---	---	---	---	---	408	161	145	1060	1660	730	543
7	---	---	---	---	---	407	162	149	1040	1380	864	498
8	---	---	---	---	---	404	156	186	1360	1210	819	354
9	---	---	---	---	---	392	116	233	e1980	1220	773	405
10	---	---	---	---	---	374	e115	253	e2080	1260	813	542
11	---	---	---	---	---	306	115	203	e2030	1370	809	510
12	---	---	---	---	---	259	115	175	e1910	1400	745	518
13	---	---	---	---	---	255	137	190	1880	1480	640	458
14	---	---	---	---	---	257	154	246	1910	1510	573	366
15	---	---	---	---	---	268	147	253	1920	1490	577	380
16	---	---	---	---	---	281	e145	273	1920	1230	581	395
17	---	---	---	---	---	280	e145	260	1780	1300	586	332
18	---	---	---	---	---	263	137	266	1720	1240	718	336
19	---	---	---	---	---	e210	151	271	e1920	1170	848	332
20	---	---	---	---	---	e220	193	328	e1990	1020	959	363
21	---	---	---	---	---	e225	213	468	e2090	764	1010	371
22	---	---	---	---	---	e230	213	667	e2110	737	1020	376
23	---	---	---	---	---	e210	193	725	e2140	744	988	359
24	---	---	---	---	---	e180	183	883	e2270	651	981	376
25	---	---	---	---	---	e185	210	1090	e2280	636	994	381
26	---	---	---	---	---	e190	191	1040	e2280	623	997	362
27	---	---	---	---	---	e185	168	991	e2220	557	994	346
28	---	---	---	---	---	e180	192	944	e2130	556	814	347
29	---	---	---	---	---	e190	214	1060	e1960	572	616	354
30	---	---	---	---	---	e220	229	1090	1870	543	639	352
31	---	---	---	---	---	e194	---	1090	---	691	889	---
TOTAL	---	---	---	---	---	---	5036	14310	53390	36054	24351	13428
MEAN	---	---	---	---	---	---	168	462	1780	1163	786	448
MAX	---	---	---	---	---	---	229	1090	2280	1930	1020	964
MIN	---	---	---	---	---	---	115	145	1040	543	573	332
AC-FT	---	---	---	---	---	---	9990	28380	105900	71510	48300	26630

e Estimated

## ARKANSAS RIVER BASIN

07091200 ARKANSAS RIVER NEAR NATHROP, CO

LOCATION.--Lat 38°39'08", long 106°03'02", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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 ft<sup>3</sup>/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 ft<sup>3</sup>/s, Feb. 25-27, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 3,230 ft<sup>3</sup>/s, June 24, gage height, 7.35 ft; minimum daily discharge, 244 ft<sup>3</sup>/s, April 11-12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	361	---	---	---	---	---	280	356	1330	2300	1000	1050
2	401	---	---	---	---	---	296	348	1370	2230	1030	976
3	374	---	---	---	---	---	276	353	1410	2030	976	747
4	383	---	---	---	---	---	267	336	1520	1970	974	711
5	370	---	---	---	---	---	270	301	1510	1980	1030	687
6	343	---	---	---	---	---	268	284	1330	1910	994	678
7	385	---	---	---	---	---	276	286	1310	1640	1130	652
8	e350	---	---	---	---	---	272	300	1550	1390	1080	550
9	---	---	---	---	---	---	253	339	2370	1450	1020	481
10	---	---	---	---	---	---	246	373	2520	1360	1100	643
11	---	---	---	---	---	---	244	355	2480	1480	1090	623
12	---	---	---	---	---	---	244	323	2390	1450	1010	625
13	---	---	---	---	---	---	249	305	2290	1540	899	601
14	---	---	---	---	---	---	247	339	2360	1530	807	508
15	---	---	---	---	---	e350	246	367	2430	1670	818	509
16	---	---	---	---	---	366	246	389	2380	1310	815	532
17	---	---	---	---	---	361	246	376	2310	1380	801	478
18	---	---	---	---	---	360	246	371	2130	1350	840	470
19	---	---	---	---	---	319	246	386	2370	1370	972	468
20	---	---	---	---	---	308	269	434	2530	1260	1080	502
21	---	---	---	---	---	312	290	532	2720	1020	1110	507
22	---	---	---	---	---	315	314	810	2900	931	1120	510
23	---	---	---	---	---	309	315	945	2850	1040	1090	486
24	---	---	---	---	---	281	288	1080	3080	883	1070	486
25	---	---	---	---	---	275	316	1350	3080	841	1070	504
26	---	---	---	---	---	291	330	1300	3010	869	1110	479
27	---	---	---	---	---	294	304	1210	2920	851	1070	463
28	---	---	---	---	---	282	304	1140	2750	835	1040	458
29	---	---	---	---	---	270	315	1280	2460	883	788	466
30	---	---	---	---	---	321	424	1330	2220	838	734	465
31	---	---	---	---	---	286	---	1380	---	872	927	---
TOTAL	---	---	---	---	---	---	8387	19278	67880	42463	30595	17315
MEAN	---	---	---	---	---	---	280	622	2263	1370	987	577
MAX	---	---	---	---	---	---	424	1380	3080	2300	1130	1050
MIN	---	---	---	---	---	---	244	284	1310	835	734	458
AC-FT	---	---	---	---	---	---	16640	38240	134600	84230	60690	34340

e Estimated



## ARKANSAS RIVER BASIN

07091200 ARKANSAS RIVER NEAR NATHROP, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	5.8	2.3	4.0	---	---	---
2	---	---	---	---	---	---	3.2	1.6	1.9	---	---	---
3	---	---	---	---	---	---	1.6	1.3	1.4	---	---	---
4	---	---	---	---	---	---	1.4	1.0	1.2	---	---	---
5	---	---	---	---	---	---	3.2	1.1	1.6	---	---	---
6	---	---	---	---	---	---	8.4	.6	3.0	---	---	---
7	---	---	---	---	---	---	10.1	1.0	4.5	14.0	3.0	7.8
8	---	---	---	---	---	---	13.6	1.4	5.6	13.2	4.7	8.9
9	---	---	---	---	---	---	7.0	1.6	3.6	12.8	6.5	10.0
10	---	---	---	---	---	---	10.5	.8	3.5	12.0	8.2	10.0
11	---	---	---	---	---	---	9.4	.8	3.8	9.7	6.6	7.9
12	---	---	---	---	---	---	11.9	1.3	5.4	12.8	5.1	8.8
13	---	---	---	---	---	---	8.1	1.8	5.2	14.4	6.7	10.6
14	---	---	---	---	---	---	9.2	2.3	5.6	14.4	8.7	11.7
15	---	---	---	---	---	---	8.4	1.4	3.3	13.5	9.2	11.7
16	---	---	---	8.4	2.6	5.5	2.4	.5	1.2	12.3	9.6	11.3
17	---	---	---	8.2	2.7	5.4	11.7	.6	4.2	12.9	8.3	10.9
18	---	---	---	5.8	2.7	4.3	13.6	1.2	6.1	13.3	8.7	11.5
19	---	---	---	---	---	---	11.3	1.9	6.3	13.7	10.1	12.3
20	---	---	---	---	---	---	13.5	2.1	7.2	14.2	10.7	12.6
21	---	---	---	12.6	2.9	6.4	11.6	4.1	7.3	14.7	11.9	13.4
22	---	---	---	14.0	1.6	5.7	7.9	3.6	5.1	14.2	11.8	12.9
23	---	---	---	12.9	1.7	6.2	3.6	1.5	2.0	13.5	12.0	12.8
24	---	---	---	13.3	4.2	7.2	2.2	1.4	1.7	13.1	11.4	12.3
25	---	---	---	15.9	3.6	8.1	7.5	1.3	3.7	12.9	11.3	11.9
26	---	---	---	12.5	3.7	7.6	12.2	1.9	6.2	12.0	10.7	11.3
27	---	---	---	12.1	4.1	7.2	13.3	3.4	7.5	12.0	11.1	11.7
28	---	---	---	12.5	1.7	5.5	9.0	3.7	6.7	13.4	11.2	12.1
29	---	---	---	11.2	1.4	4.9	9.8	5.3	7.3	13.4	11.9	12.4
30	---	---	---	12.4	1.7	5.7	6.4	3.5	4.7	12.9	11.1	12.0
31	---	---	---	8.8	2.2	5.1	---	---	---	12.9	11.6	12.3
MONTH	---	---	---	---	---	---	13.6	.5	4.4	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.0	11.3	12.2	15.0	13.7	14.3	15.1	14.2	14.7	16.1	14.6	15.3
2	13.0	11.7	12.4	15.0	13.9	14.3	16.2	13.4	14.7	15.8	13.1	14.5
3	12.7	11.2	12.0	14.4	13.0	13.6	16.0	14.1	15.1	15.6	12.2	13.8
4	12.6	11.3	12.0	14.8	13.6	14.2	15.3	14.2	14.7	15.4	11.2	13.4
5	12.2	10.7	11.2	15.4	13.9	14.5	16.0	13.5	14.8	15.6	11.5	13.6
6	12.3	10.3	11.2	15.4	14.6	15.1	16.8	13.9	15.3	15.4	11.3	13.5
7	13.1	11.3	12.2	15.4	14.2	14.9	16.8	13.5	15.2	15.8	11.3	13.6
8	13.0	11.5	12.3	15.3	14.5	14.9	17.1	14.1	15.7	---	---	---
9	12.7	11.6	12.3	16.6	13.2	14.8	16.6	14.4	15.5	---	---	---
10	12.7	11.9	12.3	16.8	13.9	15.4	16.0	14.0	15.0	15.3	12.1	13.7
11	12.5	11.2	11.9	15.9	13.7	14.8	16.4	13.7	15.1	14.2	11.5	12.9
12	12.5	11.9	12.3	16.4	12.5	14.5	16.5	13.2	14.9	14.9	10.3	12.5
13	13.1	11.4	12.2	16.7	13.7	15.3	16.6	13.0	15.0	15.0	10.9	13.1
14	13.0	12.0	12.3	15.5	13.5	14.6	16.0	13.7	15.1	15.1	9.4	12.2
15	12.4	11.5	11.8	15.9	13.5	14.8	16.5	14.1	15.3	13.1	11.2	12.0
16	12.2	11.3	11.7	15.2	13.5	14.5	16.4	13.2	14.9	13.7	10.3	12.2
17	12.1	11.3	11.7	16.3	14.0	15.2	16.3	14.2	15.3	14.5	10.6	12.7
18	12.6	11.0	11.7	15.3	13.9	14.7	16.8	13.6	15.3	14.8	10.6	12.9
19	12.7	11.6	12.3	15.4	13.4	14.5	16.7	14.4	15.6	12.7	10.4	11.6
20	12.8	11.7	12.3	15.5	13.3	14.5	16.5	14.3	15.4	12.9	10.2	11.4
21	12.7	11.7	12.1	16.4	13.7	15.2	17.0	14.5	15.7	13.1	9.6	11.4
22	13.1	11.6	12.2	15.5	13.7	14.8	17.7	14.6	16.1	13.2	8.9	11.3
23	13.6	11.9	12.7	15.8	13.1	14.3	17.9	15.3	16.7	12.7	10.2	11.6
24	13.8	12.4	13.1	16.4	13.6	15.0	17.5	15.0	16.5	13.9	10.7	12.2
25	13.9	12.8	13.4	15.4	13.6	14.6	16.8	14.5	15.8	14.7	10.0	12.4
26	14.0	12.7	13.4	15.8	12.7	14.3	17.5	14.2	15.9	15.4	10.5	12.7
27	14.4	13.1	13.7	16.1	13.3	14.8	17.5	15.1	16.4	14.9	9.4	11.7
28	14.3	12.9	13.7	16.9	13.9	15.4	16.6	15.2	15.7	12.7	7.3	9.5
29	14.4	13.1	13.8	15.8	13.4	14.6	16.5	13.4	15.1	11.8	5.5	8.7
30	14.7	13.1	13.8	15.7	13.5	14.5	16.6	13.7	15.4	12.8	6.2	9.4
31	---	---	---	16.0	13.8	15.0	17.0	14.3	15.7	---	---	---
MONTH	14.7	10.3	12.4	16.9	12.5	14.7	17.9	13.0	15.4	---	---	---





07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO

LOCATION.--Lat 38°39'32", long 105°48'48", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.13, T.51 N., R.10 E., 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 mi<sup>2</sup>.

## 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 ft<sup>3</sup>/s and above 5.0 ft<sup>3</sup>/s which are fair, and estimated daily discharges which are poor.

AVERAGE DISCHARGE.--5 years (water years 1981-86), 5.89 ft<sup>3</sup>/s; 4,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,360 ft<sup>3</sup>/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, 70 ft<sup>3</sup>/s, July 28, gage height, 3.36 ft; minimum daily, 0.20 ft<sup>3</sup>/s, April 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	---	---	---	---	---	e.33	e1.7	3.0	e.85	.95	.60
2	.96	---	---	---	---	---	e.28	e1.5	2.7	e.83	1.1	.59
3	.61	---	---	---	---	---	e.30	e2.1	2.6	e.80	.87	.60
4	.90	---	---	---	---	---	e.30	e2.2	2.4	e.78	.90	e.57
5	.68	---	---	---	---	---	e.25	e1.9	2.2	e.76	1.3	e.56
6	.61	---	---	---	---	---	e.20	e1.8	2.1	e.74	1.3	e.56
7	.59	---	---	---	---	---	e.30	e1.8	1.8	e.72	.91	e.56
8	.59	---	---	---	---	---	e.40	2.3	1.6	e.70	.78	e.56
9	.56	---	---	---	---	---	e.50	2.4	1.4	e.70	.72	e.56
10	.56	---	---	---	---	---	e.50	3.1	1.4	e.70	.81	e.56
11	.53	---	---	---	---	---	e.55	2.8	1.5	e1.5	.89	e.56
12	.53	---	---	---	---	---	e.50	2.4	1.6	.85	.72	e.56
13	.54	---	---	---	---	---	e.45	2.5	1.9	.48	.67	e.56
14	.58	---	---	---	---	---	e.40	3.0	2.0	.42	.63	e.57
15	.56	---	---	---	---	---	e.40	2.6	2.2	.51	.63	.79
16	.54	---	---	---	---	---	e.40	2.2	2.3	.49	.62	.92
17	.57	---	---	---	---	---	e.43	2.0	2.5	.77	.59	.74
18	e.55	---	---	---	---	---	e.45	1.9	2.2	.66	.59	.69
19	e.55	---	---	---	---	---	e.45	1.8	1.7	.98	.56	.72
20	.60	---	---	---	---	---	e.50	1.7	1.7	.78	.61	.95
21	.63	---	---	---	---	---	e.60	1.7	1.4	.75	.72	.82
22	.62	---	---	---	---	---	e.62	1.7	1.3	1.1	.61	.70
23	.59	---	---	---	---	---	e.60	1.7	1.1	.85	.59	.68
24	.58	---	---	---	---	---	e.55	4.9	1.1	.70	.58	.69
25	.60	---	---	---	---	---	e.90	4.0	1.0	.61	.57	.69
26	.73	---	---	---	---	---	e.92	4.0	e1.0	.56	.56	.67
27	.71	---	---	---	---	---	e1.1	7.3	e.98	.78	.71	.63
28	e.75	---	---	---	---	---	e1.4	14	e.96	7.2	.67	.66
29	.63	---	---	---	---	---	e1.8	5.2	e.92	4.4	.70	.64
30	.68	---	---	---	---	---	e1.8	4.2	e.88	1.1	.64	.68
31	e.70	---	---	---	---	---	---	3.4	---	.98	.64	---
TOTAL	19.55	---	---	---	---	---	18.18	95.8	51.44	34.05	23.14	19.64
MEAN	.63	---	---	---	---	---	.61	3.09	1.71	1.10	.75	.65
MAX	.96	---	---	---	---	---	1.8	14	3.0	7.2	1.3	.95
MIN	.53	---	---	---	---	---	.20	1.5	.88	.42	.56	.56
AC-FT	39	---	---	---	---	---	36	190	102	68	46	39

e Estimated

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1981 to October 1988 at site 1,000 ft downstream, not equivalent because of seepage at site (seasonal records only). March 1989 to current year (seasonal records only).

PERIOD OF SEASONAL DAILY RECORD.--Daily sediment record June 1981 to October 1988 at site 1,000 ft downstream, not equivalent because of seepage at site. Daily sediment record March 1989 to current year. Daily water temperature record March 1995 to current year.

INSTRUMENTATION.--Pumping sediment sampler since June 1981. Water temperature probe with satellite telemetry since March 1995.

REMARKS.--Records for water temperature are good. Records for suspended sediment are fair except for estimated sediment discharge, which are poor. Daily water temperature data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF SEASONAL DAILY RECORD.--

WATER TEMPERATURE: Maximum, 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 mean, 25,800 mg/L, Aug. 20, 1982; minimum daily mean, 0 mg/L, many days.

SEDIMENT LOADS: Maximum daily, 15,600 tons, Aug. 14, 1983; minimum daily, 0 tons, many days.

EXTREMES FOR CURRENT SEASON.--

WATER TEMPERATURE: Maximum, 28.9° C, July 6; minimum, 0.1° C, Apr. 4, 7, 11, 14-15, 18, Sept. 29.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,540 mg/L, May 28; minimum daily mean, 38 mg/L, June 12.

SEDIMENT LOAD: Maximum daily, 99 tons, May 28; minimum daily, 0.06 tons, Sept. 2.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)
OCT				MAY			
02...	0900	1.2	466	04...	1445	2.4	470
NOV				24...	1200	6.9	475
12...	1130	.73	458	JUL			
MAR				13...	1300	.46	426
31...	1115	.30	391	AUG			
APR				03...	1300	.88	414
19...	1230	.42	385	20...	1100	.63	393
				SEP			
				17...	1200	.71	418

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
MAR					
31...	1115	.30	5.5	32	.03
APR					
19...	1215	.48	8.5	85	.11
MAY					
04...	1345	2.3	12.0	209	1.3
JUN					
15...	1145	2.3	--	41	.25
JUL					
13...	1315	.44	22.0	239	.28
AUG					
03...	1230	.89	20.0	146	.35
20...	1030	.63	14.0	61	.10
SEP					
17...	1300	.72	15.0	39	.08

ARKANSAS RIVER BASIN

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.4	6.9	8.9	---	---	---	---	---	---	---	---	---
2	14.6	3.8	8.2	---	---	---	---	---	---	---	---	---
3	14.3	3.5	8.4	---	---	---	---	---	---	---	---	---
4	10.4	4.4	7.1	---	---	---	---	---	---	---	---	---
5	9.0	.8	4.2	---	---	---	---	---	---	---	---	---
6	13.3	.2	5.5	---	---	---	---	---	---	---	---	---
7	14.5	1.3	7.0	---	---	---	---	---	---	---	---	---
8	13.2	2.8	7.5	---	---	---	---	---	---	---	---	---
9	14.9	1.9	7.6	---	---	---	---	---	---	---	---	---
10	13.7	1.9	7.2	---	---	---	---	---	---	---	---	---
11	13.7	1.3	6.6	---	---	---	---	---	---	---	---	---
12	12.4	1.2	6.0	---	---	---	---	---	---	---	---	---
13	11.3	.5	5.6	---	---	---	---	---	---	---	---	---
14	12.6	1.9	6.7	---	---	---	---	---	---	---	---	---
15	11.9	2.8	6.2	---	---	---	---	---	---	---	---	---
16	9.0	.2	3.8	---	---	---	---	---	---	---	---	---
17	9.6	1.0	4.4	---	---	---	---	---	---	---	---	---
18	10.7	.2	3.8	---	---	---	---	---	---	---	---	---
19	10.8	.2	4.3	---	---	---	---	---	---	---	---	---
20	5.2	1.7	3.4	---	---	---	---	---	---	---	---	---
21	6.7	3.2	4.6	---	---	---	---	---	---	---	---	---
22	11.2	2.2	6.2	---	---	---	---	---	---	---	---	---
23	12.3	1.6	6.0	---	---	---	---	---	---	---	---	---
24	11.0	.2	4.6	---	---	---	---	---	---	---	---	---
25	9.9	.7	4.9	---	---	---	---	---	---	---	---	---
26	8.5	5.3	6.8	---	---	---	---	---	---	---	---	---
27	7.0	3.5	5.3	---	---	---	---	---	---	---	---	---
28	9.7	2.1	4.9	---	---	---	---	---	---	---	---	---
29	9.5	.2	4.0	---	---	---	---	---	---	---	---	---
30	8.0	1.4	4.5	---	---	---	---	---	---	---	---	---
31	5.7	2.8	4.1	---	---	---	---	---	---	---	---	---
MONTH	14.9	.2	5.8	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	8.5	.2	3.3	2.8	.4	1.7
2	---	---	---	---	---	---	1.5	.2	.3	14.3	.2	5.5
3	---	---	---	---	---	---	.4	.2	.2	10.2	.9	5.9
4	---	---	---	---	---	---	.5	.1	.3	13.4	.2	5.9
5	---	---	---	---	---	---	1.0	.2	.4	12.0	.2	4.8
6	---	---	---	---	---	---	6.5	.2	1.7	13.9	.2	5.4
7	---	---	---	---	---	---	12.3	.1	4.7	17.4	.2	7.7
8	---	---	---	---	---	---	12.1	.2	4.9	17.5	1.6	8.9
9	---	---	---	---	---	---	8.5	.2	3.2	17.1	3.2	9.2
10	---	---	---	---	---	---	10.1	.2	2.9	15.1	1.7	7.6
11	---	---	---	---	---	---	12.5	.1	4.3	11.1	.7	5.2
12	---	---	---	---	---	---	16.0	.2	6.4	17.1	1.6	8.4
13	---	---	---	---	---	---	8.7	.2	4.7	19.3	3.1	10.4
14	---	---	---	---	---	---	10.4	.1	4.6	17.5	4.4	9.9
15	---	---	---	---	---	---	10.3	.1	3.2	18.3	3.0	9.6
16	---	---	---	---	---	---	1.3	.2	.4	12.0	2.4	7.2
17	---	---	---	---	---	---	9.5	.2	2.8	18.3	.4	8.4
18	---	---	---	---	---	---	13.2	.1	5.0	19.0	2.0	9.9
19	---	---	---	---	---	---	13.4	.2	5.8	17.8	3.9	10.6
20	---	---	---	---	---	---	15.1	.2	6.7	15.5	3.3	9.7
21	---	---	---	---	---	---	15.2	1.5	6.7	20.4	6.4	12.1
22	---	---	---	---	---	---	8.8	.5	3.7	18.9	4.9	11.7
23	---	---	---	---	---	---	5.3	.2	1.4	18.8	7.9	12.0
24	---	---	---	---	---	---	11.8	.2	4.3	19.9	5.1	12.2
25	---	---	---	---	---	---	10.5	.4	5.1	14.0	7.6	10.1
26	---	---	---	---	---	---	12.8	.4	5.5	16.2	6.4	10.6
27	---	---	---	---	---	---	13.7	.5	6.5	14.8	3.7	8.9
28	---	---	---	---	---	---	9.2	1.2	5.6	24.1	3.7	12.6
29	---	---	---	---	---	---	9.7	3.0	5.8	15.7	7.2	11.7
30	---	---	---	---	---	---	4.5	.2	2.4	19.7	5.5	12.4
31	---	---	---	---	---	---	---	---	---	17.8	7.0	11.6
MONTH	---	---	---	---	---	---	16.0	.1	3.8	24.1	.2	9.0



ARKANSAS RIVER BASIN

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

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	e.33	---	e.15	e1.7	---	e1.2	3.0	98	.79
2	e.28	---	e.13	e1.5	---	e.97	2.7	75	.55
3	e.30	---	e.13	e2.1	---	e1.3	2.6	84	.58
4	e.30	---	e.13	e2.2	---	e1.2	2.4	96	.61
5	e.25	---	e.10	e1.9	---	e1.0	2.2	---	e.48
6	e.20	---	e.08	e1.8	---	e.88	2.1	65	.37
7	e.30	---	e.08	e1.8	---	e.86	1.8	---	e.30
8	e.40	---	e.10	2.3	---	e1.3	1.6	54	.24
9	e.50	---	e.18	2.4	---	e1.6	1.4	50	.19
10	e.50	---	e.25	3.1	---	e2.4	1.4	---	e.17
11	e.55	---	e.28	2.8	---	e1.8	1.5	41	.17
12	e.50	---	e.34	2.4	---	e1.4	1.6	38	.16
13	e.45	---	e.30	2.5	---	e1.5	1.9	46	.24
14	e.40	---	e.25	3.0	---	e2.8	2.0	---	e.25
15	e.40	---	e.23	2.6	---	e2.0	2.2	48	.28
16	e.40	---	e.21	2.2	---	e1.5	2.3	83	.53
17	e.43	---	e.20	2.0	---	e1.2	2.5	104	.70
18	e.45	---	e.15	1.9	---	e.92	2.2	---	e.60
19	e.45	---	e.13	1.8	---	e.74	1.7	98	.46
20	e.50	---	e.11	1.7	---	e.69	1.7	---	e.42
21	e.60	---	e.11	1.7	---	e.68	1.4	79	.30
22	e.62	---	e.23	1.7	---	e.70	1.3	---	e.22
23	e.60	---	e.19	1.7	---	e.68	1.1	61	.18
24	e.55	---	e.23	4.9	755	13	1.1	171	.49
25	e.90	---	e.50	4.0	197	2.2	1.0	---	e.50
26	e.92	---	e.41	4.0	---	e2.3	e1.0	---	e.23
27	e1.1	---	e.50	7.3	1090	79	e.98	---	e.10
28	e1.4	---	e1.4	14	2540	99	e.96	---	e.10
29	e1.8	---	e1.2	5.2	---	e18	e.92	---	e.10
30	e1.8	---	e1.2	4.2	666	7.6	e.88	---	e.10
31	---	---	---	3.4	---	e2.4	---	---	---
TOTAL	18.18	---	9.50	95.8	---	252.82	51.44	---	10.41

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)	
	JULY			AUGUST			SEPTEMBER		
1	e.85	---	e.08	.95	124	.32	.60	---	e.06
2	e.83	---	e.08	1.1	156	.44	.59	35	.06
3	e.80	---	e.11	.87	147	.35	.60	---	e.06
4	e.78	---	e.15	.90	---	e.29	e.57	---	e.08
5	e.76	---	e.13	1.3	549	3.1	e.56	---	e.09
6	e.74	---	e.12	1.3	1270	5.7	e.56	---	e.08
7	e.72	---	e.12	.91	172	.43	e.56	---	e.08
8	e.70	---	e.12	.78	---	e.23	e.56	---	e.08
9	e.70	---	e.19	.72	---	e.16	e.56	---	e.08
10	e.70	---	e.17	.81	75	.16	e.56	---	e.08
11	e1.5	---	e13	.89	---	e.18	e.56	---	e.07
12	.85	---	e2.0	.72	77	.15	e.56	---	e.07
13	.48	264	.35	.67	76	.14	e.56	---	e.07
14	.42	200	.23	.63	---	e.13	e.57	---	e.07
15	.51	---	e.21	.63	---	e.13	.79	---	e.10
16	.49	143	.19	.62	---	e.13	.92	---	e.11
17	.77	171	.36	.59	82	.13	.74	41	.08
18	.66	186	.33	.59	79	.13	.69	---	e.08
19	.98	233	.62	.56	---	e.11	.72	48	.09
20	.78	---	e.37	.61	66	.11	.95	---	e.12
21	.75	155	.31	.72	80	.16	.82	---	e.10
22	1.1	193	.58	.61	---	e.13	.70	---	e.09
23	.85	142	.33	.59	77	.12	.68	---	e.09
24	.70	---	e.22	.58	---	e.13	.69	---	e.09
25	.61	---	e.18	.57	---	e.14	.69	---	e.09
26	.56	99	.15	.56	---	e.16	.67	---	e.08
27	.78	99	.21	.71	108	.21	.63	---	e.08
28	7.2	1020	97	.67	77	.14	.66	---	e.08
29	4.4	1320	28	.70	---	e.11	.64	---	e.08
30	1.1	486	1.5	.64	46	.08	.68	---	e.08
31	.98	191	.51	.64	43	.08	---	---	---
TOTAL	34.05	---	147.92	23.14	---	13.98	19.64	---	2.47

e Estimated

## ARKANSAS RIVER BASIN

07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO

LOCATION.--Lat 38°28'02", long 105°51'34", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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 SEASONAL RECORD.--Maximum discharge, 2,990 ft<sup>3</sup>/s, July 8, 1996, from rating curve extended above 160 ft<sup>3</sup>/s on the basis of slope-area measurement of peak flow; gage height, 10.73 ft, from floodmarks; minimum daily, 0.56 ft<sup>3</sup>/s, Feb. 4, 1982.

EXTREMES FOR CURRENT SEASON.--Maximum discharge, 403 ft<sup>3</sup>/s, July 11, gage height, 5.96 ft; minimum daily, 4.9 ft<sup>3</sup>/s, Oct. 2, 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	---	---	---	---	---	6.2	21	22	8.3	9.3	6.7
2	4.9	---	---	---	---	---	e6.5	21	20	8.3	9.2	6.7
3	5.0	---	---	---	---	---	e6.0	18	19	7.9	8.8	6.7
4	5.1	---	---	---	---	---	6.4	17	18	7.7	8.9	6.3
5	5.1	---	---	---	---	---	e6.6	16	18	7.3	10	6.1
6	5.0	---	---	---	---	---	e6.8	16	17	7.2	9.9	6.0
7	4.9	---	---	---	---	---	e6.8	16	17	7.3	8.9	5.9
8	5.2	---	---	---	---	---	e6.7	16	16	7.9	8.3	5.7
9	5.5	---	---	---	---	---	6.7	17	16	8.7	8.4	5.6
10	5.4	---	---	---	---	---	6.5	17	16	7.8	8.8	5.5
11	5.6	---	---	---	---	---	6.4	18	15	15	8.4	5.6
12	5.6	---	---	---	---	---	e6.4	17	15	10	8.0	5.6
13	5.6	---	---	---	---	---	6.7	17	15	9.3	7.8	5.5
14	5.7	---	---	---	---	---	6.8	18	15	9.4	7.8	5.7
15	5.6	---	---	---	---	---	6.8	19	15	10	7.8	6.8
16	5.7	---	---	---	---	---	e6.3	20	15	9.9	7.6	5.6
17	5.7	---	---	---	---	---	e6.3	19	15	9.9	8.0	5.8
18	5.7	---	---	---	---	---	6.3	19	14	10	8.0	5.9
19	5.7	---	---	---	---	---	6.3	19	13	10	7.8	6.3
20	5.8	---	---	---	---	---	6.4	19	13	9.9	10	6.4
21	5.9	---	---	---	---	---	6.6	19	12	9.3	7.4	6.1
22	5.9	---	---	---	---	---	7.2	19	12	9.3	7.5	5.8
23	6.0	---	---	---	---	---	7.6	19	11	9.4	7.2	5.8
24	6.0	---	---	---	---	---	7.4	21	11	8.1	7.0	6.0
25	6.1	---	---	---	---	---	7.8	23	11	7.9	7.5	6.0
26	6.3	---	---	---	---	---	7.5	23	10	8.0	7.6	5.7
27	6.3	---	---	---	---	---	7.3	23	9.5	8.1	7.3	5.9
28	6.2	---	---	---	---	---	7.6	26	9.0	8.4	7.5	6.0
29	6.3	---	---	---	---	---	9.8	24	8.9	10	7.5	6.0
30	6.4	---	---	---	---	---	19	23	8.6	9.2	7.2	5.9
31	6.6	---	---	---	---	---	---	22	---	9.4	6.7	---
TOTAL	175.9	---	---	---	---	---	217.7	602	427.0	278.9	252.1	179.6
MEAN	5.67	---	---	---	---	---	7.26	19.4	14.2	9.00	8.13	5.99
MAX	6.6	---	---	---	---	---	19	26	22	15	10	6.8
MIN	4.9	---	---	---	---	---	6.0	16	8.6	7.2	6.7	5.5
AC-FT	349	---	---	---	---	---	432	1190	847	553	500	356

e Estimated





ARKANSAS RIVER BASIN

07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	12.7	3.4	6.7	5.1	1.5	4.1
2	---	---	---	---	---	---	5.1	.4	1.6	16.6	2.9	7.9
3	---	---	---	---	---	---	12.2	.4	4.3	14.3	4.2	7.6
4	---	---	---	---	---	---	8.1	.7	3.3	13.8	4.0	7.4
5	---	---	---	---	---	---	15.0	1.0	6.2	13.9	2.4	6.9
6	---	---	---	---	---	---	16.7	1.4	7.0	16.2	1.9	7.6
7	---	---	---	---	---	---	17.9	2.7	8.2	18.4	3.1	9.3
8	---	---	---	---	---	---	16.7	1.1	7.5	17.4	4.4	9.9
9	---	---	---	---	---	---	12.2	1.9	5.7	17.8	5.2	10.2
10	---	---	---	---	---	---	15.8	.4	5.8	16.7	5.3	9.3
11	---	---	---	---	---	---	17.0	.8	6.9	11.8	4.5	6.9
12	---	---	---	---	---	---	17.8	2.6	8.5	17.4	4.1	9.6
13	---	---	---	---	---	---	12.2	3.6	6.8	17.7	5.5	10.7
14	---	---	---	---	---	---	11.7	3.0	6.5	18.3	7.0	11.2
15	---	---	---	---	---	---	14.0	1.7	5.3	18.9	5.8	10.7
16	---	---	---	---	---	---	9.2	.1	3.6	16.2	5.4	9.2
17	---	---	---	---	---	---	16.8	.1	6.6	18.4	4.7	10.1
18	---	---	---	---	---	---	17.4	2.6	7.6	19.8	4.9	11.0
19	---	---	---	---	---	---	16.5	3.0	8.2	19.7	6.3	11.4
20	---	---	---	---	---	---	17.0	3.3	8.5	18.5	6.0	11.5
21	---	---	---	---	---	---	15.4	3.7	8.2	21.0	9.0	13.4
22	---	---	---	---	---	---	9.9	4.4	6.3	17.8	7.5	11.6
23	---	---	---	---	---	---	5.3	2.5	3.7	20.3	9.3	12.6
24	---	---	---	---	---	---	9.4	1.0	5.0	18.9	7.5	12.3
25	---	---	---	---	---	---	9.9	2.5	6.0	15.5	8.4	11.1
26	---	---	---	---	---	---	15.2	3.5	7.9	17.1	7.4	11.5
27	---	---	---	---	---	---	18.9	3.9	9.5	17.6	7.7	11.2
28	---	---	---	---	---	---	11.9	4.9	8.3	18.5	7.3	12.0
29	---	---	---	---	---	---	8.6	6.3	7.3	15.2	8.4	11.3
30	---	---	---	---	---	---	6.3	1.3	4.8	15.9	7.2	11.3
31	---	---	---	---	---	---	---	---	---	17.0	7.9	11.4
MONTH	---	---	---	---	---	---	18.9	.1	6.4	21.0	1.5	10.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.0	6.9	12.1	25.0	10.3	16.4	---	---	---	17.9	11.6	14.6
2	18.3	7.6	11.6	20.3	10.9	14.6	---	---	---	24.0	12.0	15.3
3	18.9	7.2	12.0	24.8	10.2	15.1	---	---	---	20.1	10.8	13.7
4	18.1	6.6	11.4	23.0	11.7	16.4	---	---	---	24.1	8.7	14.4
5	13.6	5.9	9.0	25.5	10.9	16.6	---	---	---	24.6	11.6	15.8
6	19.8	5.4	11.4	26.4	12.8	18.0	---	---	---	23.5	9.0	14.6
7	20.4	7.2	12.8	25.8	12.4	17.5	---	---	---	24.4	9.2	14.9
8	19.5	7.0	12.3	23.9	12.3	16.4	---	---	---	23.7	10.8	15.1
9	20.9	6.9	12.8	21.4	13.3	16.0	---	---	---	23.8	8.9	14.8
10	20.8	9.2	13.6	25.4	12.0	17.0	23.4	---	---	18.8	11.1	14.2
11	21.2	8.6	13.4	23.4	10.3	15.7	25.3	12.4	16.5	22.5	9.6	14.5
12	18.8	9.2	13.1	19.0	13.1	15.7	25.8	10.3	16.2	21.9	9.0	13.6
13	21.0	8.0	13.6	20.5	14.1	17.1	25.9	10.1	16.3	23.4	9.6	14.5
14	19.2	10.6	12.9	20.0	14.1	16.8	18.8	11.7	14.5	21.3	8.5	13.1
15	14.4	8.8	11.6	21.7	11.9	16.2	21.4	12.5	15.6	16.5	11.0	12.9
16	19.4	9.6	12.6	20.9	13.0	15.9	24.6	10.3	15.8	21.3	9.3	13.8
17	20.3	9.3	13.0	22.2	13.4	16.5	24.2	12.1	15.9	20.6	9.3	13.6
18	21.2	8.4	13.9	24.5	13.4	16.2	25.1	11.3	16.3	22.9	8.2	13.4
19	21.2	9.1	13.8	25.1	12.9	17.2	23.9	11.8	15.9	14.5	8.3	11.2
20	23.9	9.8	14.4	26.4	12.1	17.0	24.7	12.0	16.3	17.4	9.8	12.2
21	21.1	9.3	13.5	26.1	11.5	16.6	23.7	12.0	16.4	21.5	7.5	12.6
22	21.8	9.5	14.4	22.3	12.0	16.3	23.2	12.1	16.0	21.1	6.4	12.2
23	23.1	8.8	15.2	22.3	12.7	16.2	26.1	11.4	17.1	18.9	9.3	12.7
24	24.5	10.0	16.0	---	---	---	26.5	11.2	16.6	22.0	9.2	13.1
25	23.3	10.3	15.6	---	---	---	25.0	11.2	16.2	21.7	7.9	13.1
26	23.1	9.4	15.2	---	---	---	26.7	10.9	16.9	21.8	8.8	13.0
27	24.5	10.8	16.1	---	---	---	24.9	11.9	16.7	17.4	7.9	10.7
28	24.0	9.1	15.2	---	---	---	18.1	13.4	15.4	17.2	5.4	9.5
29	23.7	9.6	15.3	---	---	---	25.5	11.6	16.8	19.3	3.4	9.4
30	22.0	9.7	15.1	---	---	---	25.4	11.5	16.2	18.8	4.7	9.8
31	---	---	---	---	---	---	24.0	12.1	16.0	---	---	---
MONTH	24.5	5.4	13.4	---	---	---	---	---	---	24.6	3.4	13.2

07094500 ARKANSAS RIVER AT PARKDALE, CO

LOCATION.--Lat 38°29'14", long 105°22'23", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/s, Jun. 18, 1995, gage height 8.82 ft; maximum gage height, 9.13 ft, Jun. 9, 1985; minimum daily, 199 ft<sup>3</sup>/s, Mar. 17, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 3,590 ft<sup>3</sup>/s, Jun. 24, gage height, 6.51 ft; minimum daily, 279 ft<sup>3</sup>/s, Apr. 19.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	366	---	---	---	---	---	346	835	1690	2670	1270	1220
2	500	---	---	---	---	---	377	722	1670	2640	1370	1240
3	466	---	---	---	---	---	396	702	1700	2480	1300	1090
4	445	---	---	---	---	---	369	617	1780	2280	1240	936
5	466	---	---	---	---	---	373	527	1820	2270	1420	894
6	447	---	---	---	---	---	374	461	1690	2220	1420	872
7	432	---	---	---	---	---	381	419	1580	2050	1460	852
8	458	---	---	---	---	---	408	412	1680	1770	1440	800
9	423	---	---	---	---	---	386	426	2290	1750	1370	686
10	413	---	---	---	---	---	319	460	2800	1660	1370	678
11	407	---	---	---	---	---	289	491	2780	1740	1460	783
12	400	---	---	---	---	---	283	468	2630	1750	1380	753
13	389	---	---	---	---	---	280	430	2540	1750	1260	767
14	388	---	---	---	---	---	294	418	2540	1740	1140	718
15	386	---	---	---	---	---	319	469	2760	1930	1090	680
16	386	---	---	---	---	---	323	510	2800	1710	1120	695
17	392	---	---	---	---	e430	302	521	2800	1650	1080	693
18	405	---	---	---	---	433	290	486	2480	1630	1130	626
19	404	---	---	---	---	435	279	481	2560	1700	1200	618
20	418	---	---	---	---	390	280	519	2830	1570	1330	649
21	438	---	---	---	---	378	304	610	2960	1430	1380	682
22	e445	---	---	---	---	382	362	833	e3100	1230	1400	666
23	---	---	---	---	---	384	424	1090	e3210	1270	1400	654
24	---	---	---	---	---	384	409	1380	3330	1230	1350	633
25	---	---	---	---	---	357	420	1600	3370	1100	1330	637
26	---	---	---	---	---	355	432	1670	3270	1100	1350	639
27	---	---	---	---	---	372	453	1520	3210	1110	1350	609
28	---	---	---	---	---	372	397	1520	3100	1110	1330	603
29	---	---	---	---	---	356	432	1540	2870	1120	1140	600
30	---	---	---	---	---	346	845	1700	2580	1140	995	609
31	---	---	---	---	---	403	---	1720	---	1130	1030	---
TOTAL	---	---	---	---	---	---	11146	25557	76420	51930	39905	22582
MEAN	---	---	---	---	---	---	372	824	2547	1675	1287	753
MAX	---	---	---	---	---	---	845	1720	3370	2670	1460	1240
MIN	---	---	---	---	---	---	279	412	1580	1100	995	600
AC-FT	---	---	---	---	---	---	22110	50690	151600	103000	79150	44790

e Estimated



ARKANSAS RIVER BASIN

07094500 ARKANSAS RIVER AT PARKDALE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	12.0	7.6	9.4	9.3	8.8	9.1
2	---	---	---	---	---	---	9.2	2.9	5.5	12.0	8.3	9.7
3	---	---	---	---	---	---	6.5	1.7	4.3	12.8	11.0	11.9
4	---	---	---	---	---	---	7.0	4.3	5.5	12.7	11.3	11.9
5	---	---	---	---	---	---	9.8	3.9	6.9	12.2	10.8	11.6
6	---	---	---	---	---	---	12.2	6.9	9.6	13.3	10.5	11.8
7	---	---	---	---	---	---	14.0	8.6	11.4	14.2	11.7	12.9
8	---	---	---	---	---	---	12.9	8.8	11.2	16.0	12.6	14.2
9	---	---	---	---	---	---	12.5	8.4	10.5	16.3	14.0	15.2
10	---	---	---	---	---	---	11.2	5.8	8.5	16.4	14.1	15.3
11	---	---	---	---	---	---	12.8	6.7	9.8	15.7	13.8	14.3
12	---	---	---	---	---	---	15.5	8.5	11.9	15.4	12.7	14.0
13	---	---	---	---	---	---	13.8	10.6	11.9	17.0	14.1	15.4
14	---	---	---	---	---	---	14.0	9.8	11.5	18.0	15.1	16.5
15	---	---	---	---	---	---	11.3	7.6	9.0	18.1	15.4	16.6
16	---	---	---	---	---	---	10.1	6.1	7.9	17.4	16.0	16.7
17	---	---	---	---	---	---	12.2	5.7	9.0	17.4	15.4	16.4
18	---	---	---	6.8	5.3	5.8	13.4	8.6	11.0	16.9	12.0	15.1
19	---	---	---	9.1	4.7	6.8	15.6	9.3	12.4	16.5	9.7	13.0
20	---	---	---	11.3	6.3	8.8	15.9	9.2	13.0	15.0	10.8	12.9
21	---	---	---	12.3	7.6	9.9	15.5	11.6	13.5	15.5	11.8	13.6
22	---	---	---	12.4	7.8	10.1	12.1	10.1	11.3	15.8	12.4	14.0
23	---	---	---	12.5	8.7	10.5	10.1	8.7	9.3	15.7	11.2	13.6
24	---	---	---	12.8	9.1	10.6	9.4	7.5	8.6	14.6	11.0	13.0
25	---	---	---	13.3	9.3	11.4	12.1	8.3	10.2	13.2	10.6	11.7
26	---	---	---	13.4	9.7	11.5	14.1	9.0	11.0	13.0	10.0	11.6
27	---	---	---	14.1	9.6	11.6	16.9	11.4	14.2	14.0	10.1	11.9
28	---	---	---	12.6	8.9	10.5	15.4	13.4	14.4	15.1	10.1	12.5
29	---	---	---	12.1	7.5	9.9	13.9	11.5	12.8	13.5	12.0	12.8
30	---	---	---	12.7	8.2	10.2	11.5	8.0	9.7	12.5	10.5	11.7
31	---	---	---	12.3	8.8	10.3	---	---	---	12.7	11.2	11.9
MONTH	---	---	---	---	---	---	16.9	1.7	10.2	18.1	8.3	13.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	14.3	10.1	12.2	19.1	15.2	17.1	18.9	17.7	18.3	19.3	16.9	18.2
2	14.1	11.5	12.7	18.1	16.3	17.2	19.2	17.0	17.9	19.7	16.1	17.5
3	14.8	10.8	12.7	18.0	14.9	16.5	19.6	17.9	18.8	19.1	15.6	17.1
4	14.6	10.6	12.6	19.7	15.7	17.5	19.4	17.7	18.4	18.4	14.3	16.5
5	12.7	9.4	11.3	19.5	16.5	17.9	18.9	17.2	18.1	19.6	15.5	17.5
6	13.8	7.9	10.7	21.0	17.4	18.9	19.8	17.4	18.5	19.0	15.6	17.4
7	15.4	11.1	13.3	20.0	17.7	19.1	19.9	17.4	18.7	19.3	15.0	17.2
8	15.6	12.1	14.0	19.7	17.4	18.5	20.0	17.6	18.8	18.7	15.2	17.0
9	14.6	11.7	13.3	18.7	16.9	17.7	19.7	17.9	18.8	18.9	14.5	16.7
10	14.9	11.8	13.4	20.6	17.0	18.6	19.2	17.7	18.5	18.3	15.3	16.8
11	14.5	11.9	13.2	19.5	17.6	18.6	20.2	16.3	18.4	17.8	14.7	16.4
12	14.2	12.2	13.3	19.7	15.5	17.9	19.6	15.9	17.9	16.8	14.3	15.1
13	15.0	11.4	13.3	20.5	16.7	18.7	20.2	16.3	18.3	17.8	13.2	15.5
14	14.5	12.8	13.7	20.3	17.3	18.8	19.1	16.9	18.0	17.5	14.2	15.8
15	13.0	11.7	12.3	20.0	16.4	18.1	18.4	15.9	16.8	16.0	14.4	15.0
16	13.0	11.3	12.0	19.1	17.3	18.2	20.4	15.3	17.8	16.7	13.1	15.1
17	15.0	11.8	13.3	19.9	17.0	18.4	20.7	16.7	18.6	18.0	14.4	16.1
18	14.9	11.9	13.5	19.5	17.4	18.4	19.7	16.2	18.1	17.5	13.8	15.7
19	15.9	13.2	14.5	19.8	17.0	18.3	20.4	16.6	18.4	15.7	13.4	14.4
20	15.6	13.5	14.6	19.4	17.3	18.4	20.0	16.1	18.0	13.5	12.3	12.9
21	14.9	13.3	14.1	19.7	16.9	18.4	20.0	16.8	18.4	16.4	11.9	14.1
22	---	---	---	19.7	17.9	19.0	19.8	16.9	18.3	16.3	12.2	14.3
23	---	---	---	19.5	17.9	18.4	20.9	16.6	18.8	16.5	13.2	14.9
24	16.6	14.5	15.6	20.2	17.0	18.4	20.9	17.2	19.2	15.9	13.2	14.7
25	17.3	14.2	15.8	19.8	17.5	18.7	20.7	16.9	19.0	17.3	13.2	15.2
26	17.2	14.3	15.8	19.6	17.7	18.7	20.2	16.7	18.6	16.3	13.6	14.9
27	18.2	14.9	16.4	19.8	18.0	18.9	20.0	17.2	19.0	13.9	10.8	12.2
28	17.4	14.6	16.1	20.3	17.9	19.2	19.8	18.0	18.9	12.3	9.9	10.9
29	17.9	14.7	16.3	19.9	18.4	19.3	19.6	16.6	17.9	12.9	9.0	10.9
30	17.9	15.0	16.5	20.0	17.8	19.0	20.7	17.0	18.8	13.4	9.5	11.4
31	---	---	---	19.6	18.1	18.8	20.8	16.7	18.9	---	---	---
MONTH	---	---	---	21.0	14.9	18.4	20.9	15.3	18.4	19.7	9.0	15.2

## ARKANSAS RIVER BASIN

07096000 ARKANSAS RIVER AT CANON CITY, CO

LOCATION.--Lat 38°26'02", long 105°15'24", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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.--Records good except for estimated daily discharges, which are poor. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	266	494	382	576	582	561	240	1240	1530	2450	1170	1010
2	384	471	377	545	573	562	258	1090	1520	2400	1300	1030
3	372	459	375	513	579	559	275	1100	1540	2250	1290	893
4	356	451	369	515	579	556	258	940	1620	2110	1230	747
5	373	433	372	530	593	557	255	723	1670	2080	1440	712
6	342	411	382	546	595	558	256	568	1540	2040	1520	678
7	318	425	366	548	586	561	268	485	1390	1880	1550	663
8	342	429	344	540	591	570	315	437	1500	1600	1440	617
9	313	446	342	533	591	553	308	411	2140	1570	1300	524
10	304	449	379	534	590	537	250	411	2660	1470	1320	514
11	300	427	343	541	581	531	211	425	2690	1520	1420	599
12	297	454	367	540	530	500	218	414	2620	1580	1280	575
13	288	480	370	551	577	440	232	341	2590	1550	1150	579
14	291	487	374	559	582	422	242	330	2540	1540	1000	548
15	288	494	377	573	584	410	259	342	2760	1720	956	514
16	289	455	386	575	572	409	265	364	2870	1510	970	521
17	294	440	401	579	566	414	249	386	2960	1460	970	525
18	306	432	382	586	579	411	239	374	2700	1430	1100	480
19	304	422	388	594	578	408	220	353	2740	1530	1100	482
20	311	403	e320	602	586	360	213	365	2950	1430	1160	515
21	329	384	e350	601	573	341	232	424	3040	1250	1310	539
22	333	460	e320	596	588	330	330	588	3330	1040	1320	527
23	324	429	e330	577	567	325	371	868	3280	1080	1240	500
24	315	396	e410	605	579	326	350	1100	3410	1060	1170	481
25	330	384	e470	615	578	297	364	1340	3510	1060	1140	483
26	350	385	556	602	572	289	391	1450	3440	1060	1120	488
27	397	475	563	587	562	297	384	1320	3390	1030	1120	497
28	428	403	e570	583	560	298	325	1340	3220	1040	1120	501
29	441	384	e580	562	---	279	435	1330	2900	1140	933	487
30	443	389	616	589	---	265	1140	1520	2560	1060	786	466
31	472	---	603	575	---	292	---	1540	---	1080	817	---
TOTAL	10500	13051	12764	17572	16173	13218	9353	23919	76610	47020	36742	17695
MEAN	339	435	412	567	578	426	312	772	2554	1517	1185	590
MAX	472	494	616	615	595	570	1140	1540	3510	2450	1550	1030
MIN	266	384	320	513	530	265	211	330	1390	1030	786	466
AC-FT	20830	25890	25320	34850	32080	26220	18550	47440	152000	93260	72880	35100

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1889 - 1999, BY WATER YEAR (WY)

	374	379	370	347	344	353	427	1110	2297	1487	860	452
MEAN	374	379	370	347	344	353	427	1110	2297	1487	860	452
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 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1889 - 1999	
ANNUAL TOTAL	239326		294617			
ANNUAL MEAN	656		807		736	
HIGHEST ANNUAL MEAN					1299	
LOWEST ANNUAL MEAN					329	
HIGHEST DAILY MEAN	2850	Jul 1	3510	Jun 25	9480	Jun 29 1957
LOWEST DAILY MEAN	235	Sep 30	211	Apr 11	69	May 13 1959
ANNUAL SEVEN-DAY MINIMUM	250	Sep 25	239	Apr 11	87	Apr 9 1940
INSTANTANEOUS PEAK FLOW			3640	Jun 25	a19000	Aug 2 1921
INSTANTANEOUS PEAK STAGE			9.07	Jun 25	b,c10.70	Aug 2 1921
ANNUAL RUNOFF (AC-FT)	474700		584400		532900	
10 PERCENT EXCEEDS	1270		1550		1720	
50 PERCENT EXCEEDS	421		548		418	
90 PERCENT EXCEEDS	304		305		240	

e Estimated

a Site and datum then in use, from rating curve extended above 5000 ft<sup>3</sup>/s.

b From floodmark.

c Maximum gage height, 10.90 ft, Jun 18, 1995.

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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 fair. Records for water temperature are good. 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.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 418 microsiemens, May 9; minimum, 140 microsiemens, June 12.

WATER TEMPERATURE: Maximum, 22.4° C, July 28; minimum, 0.0° C, many days.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	336	323	328	297	291	294	291	285	288	---	---	---
2	328	322	325	302	297	299	294	289	292	---	---	---
3	327	315	320	305	299	302	294	288	291	229	215	223
4	318	312	315	302	296	299	293	287	290	233	226	230
5	317	306	310	304	299	301	296	290	293	267	226	234
6	310	301	306	310	304	306	296	290	293	234	223	228
7	318	309	313	313	306	309	294	289	291	235	223	227
8	318	311	314	311	302	306	305	290	296	235	223	228
9	316	306	311	309	300	304	310	300	304	240	224	229
10	319	312	315	303	290	297	316	309	312	239	223	229
11	319	315	317	313	287	295	314	306	309	234	226	229
12	320	314	317	309	297	302	315	298	306	232	225	229
13	320	316	318	306	288	294	304	295	299	231	222	227
14	324	318	321	291	284	287	306	289	296	231	214	220
15	323	318	321	289	284	286	297	286	292	223	213	217
16	322	317	319	289	281	285	296	285	291	224	215	218
17	322	316	319	293	285	289	294	284	288	---	---	---
18	320	315	317	294	290	293	289	280	284	---	---	---
19	318	313	315	294	288	291	300	285	289	---	---	---
20	316	311	314	297	285	290	337	300	317	218	216	218
21	316	311	314	302	286	291	341	313	323	221	216	218
22	316	307	311	302	288	294	316	205	288	221	211	216
23	316	308	311	288	272	278	---	---	---	225	211	216
24	317	310	314	290	277	282	---	---	---	222	215	220
25	316	310	313	294	289	292	---	---	---	220	215	218
26	313	307	310	294	289	292	---	---	---	222	216	219
27	315	301	308	293	278	286	---	---	---	222	212	217
28	305	300	303	281	266	275	---	---	---	223	215	218
29	305	297	302	292	279	283	---	---	---	225	210	217
30	302	294	298	294	288	290	---	---	---	223	212	217
31	298	290	294	---	---	---	---	---	---	224	211	217
MONTH	336	290	313	313	266	293	---	---	---	---	---	---

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SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	228	213	219	226	219	223	295	279	284	377	357	369
2	232	214	221	225	219	223	290	269	279	401	376	390
3	232	220	225	225	219	222	288	271	276	404	393	399
4	232	217	224	227	219	223	285	273	277	415	400	406
5	231	223	227	225	219	223	297	285	293	414	406	410
6	229	225	227	223	219	221	308	296	303	413	408	411
7	233	225	229	222	215	219	315	307	310	414	411	413
8	231	228	230	225	215	221	341	311	322	417	414	416
9	232	227	230	223	218	221	331	320	324	418	410	413
10	234	230	232	228	221	225	330	320	324	412	389	400
11	232	224	229	226	222	224	336	319	327	402	379	388
12	232	221	226	232	225	228	349	328	339	387	379	382
13	237	219	228	252	232	242	349	341	344	390	381	385
14	234	220	227	264	250	256	341	334	337	403	390	398
15	232	225	228	263	259	262	340	325	332	404	381	389
16	230	224	227	264	257	261	331	320	325	383	371	375
17	237	222	228	261	258	260	329	319	324	380	366	372
18	231	224	228	260	254	256	338	324	331	391	379	383
19	233	225	228	260	254	256	344	328	336	393	375	383
20	230	224	227	269	257	262	343	333	338	377	360	367
21	231	222	226	280	266	271	339	318	333	362	351	356
22	229	222	225	282	277	279	321	315	318	351	344	347
23	225	221	223	282	277	279	321	308	314	348	312	333
24	233	222	225	280	276	278	320	314	317	312	299	304
25	229	218	224	287	277	284	331	314	321	307	296	300
26	230	220	225	294	287	292	345	331	338	311	304	307
27	233	223	226	300	293	296	353	313	345	321	304	312
28	228	222	224	294	289	292	354	339	347	346	321	333
29	---	---	---	295	290	292	359	297	342	356	346	352
30	---	---	---	298	291	296	357	337	347	349	336	343
31	---	---	---	308	286	298	---	---	---	345	327	337
MONTH	237	213	226	308	215	254	359	269	322	418	296	370
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	328	318	323	155	143	151	260	230	253	242	212	227
2	326	319	323	147	142	145	269	253	261	212	202	208
3	320	296	307	151	142	146	297	258	266	225	211	215
4	303	275	288	164	147	156	278	256	263	246	225	238
5	275	256	265	154	148	151	272	243	259	253	245	250
6	259	249	254	152	147	150	258	246	252	250	248	249
7	260	249	253	175	148	156	255	238	251	251	248	249
8	251	224	240	209	161	172	238	226	232	252	248	249
9	224	171	203	191	182	185	229	223	226	270	252	260
10	172	159	165	185	179	182	252	210	228	282	270	277
11	160	141	150	205	168	179	230	223	225	278	247	261
12	147	140	143	262	163	180	227	222	224	250	246	248
13	158	142	153	174	141	167	231	224	227	252	250	250
14	152	146	149	164	154	157	239	231	234	261	250	256
15	157	145	152	159	148	155	245	239	243	275	261	268
16	216	156	178	170	147	157	245	239	242	283	275	280
17	217	205	213	185	169	177	240	237	239	283	276	280
18	222	211	217	173	168	170	247	237	241	287	276	281
19	219	204	213	212	165	174	242	231	238	289	282	285
20	206	190	198	177	171	175	247	219	230	291	284	287
21	198	186	192	184	174	177	234	215	221	291	284	287
22	191	178	183	217	183	195	218	211	214	287	279	283
23	184	179	181	213	200	207	211	208	210	284	275	279
24	181	168	176	234	194	201	213	210	211	283	273	278
25	176	167	172	234	227	231	210	205	208	283	276	280
26	173	167	170	244	231	235	205	197	200	284	271	278
27	177	168	171	236	220	227	214	194	197	287	279	283
28	179	169	175	241	222	228	207	199	201	287	281	285
29	179	170	176	238	223	231	226	197	205	288	281	285
30	185	153	173	234	212	219	246	224	237	288	280	284
31	---	---	---	237	210	218	247	240	244	---	---	---
MONTH	328	140	205	262	141	182	297	194	232	291	202	265



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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	15.3	12.5	13.8	7.8	6.6	7.3	5.2	4.0	4.7	.0	.0	.0
2	14.0	11.4	12.6	7.7	7.4	7.5	5.5	4.4	5.0	.8	.0	.3
3	14.6	11.4	13.1	8.1	7.3	7.7	4.8	3.6	4.3	.0	.0	.0
4	13.8	10.4	12.4	8.3	7.3	7.7	4.4	3.2	3.7	.0	.0	.0
5	10.5	8.7	9.5	7.3	6.3	6.8	4.0	3.1	3.5	.2	.0	.0
6	10.4	7.2	8.8	6.9	5.6	6.4	3.1	1.2	2.3	.7	.0	.3
7	11.2	7.8	9.6	6.7	5.6	6.0	1.6	.2	1.0	1.5	.3	1.0
8	12.3	9.8	11.1	5.7	4.6	5.3	.2	.0	.0	1.5	.8	1.1
9	13.4	10.5	11.8	5.8	3.3	5.0	.0	.0	.0	1.1	.0	.4
10	13.5	10.7	12.1	3.3	1.3	2.0	.0	.0	.0	1.1	.0	.5
11	12.7	10.4	11.5	2.5	.9	1.8	.0	.0	.0	2.3	.7	1.5
12	11.5	9.5	10.5	3.6	1.9	2.9	.0	.0	.0	2.7	1.9	2.3
13	11.5	9.1	10.4	4.6	2.9	3.8	.0	.0	.0	2.0	1.4	1.7
14	12.3	9.7	11.0	5.7	4.2	4.9	.0	.0	.0	1.4	.1	.6
15	12.8	10.8	11.6	6.4	5.1	5.7	.0	.0	.0	1.9	.3	1.0
16	11.0	9.3	10.1	6.4	5.2	5.8	.1	.0	.0	2.1	1.0	1.6
17	10.7	8.6	9.4	6.1	4.8	5.4	.4	.0	.1	---	---	---
18	9.9	7.6	8.7	5.6	4.6	5.0	.5	.0	.1	---	---	---
19	9.8	7.2	8.5	5.2	4.0	4.6	.0	.0	.0	---	---	---
20	8.9	8.1	8.5	4.0	2.2	3.1	.0	.0	.0	4.6	3.7	4.1
21	8.8	8.0	8.3	3.1	1.6	2.5	.0	.0	.0	4.4	3.2	3.5
22	10.3	7.7	9.1	5.0	2.8	3.8	.0	.0	.0	3.3	1.5	2.0
23	11.8	9.3	10.5	5.4	4.3	4.8	.0	.0	.0	2.1	1.0	1.5
24	10.8	9.0	10.0	5.4	3.8	4.6	---	---	---	3.8	1.8	2.9
25	10.3	8.9	9.6	5.3	4.2	4.7	---	---	---	3.1	2.1	2.6
26	11.5	9.7	10.7	5.2	3.9	4.6	---	---	---	3.2	2.0	2.5
27	10.7	9.6	10.0	5.8	4.7	5.2	---	---	---	2.3	.9	1.6
28	10.1	8.4	9.2	5.6	4.5	5.1	---	---	---	2.5	1.5	1.9
29	9.1	7.4	8.3	6.3	4.4	5.5	.0	.0	.0	1.5	.1	.6
30	8.8	7.5	8.3	5.6	4.5	5.1	.0	.0	.0	1.4	.2	.9
31	8.7	7.3	7.9	---	---	---	.0	.0	.0	1.6	.5	1.2
MONTH	15.3	7.2	10.2	8.3	.9	5.0	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2.8	.8	1.6	7.0	4.5	5.8	10.3	7.7	9.0	7.0	6.2	6.5
2	2.4	1.0	1.6	6.7	5.0	5.8	8.6	2.3	5.0	11.7	6.2	8.6
3	2.9	1.4	2.2	6.3	4.0	5.5	5.4	1.4	3.4	13.2	9.5	11.0
4	3.0	1.5	2.4	6.8	4.8	5.9	5.7	3.4	4.5	11.8	9.9	10.8
5	4.8	2.7	3.9	7.4	5.2	6.1	8.7	3.3	5.8	11.6	8.2	9.8
6	4.1	2.4	3.3	5.7	2.7	4.0	11.7	5.8	8.4	12.3	7.2	9.6
7	5.0	3.0	4.0	4.7	1.3	3.0	13.3	7.6	10.2	13.4	8.2	10.7
8	6.2	3.8	5.1	7.0	4.4	5.6	11.8	7.8	9.9	15.4	9.7	12.6
9	6.1	4.1	5.4	7.1	4.3	5.7	11.2	6.8	9.1	16.5	11.5	13.8
10	6.5	4.5	5.6	7.8	5.0	6.3	10.0	4.5	7.2	15.9	11.2	13.4
11	4.5	.9	2.5	7.6	5.3	6.3	11.2	5.2	8.1	13.2	9.6	10.9
12	1.1	.0	.5	5.9	3.6	4.3	13.5	6.9	10.1	14.3	8.4	11.2
13	1.9	.0	.9	6.6	2.6	4.6	11.6	9.2	10.5	17.0	11.1	13.8
14	3.2	1.1	2.2	8.4	4.3	6.3	11.9	8.6	9.8	17.8	13.1	15.2
15	3.0	2.0	2.5	8.1	6.1	7.1	9.1	5.8	7.4	17.5	12.3	14.8
16	2.6	.8	1.7	10.4	6.4	8.2	8.2	4.0	5.9	15.7	13.2	14.2
17	2.9	1.3	2.1	8.9	6.6	7.9	10.2	3.8	6.8	15.7	11.6	13.6
18	3.5	1.3	2.5	6.6	4.8	5.5	10.8	6.6	8.6	17.2	11.4	14.3
19	4.6	2.0	3.4	7.3	4.3	5.7	13.5	7.7	10.6	18.4	13.8	15.9
20	5.1	3.1	4.1	10.6	6.1	8.2	14.1	9.1	11.5	18.4	13.9	16.1
21	4.0	2.3	3.3	11.9	7.3	9.4	13.3	10.3	11.7	19.2	14.9	17.0
22	4.3	2.6	3.4	11.9	7.7	9.6	10.5	7.8	9.2	18.6	15.4	17.2
23	3.6	1.2	2.6	12.0	8.5	10.2	7.8	5.6	6.4	17.4	14.2	16.0
24	5.3	2.7	4.1	11.7	9.1	10.3	7.0	5.7	6.4	16.2	14.1	15.4
25	6.3	3.9	5.2	13.0	9.3	10.8	9.7	6.3	7.7	15.7	13.3	14.2
26	6.3	4.1	5.1	12.3	9.6	11.1	11.5	6.5	8.6	14.6	12.5	13.7
27	5.5	3.0	4.3	13.5	9.5	11.2	13.0	8.6	10.8	15.4	12.6	13.9
28	6.1	3.6	4.8	12.5	8.8	10.3	12.2	10.7	11.5	16.2	12.7	14.5
29	---	---	---	11.9	7.4	9.5	11.2	9.1	9.9	16.0	14.2	15.1
30	---	---	---	12.5	8.2	10.0	9.1	6.4	7.6	14.5	12.1	13.6
31	---	---	---	12.3	8.1	10.0	---	---	---	15.1	12.4	13.8
MONTH	6.5	.0	3.2	13.5	1.3	7.4	14.1	1.4	8.4	19.2	6.2	13.3

## ARKANSAS RIVER BASIN

07096000 ARKANSAS RIVER AT CANON CITY, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	15.6	11.9	13.9	18.9	15.2	17.2	19.7	17.6	18.6	19.5	17.3	18.3
2	15.4	13.1	14.2	18.5	16.7	17.4	20.4	17.6	18.7	18.9	15.9	17.4
3	15.9	12.4	14.2	17.8	15.2	16.6	21.1	18.3	19.8	17.9	15.9	16.9
4	15.6	12.4	14.1	19.6	15.8	17.6	20.2	18.2	19.3	18.0	14.5	16.4
5	13.8	11.5	12.8	19.4	16.5	18.0	20.5	18.0	19.2	18.8	15.7	17.3
6	14.3	9.2	11.7	20.6	17.4	18.9	21.0	17.1	19.1	18.4	16.1	17.4
7	16.5	12.5	14.6	20.4	18.2	19.3	20.9	17.1	19.1	18.4	15.6	17.1
8	16.4	13.6	15.2	19.8	17.4	18.6	21.0	17.3	19.3	17.9	15.6	16.8
9	15.4	13.0	14.3	18.8	17.2	17.9	20.9	17.7	19.4	17.7	14.9	16.4
10	15.4	12.8	14.2	20.2	17.1	18.5	20.3	17.7	18.9	18.2	15.4	16.7
11	15.1	13.0	14.0	19.7	18.1	18.9	19.9	16.8	18.4	17.0	15.5	16.3
12	14.9	12.9	14.0	19.7	15.7	18.1	19.7	16.1	18.1	16.5	14.1	14.9
13	15.6	12.4	14.0	20.1	17.1	18.6	19.9	16.6	18.5	16.6	13.6	15.1
14	15.0	13.6	14.4	20.1	17.6	19.0	19.4	17.4	18.4	16.6	14.7	15.7
15	13.7	12.4	12.9	19.8	16.8	18.2	17.8	16.0	16.9	15.7	14.4	14.9
16	13.6	11.8	12.6	19.2	17.5	18.4	19.7	15.7	17.8	16.3	13.3	14.8
17	16.3	12.6	14.3	19.8	17.4	18.7	20.3	17.4	18.8	17.0	14.9	16.0
18	15.8	12.5	14.3	19.6	17.8	18.8	19.9	16.4	18.4	16.7	14.3	15.5
19	17.2	13.5	15.3	19.6	17.4	18.6	20.0	16.9	18.5	15.5	13.3	14.4
20	16.5	13.8	15.3	20.1	17.8	18.9	19.6	16.5	18.1	13.3	12.2	12.5
21	15.9	13.3	14.6	20.1	17.4	18.8	19.9	17.0	18.6	15.4	11.7	13.6
22	16.3	12.8	14.6	20.8	18.4	19.6	19.7	16.9	18.4	15.4	12.3	14.0
23	17.0	13.6	15.4	20.0	18.2	19.0	20.2	16.6	18.6	15.7	13.5	14.6
24	17.4	14.8	16.1	21.3	17.2	19.2	20.3	17.4	19.1	15.6	13.6	14.6
25	17.8	14.4	16.2	20.9	17.8	19.7	20.1	17.3	18.9	16.3	13.5	14.9
26	17.5	14.5	16.2	21.5	17.9	19.6	19.6	17.0	18.5	15.8	13.9	14.7
27	18.7	15.1	16.9	21.1	18.3	19.9	19.6	17.8	18.9	14.1	10.6	12.0
28	17.7	14.7	16.4	22.4	18.4	20.3	19.6	18.1	19.0	12.0	9.6	10.5
29	18.2	14.8	16.6	22.0	18.3	20.1	18.8	16.7	17.9	11.8	8.6	10.3
30	18.5	15.3	17.0	22.0	18.0	20.0	20.4	17.2	18.7	12.2	9.6	11.0
31	---	---	---	20.6	17.6	19.4	20.4	17.3	18.9	---	---	---
MONTH	18.7	9.2	14.7	22.4	15.2	18.8	21.1	15.7	18.7	19.5	8.6	15.0

07096250 FOURMILE CREEK BELOW CRIPPLE CREEK NEAR VICTOR, CO

LOCATION.--Lat 38°39'52", long 105°13'37", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	10	4.6	5.9	6.5	3.9	3.7	153	123	29	109	64
2	18	9.4	4.9	e5.5	5.8	3.8	4.5	209	115	28	94	59
3	14	9.1	4.7	e5.0	5.8	3.6	6.5	225	111	28	81	46
4	13	8.2	4.6	e4.5	5.4	3.7	7.0	177	103	28	85	46
5	13	7.8	5.3	e4.8	4.2	3.9	7.9	147	95	27	144	47
6	13	7.4	5.7	5.0	4.1	3.5	7.4	136	90	28	166	45
7	13	7.1	8.3	e5.5	4.5	3.5	7.1	124	78	26	225	44
8	12	6.9	8.1	e6.5	4.1	4.2	5.6	118	71	26	155	41
9	12	7.0	11	e8.0	4.3	3.7	5.5	130	60	28	144	40
10	12	7.0	e15	e7.0	4.2	3.8	6.3	135	59	27	151	40
11	11	11	e12	5.5	4.3	3.6	6.5	126	59	28	155	40
12	11	7.8	9.2	6.2	4.2	3.6	5.5	121	68	20	137	40
13	11	7.6	7.5	e7.0	6.2	3.4	5.6	111	69	18	119	39
14	11	7.2	e9.0	e6.5	4.6	3.4	5.7	109	70	17	105	37
15	11	6.9	e11	5.7	4.5	3.5	5.3	106	69	18	95	42
16	9.9	6.6	e12	5.5	6.4	3.4	5.1	106	76	19	87	48
17	10	6.4	e11	9.0	5.6	3.5	5.0	101	90	20	77	42
18	10	6.0	10	8.8	5.6	3.7	5.7	88	78	26	71	38
19	10	5.9	e8.0	4.8	4.7	3.8	5.3	83	73	55	75	37
20	9.9	6.1	e6.0	4.6	4.0	3.9	4.7	81	65	52	80	41
21	11	7.4	e5.0	5.1	4.2	3.9	5.2	79	69	46	83	40
22	11	6.0	4.6	6.1	4.1	e3.7	6.7	81	60	64	81	37
23	12	5.4	4.0	5.8	3.7	e3.5	8.8	75	53	45	72	35
24	12	5.1	4.3	6.2	4.0	e3.3	12	76	46	37	70	33
25	11	5.5	6.0	4.8	4.1	3.3	14	169	45	34	69	32
26	11	5.6	7.1	5.3	3.9	3.4	14	202	44	41	71	32
27	11	5.6	5.4	5.4	3.8	3.4	17	180	38	44	67	31
28	10	5.2	5.2	5.2	3.9	3.2	20	175	32	47	64	29
29	8.7	5.1	5.0	5.3	---	3.2	45	165	33	46	64	29
30	8.2	4.9	5.3	5.7	---	3.1	113	154	31	44	66	28
31	9.1	---	6.2	7.7	---	3.1	---	141	---	101	64	---
TOTAL	356.8	207.2	226.0	183.9	130.7	110.5	371.6	4083	2073	1097	3126	1202
MEAN	11.5	6.91	7.29	5.93	4.67	3.56	12.4	132	69.1	35.4	101	40.1
MAX	18	11	15	9.0	6.5	4.2	113	225	123	101	225	64
MIN	8.2	4.9	4.0	4.5	3.7	3.1	3.7	75	31	17	64	28
AC-FT	708	411	448	365	259	219	737	8100	4110	2180	6200	2380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1999, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	14.9	11.7	8.17	7.23	6.17	7.57	19.5	69.9	55.2	28.1	33.0	23.1
MAX	21.1	21.8	16.6	15.4	11.6	10.8	40.2	149	128	75.8	101	44.9
(WY)	1995	1995	1996	1996	1996	1998	1994	1994	1995	1995	1999	1998
MIN	6.65	6.91	5.66	4.55	3.79	3.56	9.75	12.3	11.8	11.2	4.95	5.19
(WY)	1994	1999	1994	1997	1995	1999	1997	1996	1996	1993	1993	1993

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1993 - 1999

ANNUAL TOTAL	7620.2	13167.7	
ANNUAL MEAN	20.9	36.1	23.8
HIGHEST ANNUAL MEAN			38.2
LOWEST ANNUAL MEAN			12.6
HIGHEST DAILY MEAN	84 Jul 25	225 May 3	373 May 11 1994
LOWEST DAILY MEAN	2.8 Feb 5	3.1 Mar 30	2.5 Mar 1 1995
ANNUAL SEVEN-DAY MINIMUM	3.2 Feb 4	3.2 Mar 25	3.2 Feb 4 1998
INSTANTANEOUS PEAK FLOW		a492 Jul 31	a647 Jun 17 1995
INSTANTANEOUS PEAK STAGE		4.55 Jul 31	4.62 Jun 17 1995
ANNUAL RUNOFF (AC-FT)	15110	26120	17240
10 PERCENT EXCEEDS	51	106	58
50 PERCENT EXCEEDS	12	11	12
90 PERCENT EXCEEDS	4.6	4.0	5.0

e Estimated  
a From rating curve extended above 190 ft<sup>3</sup>/s.

## ARKANSAS RIVER BASIN

07097000 ARKANSAS RIVER AT PORTLAND, CO

LOCATION.--Lat 38°23'18", long 105°00'56", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.20, T.19 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on right bank at bridge on State Highway 120 at Portland, and 1 mi downstream from Hardscrabble Creek.

DRAINAGE AREA.--4,024 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to September 1952, October 1974 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,021.59 ft above sea level. Prior to Oct. 1, 1974, at site 400 ft downstream at datum 0.03 ft lower.

REMARKS.--Records good 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 60,000 acres and return flow from irrigated areas.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	244	540	402	579	516	497	321	3070	1820	2600	1430	1100
2	383	518	396	564	510	497	327	2190	1750	2580	1560	1180
3	422	488	402	515	515	493	294	2090	1760	2420	1490	1030
4	373	502	401	495	525	484	275	1790	1790	2260	1420	852
5	393	494	399	506	545	499	236	1400	1840	2190	2320	825
6	370	436	404	526	551	482	238	1160	1730	2160	2030	774
7	323	444	401	528	535	496	230	1040	1510	2000	2090	738
8	353	449	345	513	529	496	273	988	1580	1690	1990	699
9	318	463	325	512	529	484	276	1040	2140	1640	1760	594
10	289	476	360	498	524	461	229	1070	2740	1570	1760	547
11	288	443	326	489	528	516	183	1050	2820	1590	1880	680
12	285	467	332	488	474	455	175	981	2760	1700	1680	661
13	274	511	346	494	510	391	176	856	2730	1600	1480	667
14	263	526	335	518	535	375	188	821	2680	1580	1300	625
15	265	529	348	533	511	374	217	839	2910	1740	1250	609
16	264	511	341	531	503	358	232	835	3060	1700	1260	630
17	307	456	366	533	495	366	220	813	3180	1710	1200	626
18	329	447	360	534	510	365	204	726	2890	1530	1270	571
19	307	441	346	542	543	372	195	663	2830	1650	1290	556
20	326	431	e340	550	549	328	182	643	3050	1550	1350	593
21	340	402	e340	547	538	291	186	699	3160	1380	1480	631
22	358	458	e340	547	524	300	317	843	3340	1190	1490	616
23	340	460	e400	536	520	304	512	1140	3340	1160	1400	575
24	332	426	e400	559	492	255	495	1330	3700	1200	1300	549
25	353	404	e425	574	513	242	476	1600	3470	1170	1290	538
26	379	411	e425	556	491	214	515	1830	3390	1170	1270	553
27	435	484	e425	545	497	217	501	1640	3380	1200	1250	546
28	449	454	e450	540	493	273	467	1820	3270	1170	1220	527
29	484	403	e500	509	---	324	1690	1640	3050	1280	1110	530
30	474	407	e500	527	---	304	3970	1850	2760	1260	918	531
31	515	---	e500	521	---	336	---	1850	---	1270	905	---
TOTAL	10835	13881	11980	16409	14505	11849	13800	40307	80430	50910	45443	20153
MEAN	350	463	386	529	518	382	460	1300	2681	1642	1466	672
MAX	515	540	500	579	551	516	3970	3070	3700	2600	2320	1180
MIN	244	402	325	488	474	214	175	643	1510	1160	905	527
AC-FT	21490	27530	23760	32550	28770	23500	27370	79950	159500	101000	90140	39970

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

MEAN	394	421	379	360	352	368	509	1195	2537	1625	963	460
MAX	1083	748	693	626	774	683	1869	2680	4429	4472	2380	1008
(WY)	1985	1985	1983	1983	1985	1989	1942	1984	1980	1995	1984	1982
MIN	136	191	212	199	162	147	135	245	581	242	201	172
(WY)	1978	1978	1978	1979	1978	1978	1981	1977	1977	1977	1977	1977

## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1939 - 1999

ANNUAL TOTAL	253400	330502										
ANNUAL MEAN	694	905								804		
HIGHEST ANNUAL MEAN										1387		1995
LOWEST ANNUAL MEAN										315		1977
HIGHEST DAILY MEAN				2900	Jul 1		3970	Apr 30		7460	Jun 8	1942
LOWEST DAILY MEAN				244	Oct 1		175	Apr 12		66	Oct 28	1977
ANNUAL SEVEN-DAY MINIMUM				275	Oct 10		199	Apr 11		76	Oct 24	1977
INSTANTANEOUS PEAK FLOW							6190	Jun 24		a21100	Jun 5	1949
INSTANTANEOUS PEAK STAGE							8.03	Jun 24		12.18	Jun 5	1949
ANNUAL RUNOFF (AC-FT)	502600	655600								582400		
10 PERCENT EXCEEDS				1370			1990			1910		
50 PERCENT EXCEEDS				441			528			464		
90 PERCENT EXCEEDS				325			306			226		

e Estimated

a From rating curve extended above 5300 ft<sup>3</sup>/s.

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1977 to current year. October 1979 to October 1982 published records include observer once-daily water temperature and specific conductance measurements.

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.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,020 microsiemens, Apr. 29; minimum, 183 microsiemens, June 24, 27.  
WATER TEMPERATURE: Maximum, 24.6° C, July 28; minimum, 0.0° C, several days.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	625	592	610	554	523	538	540	524	533	414	378	391
2	595	515	551	535	511	521	538	522	532	402	382	392
3	532	508	517	535	516	525	540	505	523	429	381	405
4	524	497	515	518	509	514	542	496	516	---	---	---
5	512	494	504	521	508	513	519	495	510	434	405	413
6	501	491	495	530	521	527	529	511	519	423	397	408
7	520	493	508	532	513	526	531	517	523	415	388	403
8	523	489	507	527	519	523	566	526	537	407	401	404
9	522	495	512	531	522	526	569	557	562	432	383	405
10	529	499	523	524	503	511	603	547	568	411	395	403
11	540	510	527	527	510	516	627	542	585	418	397	405
12	539	521	530	521	513	517	614	560	583	417	385	401
13	539	518	530	514	495	505	598	526	560	412	381	399
14	552	525	535	502	483	497	578	541	558	401	376	386
15	550	523	537	514	476	493	558	537	546	398	354	380
16	550	523	536	507	462	489	560	526	544	384	372	377
17	629	536	569	519	499	506	560	492	533	391	351	374
18	555	504	530	517	504	511	568	505	529	387	354	371
19	535	515	526	518	509	514	556	509	524	381	348	369
20	555	527	536	519	504	510	637	493	559	374	362	367
21	555	492	525	531	499	519	646	435	575	379	346	366
22	547	481	525	531	491	511	---	---	---	375	356	366
23	550	500	529	513	492	500	---	---	---	375	356	365
24	563	511	540	519	500	508	---	---	---	380	345	364
25	565	525	546	529	516	520	---	---	---	369	338	358
26	550	512	534	537	514	527	---	---	---	367	354	361
27	532	489	510	533	490	513	---	---	---	370	353	361
28	530	493	509	514	493	504	---	---	---	381	339	361
29	510	471	494	528	512	519	---	---	---	384	344	363
30	500	486	494	537	513	528	---	---	---	377	339	363
31	523	497	505	---	---	---	389	372	381	373	342	361
MONTH	629	471	526	554	462	514	---	---	---	---	---	---

## ARKANSAS RIVER BASIN

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	370	322	355	357	334	344	530	463	484	704	530	602
2	368	344	353	359	328	343	542	490	505	641	535	599
3	369	328	354	355	336	345	558	504	523	535	504	517
4	368	336	352	353	338	346	572	539	552	535	496	509
5	362	331	349	358	324	343	572	526	549	550	514	530
6	364	325	348	349	337	342	564	473	532	601	547	568
7	366	331	348	355	321	338	546	508	527	601	567	584
8	359	338	349	351	314	339	560	478	516	604	549	574
9	354	322	344	343	327	339	537	497	518	603	525	544
10	355	338	347	347	309	335	---	---	---	536	496	512
11	351	314	339	343	307	325	---	---	---	530	495	514
12	383	308	329	348	330	337	---	---	---	561	520	544
13	373	333	345	383	341	362	---	---	---	589	543	565
14	352	322	334	407	368	380	702	657	683	583	554	568
15	352	327	337	407	370	388	679	592	638	575	548	561
16	345	327	337	405	380	392	629	594	607	590	539	560
17	354	329	340	413	378	387	628	588	615	569	546	561
18	365	336	344	393	375	383	666	602	641	599	525	582
19	358	326	338	438	357	390	694	613	656	630	595	615
20	344	326	335	441	394	412	713	304	676	634	607	620
21	360	315	333	482	410	437	713	626	676	620	577	603
22	354	325	336	459	421	440	724	606	675	588	465	546
23	374	327	339	468	421	445	755	610	708	479	434	458
24	357	321	345	485	468	479	696	597	642	434	365	404
25	375	324	349	519	388	463	599	563	576	437	351	378
26	360	339	351	---	---	---	583	521	553	354	311	334
27	370	339	351	517	419	451	550	517	534	---	---	---
28	366	330	350	502	449	479	555	524	536	---	---	---
29	---	---	---	489	446	461	1020	511	720	---	---	---
30	---	---	---	489	452	467	712	548	617	---	---	---
31	---	---	---	490	442	466	---	---	---	---	---	---
MONTH	383	308	344	---	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	209	195	203	471	332	364	359	317	340
2	---	---	---	206	193	198	435	347	373	323	313	318
3	---	---	---	205	193	201	367	337	353	323	316	326
4	---	---	---	218	204	210	374	345	361	381	343	365
5	---	---	---	214	195	206	787	328	403	392	375	385
6	---	---	---	214	191	206	423	337	355	401	379	393
7	---	---	---	223	202	214	350	319	336	399	392	395
8	312	281	301	272	221	243	326	312	320	416	392	399
9	284	221	260	276	262	268	325	314	320	459	416	438
10	221	202	208	272	257	266	404	309	330	481	443	472
11	209	198	203	290	250	266	351	310	323	443	414	426
12	211	201	205	328	241	261	325	307	317	457	419	432
13	220	203	210	257	239	250	332	316	324	453	436	443
14	219	210	213	246	232	237	363	329	344	456	437	445
15	216	209	211	396	232	254	365	350	359	594	419	488
16	237	216	221	861	237	308	357	340	351	520	444	489
17	252	227	237	787	303	376	354	340	347	496	465	481
18	248	224	239	353	280	297	347	325	337	508	486	500
19	243	218	233	332	271	295	392	325	341	503	494	498
20	224	208	218	343	286	294	347	314	329	503	490	497
21	358	205	218	317	288	300	325	302	314	496	466	485
22	229	194	211	351	315	328	318	302	306	481	455	471
23	202	190	196	350	330	341	310	297	305	479	471	474
24	842	183	278	707	324	347	327	297	312	486	473	480
25	335	194	222	432	339	356	312	300	309	489	467	480
26	200	186	193	368	338	357	324	295	312	480	443	464
27	193	183	189	428	349	367	309	301	305	482	456	470
28	193	184	188	459	350	370	330	306	317	486	470	475
29	200	184	193	459	336	363	341	306	322	502	464	482
30	218	194	207	467	342	377	393	338	366	499	466	486
31	---	---	---	491	353	378	388	356	377	---	---	---
MONTH	---	---	---	861	191	288	787	295	337	594	313	443

ARKANSAS RIVER BASIN

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	17.2	13.6	15.0	8.8	7.5	8.3	8.4	4.8	6.5	3.1	.4	1.6
2	16.5	12.8	14.4	8.8	8.3	8.6	8.4	5.6	6.8	2.3	.4	1.3
3	16.4	12.1	14.3	9.5	8.0	8.6	8.1	5.2	6.5	1.4	.0	.4
4	15.4	11.8	14.1	10.3	8.0	8.8	7.6	4.0	5.8	.0	.0	.0
5	12.8	9.5	11.0	8.7	7.6	8.1	6.8	3.8	5.3	1.6	.0	.7
6	13.0	8.0	10.5	10.3	7.3	8.4	5.1	3.1	4.1	3.7	.2	1.7
7	14.0	8.1	11.1	9.5	6.7	7.9	4.0	1.6	2.8	3.6	.9	2.1
8	15.2	9.9	12.5	8.0	5.9	7.0	2.9	.0	1.3	3.0	1.0	2.0
9	15.9	10.8	13.4	7.0	4.4	6.1	1.7	.0	.8	3.5	.7	2.0
10	16.2	10.4	13.4	5.5	2.9	4.0	2.1	.0	.8	3.6	.1	1.7
11	14.9	10.7	12.9	5.5	1.9	3.6	1.7	.0	.6	5.1	1.1	3.0
12	13.8	9.7	11.8	6.5	2.6	4.5	2.6	.0	1.1	4.1	2.4	3.2
13	14.4	9.2	12.0	7.6	3.4	5.4	3.4	.0	1.5	3.5	1.5	2.7
14	15.7	9.7	12.6	8.8	4.9	6.8	3.9	.2	2.0	3.0	.9	2.0
15	15.1	10.6	13.0	9.4	5.4	7.2	3.7	.4	2.0	3.9	1.3	2.6
16	13.1	9.6	11.5	9.0	5.6	7.3	3.6	.1	1.8	4.0	1.6	2.9
17	13.1	9.4	11.2	8.6	5.4	6.9	4.4	.0	2.3	4.5	1.5	2.8
18	12.6	8.1	10.4	8.1	5.1	6.6	4.0	1.5	2.7	5.5	.9	3.1
19	12.7	7.7	10.3	7.9	5.2	6.4	2.4	.0	.3	6.6	3.5	4.8
20	10.5	8.7	9.7	6.5	3.7	5.1	.0	.0	.6	6.4	4.1	5.1
21	11.2	9.4	10.2	6.6	2.7	4.6	.0	.0	.0	5.2	3.9	4.5
22	13.2	8.1	10.6	7.6	3.8	5.7	---	---	---	5.1	2.0	3.8
23	14.1	9.7	11.8	7.7	4.7	6.1	---	---	---	5.1	1.0	2.8
24	13.8	9.6	11.8	7.9	4.1	5.9	---	---	---	5.5	1.7	3.5
25	12.8	9.4	11.2	7.2	4.8	6.0	---	---	---	4.8	2.7	3.6
26	13.8	10.6	12.2	8.7	5.2	6.7	---	---	---	4.7	1.8	3.2
27	12.1	10.9	11.6	8.8	5.6	7.0	---	---	---	5.1	1.6	3.1
28	12.6	9.8	11.0	8.6	5.9	7.1	---	---	---	5.0	2.1	3.2
29	12.0	8.1	9.8	8.2	5.7	6.8	---	---	---	3.6	.7	2.2
30	10.3	8.2	9.3	8.7	5.4	6.8	---	---	---	3.4	1.3	2.3
31	9.7	8.2	9.1	---	---	---	2.1	.5	1.3	4.7	1.6	3.0
MONTH	17.2	7.7	11.7	10.3	1.9	6.6	---	---	---	6.6	.0	2.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4.4	1.0	2.7	10.2	5.0	7.3	12.7	8.4	10.8	7.0	5.8	6.5
2	4.8	1.1	2.9	8.2	5.5	6.7	9.9	3.8	6.4	12.8	5.3	8.6
3	5.9	2.0	3.6	9.3	4.1	6.6	9.3	2.6	5.8	12.9	7.6	10.1
4	5.4	1.7	3.5	9.7	5.5	7.4	7.9	3.6	6.0	11.0	8.0	9.4
5	7.4	3.3	4.9	9.9	5.6	7.6	11.6	4.6	8.1	10.5	6.2	8.4
6	6.3	3.0	4.6	6.9	4.0	5.6	13.5	5.6	9.8	13.4	6.0	9.5
7	7.8	3.2	5.3	7.0	2.4	4.6	---	---	---	15.1	7.7	11.2
8	8.6	4.3	6.3	9.4	4.7	6.7	13.7	7.3	11.0	17.3	9.2	13.0
9	8.4	4.5	6.4	9.5	4.7	6.9	13.5	7.9	10.5	16.0	10.3	13.1
10	9.3	5.2	6.9	10.7	5.3	7.8	---	---	---	15.3	10.1	12.8
11	5.7	1.4	4.0	9.9	5.7	7.5	---	---	---	12.1	9.2	10.5
12	5.0	.2	2.3	6.7	4.5	5.7	---	---	---	---	---	---
13	5.4	.0	2.6	9.0	3.3	6.1	---	---	---	---	---	---
14	6.1	1.7	3.7	11.0	4.1	7.6	13.3	9.0	10.6	18.8	11.8	15.1
15	4.8	2.5	3.6	10.3	6.4	8.3	11.9	6.5	9.2	18.8	11.7	15.1
16	---	---	---	12.9	7.0	9.9	9.1	4.9	7.2	16.4	12.0	14.2
17	---	---	---	11.3	7.4	9.3	12.4	4.4	8.5	17.9	11.1	14.2
18	6.0	1.7	3.7	8.2	6.3	7.0	12.0	7.3	9.5	19.0	10.9	14.8
19	7.1	2.3	4.6	8.8	5.3	6.9	16.0	8.0	12.1	19.8	12.9	16.3
20	7.6	3.9	5.4	12.5	5.2	8.9	17.7	10.0	13.9	20.0	13.6	16.7
21	6.9	2.7	4.6	13.7	6.9	10.3	15.8	11.2	13.1	21.9	14.6	17.9
22	5.9	2.9	4.3	13.6	7.0	10.5	12.1	9.3	10.5	21.1	15.3	17.9
23	6.8	2.0	4.2	13.8	8.3	11.2	9.3	6.5	7.3	19.8	15.7	17.5
24	8.3	3.1	5.5	14.1	9.3	11.6	8.8	6.3	7.5	19.5	15.2	16.9
25	9.3	4.5	6.7	14.7	5.7	11.9	12.2	6.8	9.3	16.5	14.2	15.4
26	8.9	4.8	6.5	14.5	5.0	11.8	12.5	7.3	9.9	17.0	13.2	14.9
27	8.0	3.5	5.6	15.0	9.3	12.0	15.9	8.8	12.4	---	---	---
28	9.2	3.7	6.1	14.5	8.4	11.4	14.3	11.3	12.9	---	---	---
29	---	---	---	13.8	7.2	10.7	12.7	8.3	10.3	---	---	---
30	---	---	---	14.2	8.0	11.0	8.3	6.6	7.3	---	---	---
31	---	---	---	13.7	8.2	11.1	---	---	---	---	---	---
MONTH	---	---	---	15.0	2.4	8.6	---	---	---	---	---	---

## ARKANSAS RIVER BASIN

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	19.9	16.9	18.4	20.6	18.9	19.7	21.1	18.5	19.7
2	---	---	---	19.8	18.1	19.0	21.1	18.3	19.4	20.9	17.6	19.0
3	---	---	---	19.5	17.2	18.1	22.7	19.3	20.7	20.0	16.8	18.3
4	---	---	---	20.8	17.0	18.9	21.0	19.5	20.2	20.1	15.6	17.8
5	---	---	---	21.2	17.7	19.6	22.3	18.6	19.9	21.0	16.4	18.3
6	---	---	---	21.9	18.5	20.1	22.6	18.3	20.3	21.4	16.6	18.8
7	---	---	---	23.0	19.8	21.2	22.5	18.5	20.4	21.5	16.1	18.6
8	19.1	14.7	16.8	22.6	19.1	20.4	22.8	18.8	20.6	20.6	16.5	18.3
9	17.3	14.4	15.9	19.9	18.6	19.3	22.5	19.3	20.8	20.7	15.0	17.7
10	16.2	14.4	15.3	22.1	17.7	19.7	21.7	18.9	20.2	21.1	15.9	18.0
11	16.4	14.2	15.4	22.6	19.1	20.3	21.5	18.2	19.6	20.4	15.6	17.8
12	16.0	13.9	15.1	21.8	17.9	19.6	21.5	17.4	19.3	17.3	14.1	15.5
13	16.6	13.6	15.1	22.2	18.1	20.1	21.9	17.8	19.7	19.0	13.3	15.8
14	16.9	14.9	15.6	21.3	19.1	20.3	21.7	18.4	19.8	19.2	14.6	16.7
15	15.1	13.5	14.1	21.6	18.1	19.8	19.2	17.5	18.1	17.2	15.5	16.2
16	13.7	12.6	13.1	21.0	18.8	19.8	21.4	16.5	18.8	18.7	13.8	16.1
17	16.9	13.2	14.8	22.7	18.8	20.2	22.6	18.4	20.2	20.0	15.5	17.2
18	16.6	13.7	15.2	22.4	19.2	20.4	21.9	18.2	19.8	19.9	14.5	17.0
19	18.2	14.8	16.3	22.1	18.5	20.1	21.2	17.9	19.6	16.5	14.0	15.1
20	17.6	15.0	16.4	22.1	18.7	20.3	20.7	17.7	19.2	14.0	12.8	13.3
21	16.9	14.5	15.7	22.3	18.5	20.3	21.1	18.2	19.5	17.3	11.7	14.3
22	16.7	14.4	15.6	23.9	19.2	20.9	20.7	18.2	19.4	17.9	12.8	15.2
23	17.8	14.8	16.3	22.3	19.7	20.6	21.7	17.7	19.6	18.5	13.9	15.9
24	18.8	14.3	16.9	22.9	18.7	20.6	22.3	18.2	20.1	18.3	14.0	16.0
25	18.8	15.6	17.1	23.1	20.1	21.3	22.3	18.3	20.0	19.3	13.6	16.3
26	18.2	16.1	17.2	23.3	19.0	20.9	22.1	18.0	19.9	18.0	14.0	15.8
27	19.5	16.1	17.8	24.1	19.5	21.5	22.3	18.5	20.1	15.0	11.4	12.7
28	18.6	16.1	17.5	24.6	19.8	21.8	22.1	19.1	20.2	13.3	10.3	11.5
29	18.8	16.1	17.5	23.9	19.7	21.6	21.3	17.8	19.3	14.0	8.2	11.0
30	20.0	16.6	18.3	23.7	19.5	21.4	22.4	17.7	19.8	14.8	9.6	12.0
31	---	---	---	23.0	20.0	21.2	22.4	18.3	20.3	---	---	---
MONTH	---	---	---	24.6	16.9	20.2	22.8	16.5	19.8	21.5	8.2	16.2



07099050 BEAVER CREEK ABOVE UPPER BEAVER CEMETERY, NEAR PENROSE, CO

LOCATION.--Lat 38°33'42", long 105°01'17", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1991 to current year (seasonal records only). 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 SEASONAL RECORD.--Maximum discharge, 659 ft<sup>3</sup>/s, June 10, 1997, gage height, 5.57 ft, from rating curve extended above 600 ft<sup>3</sup>/s; maximum gage height, 6.45 ft, May 12, 1994; minimum daily, 4.2 ft<sup>3</sup>/s, Mar. 25, 1996.

EXTREMES FOR CURRENT SEASON.--Maximum discharge, 646 ft<sup>3</sup>/s, Apr. 30, gage height, 5.53 ft; minimum daily, 7.4 ft<sup>3</sup>/s, Feb. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	22	11	---	---	7.6	11	337	328	74	140	94
2	34	23	12	---	---	8.3	16	254	313	70	140	94
3	28	22	---	---	---	8.0	13	242	295	65	121	92
4	25	20	---	---	---	8.0	12	226	279	60	175	85
5	23	18	---	---	---	8.2	15	209	250	57	363	83
6	21	17	---	---	---	7.9	12	181	216	52	297	80
7	21	17	---	---	---	8.7	16	178	201	42	327	65
8	22	16	---	---	---	8.4	23	239	198	39	281	61
9	22	19	---	---	---	7.6	20	350	190	51	311	59
10	21	14	---	---	---	7.7	17	e408	185	42	333	58
11	19	14	---	---	---	7.5	15	e375	185	41	344	e55
12	18	20	---	---	---	7.6	18	e342	185	44	308	e52
13	17	18	---	---	---	8.0	21	351	173	39	280	e50
14	17	19	---	---	---	7.8	24	418	179	36	255	e57
15	17	18	---	---	---	9.0	20	458	163	35	232	69
16	18	18	---	---	---	8.8	16	431	168	37	212	83
17	18	16	---	---	---	10	15	379	167	55	189	84
18	16	14	---	---	---	10	19	348	149	59	174	83
19	16	13	---	---	---	10	19	319	137	67	160	81
20	17	10	---	---	---	9.9	20	308	131	56	162	83
21	18	11	---	---	---	12	23	303	130	50	150	82
22	18	12	---	---	---	12	32	298	127	42	157	79
23	17	12	---	---	---	13	31	281	115	57	126	79
24	17	12	---	---	---	13	25	288	110	45	123	75
25	17	11	---	---	7.4	13	40	423	113	43	116	58
26	18	12	---	---	7.5	14	41	434	100	48	127	e55
27	19	12	---	---	7.8	13	41	436	90	53	139	e50
28	27	12	---	---	7.6	12	51	427	86	57	119	e45
29	19	12	---	---	---	10	128	402	82	80	112	e40
30	17	11	---	---	---	11	487	381	78	79	104	e35
31	20	---	---	---	---	11	---	352	---	96	98	---
TOTAL	621	465	---	---	---	303.0	1241	10378	5123	1671	6175	2066
MEAN	20.0	15.5	---	---	---	9.77	41.4	335	171	53.9	199	68.9
MAX	34	23	---	---	---	14	487	458	328	96	363	94
MIN	16	10	---	---	---	7.5	11	178	78	35	98	35
AC-FT	1230	922	---	---	---	601	2460	20580	10160	3310	12250	4100

e Estimated

07099060 BEAVER CREEK ABOVE HIGHWAY 115, NEAR PENROSE, CO

LOCATION.--Lat 38°29'21", long 104°59'49", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--No estimated discharges. Records good except for discharges below 1.5 ft<sup>3</sup>/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, 727 ft<sup>3</sup>/s, April 30, 1999, from rating curve extended above 700 ft<sup>3</sup>/s, gage height, 6.92 ft, ; no flow many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 727 ft<sup>3</sup>/s, April 30, from rating curve extended above 700 ft<sup>3</sup>/s, gage height, 6.92 ft; no flow many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	21	.00	---	---	.11	.00	307	267	31	99	42
2	.00	22	.00	---	---	.14	.01	215	252	28	95	42
3	.00	21	.00	---	---	.15	.00	182	242	24	72	40
4	.00	19	.01	---	---	.17	.00	157	232	19	121	36
5	.00	17	.04	---	---	.19	.00	125	211	17	356	33
6	1.8	15	.10	---	---	.20	.00	93	198	12	283	29
7	.00	15	.22	---	---	.23	.00	87	171	1.7	285	9.7
8	.00	13	.31	---	---	.24	.34	150	159	.00	240	2.4
9	.00	10	---	---	---	.24	.87	269	143	12	261	.94
10	.00	3.6	---	---	---	.21	.00	329	136	1.7	279	.56
11	.00	.83	---	---	---	.18	.00	320	133	.00	290	.43
12	.00	4.3	---	---	---	.16	.00	283	136	2.1	260	.35
13	.00	.45	---	---	---	.13	.11	287	125	.02	241	.22
14	.00	.24	---	---	---	.12	2.5	353	135	.00	221	.41
15	.00	.21	---	---	---	.07	.00	401	115	.00	198	25
16	.00	.20	---	---	---	.04	.00	396	129	.00	180	40
17	.00	.17	---	---	---	.03	.00	352	138	11	154	41
18	.00	.15	---	---	---	.03	.00	304	116	24	138	41
19	.00	.11	---	---	---	.03	.00	277	98	30	125	41
20	1.0	.05	---	---	---	.02	.00	252	93	19	127	43
21	1.8	.01	---	---	---	.02	.00	240	94	7.6	108	42
22	1.8	.00	---	---	---	.01	2.2	240	90	.12	116	43
23	1.3	.00	---	---	---	.01	4.8	219	75	13	74	43
24	1.1	.00	---	---	.32	.03	.00	221	72	2.2	67	40
25	.78	.00	---	---	.20	.02	5.3	362	76	.03	61	11
26	2.5	.00	---	---	.08	.03	9.1	390	64	4.9	69	6.3
27	2.6	.00	---	---	.09	.03	4.6	384	59	10	77	4.9
28	18	.00	---	---	.10	.03	12	378	52	13	59	7.0
29	19	.00	---	---	---	.01	77	346	41	33	53	6.5
30	16	.00	---	---	---	.00	463	329	34	37	48	5.7
31	18	---	---	---	---	.00	---	296	---	56	45	---
TOTAL	85.68	163.32	---	---	---	2.88	581.83	8544	3886	409.37	4802	677.41
MEAN	2.76	5.44	---	---	---	.093	19.4	276	130	13.2	155	22.6
MAX	19	22	---	---	---	.24	463	401	267	56	356	43
MIN	.00	.00	---	---	---	.00	.00	87	34	.00	45	.22
AC-FT	170	324	---	---	---	5.7	1150	16950	7710	812	9520	1340

07099200 ARKANSAS RIVER NEAR PORTLAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°20'14", long 104°56'18", in NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub> sec.6, T.20 S., R.67 W., Fremont County, Hydrologic Unit 11020002, on right bank at Hobson Ranch, 1.4 mi downstream from Willow Creek and 5.4 mi southeast of Portland.

DRAINAGE AREA.--4,280 mi<sup>2</sup>

PERIOD OF RECORD.--March to September 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST- CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) AS N) (00300)	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)
MAR									
24...	1315	266	544	8.8	13.7	12.5	.11	.09	.032
24...	1317	--	547	8.7	13.8	12.5	--	--	--
24...	1318	--	547	8.7	13.7	12.5	--	--	--
24...	1319	--	548	8.7	13.7	12.6	--	--	--
24...	1320	--	549	8.7	13.7	12.6	--	--	--
24...	1321	--	549	8.8	13.7	12.6	--	--	--
24...	1322	--	549	8.8	13.7	12.6	--	--	--
24...	1323	--	549	8.8	13.7	12.6	--	--	--
24...	1324	--	549	8.8	13.7	12.5	--	--	--
24...	1325	--	549	8.8	13.7	12.5	--	--	--
24...	1326	--	549	8.8	13.7	12.5	--	--	--
24...	1327	--	549	8.8	13.7	12.5	--	--	--
24...	1328	--	550	8.8	13.7	12.5	--	--	--
24...	1329	--	550	8.8	13.7	12.6	--	--	--
MAY									
21...	1020	942	533	8.0	15.0	9.1	.28	.005	.022
21...	1025	--	503	7.9	15.0	13.7	--	--	--
21...	1026	--	506	7.9	15.0	13.8	--	--	--
21...	1027	--	506	7.9	15.0	13.7	--	--	--
21...	1028	--	507	7.9	15.0	13.6	--	--	--
21...	1029	--	507	7.9	15.0	13.6	--	--	--
21...	1030	--	507	7.9	15.0	13.6	--	--	--
21...	1031	--	506	7.9	15.0	13.6	--	--	--
21...	1032	--	507	7.9	15.0	13.6	--	--	--
21...	1033	--	507	7.9	15.0	13.5	--	--	--
21...	1034	--	507	7.9	15.0	13.4	--	--	--
21...	1035	--	507	7.9	15.0	13.4	--	--	--
21...	1036	--	507	7.9	15.0	13.4	--	--	--
21...	1037	--	507	7.9	15.0	13.3	--	--	--
AUG									
19...	1040	E1210	353	8.5	19.2	8.3	.16	<.02	.02
SEP									
14...	1145	649	480	8.4	17.0	9.0	.17	<.02	.021

E Estimated.

07099215 TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°36'42", long 104°53'39", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1978 to September 1989, May 1995 to September 1998, April to September 1999 (seasonal records only).  
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 fair except for estimated daily discharges and those above 100 ft<sup>3</sup>/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 FOR PERIOD OF RECORD.--Maximum discharge, 850 ft<sup>3</sup>/s, from slope-area measurement of peak flow, June 10, 1997, gage height 6.56 ft, from floodmarks; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 535 ft<sup>3</sup>/s, Aug. 4, from rating curve extended above 393 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow, gage height, 4.53 ft; minimum daily, 0.12 ft<sup>3</sup>/s, Apr. 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.13	e120	e14	1.7	9.4	3.5
2	---	---	---	---	---	---	.12	e80	e13	1.7	8.0	3.2
3	---	---	---	---	---	---	.16	e68	e12	1.5	7.2	3.0
4	---	---	---	---	---	---	.20	e68	e11	1.2	80	2.8
5	---	---	---	---	---	---	.27	e65	10	1.2	182	2.7
6	---	---	---	---	---	---	.35	e64	9.4	1.1	100	2.6
7	---	---	---	---	---	---	.43	e62	8.4	1.0	95	2.4
8	---	---	---	---	---	---	.47	e60	7.5	1.1	58	2.3
9	---	---	---	---	---	---	.50	e57	7.0	1.3	38	2.2
10	---	---	---	---	---	---	.49	e54	6.8	1.1	31	2.2
11	---	---	---	---	---	---	.41	e52	6.4	1.0	29	2.2
12	---	---	---	---	---	---	.47	e50	6.6	1.0	24	2.3
13	---	---	---	---	---	---	.42	e49	6.0	.72	24	2.2
14	---	---	---	---	---	---	.32	e47	5.6	.52	24	2.1
15	---	---	---	---	---	---	.27	e45	5.5	.57	26	2.2
16	---	---	---	---	---	---	.28	e43	6.1	.83	26	2.2
17	---	---	---	---	---	---	.28	e41	6.1	7.3	24	2.2
18	---	---	---	---	---	---	.34	e40	5.2	10	20	2.1
19	---	---	---	---	---	---	.37	e39	4.4	6.7	e15	1.9
20	---	---	---	---	---	---	.32	e35	4.0	5.9	e10	2.3
21	---	---	---	---	---	---	.29	34	3.6	4.8	e8.0	2.2
22	---	---	---	---	---	---	.41	33	3.3	3.9	e7.5	1.9
23	---	---	---	---	---	---	.58	30	3.0	3.5	e6.5	1.8
24	---	---	---	---	---	---	.85	27	2.8	3.1	e5.5	1.7
25	---	---	---	---	---	---	1.2	37	2.9	2.9	e5.0	1.6
26	---	---	---	---	---	---	.93	36	2.5	2.7	e5.0	1.6
27	---	---	---	---	---	---	1.2	34	2.2	3.4	4.7	1.6
28	---	---	---	---	---	---	1.5	31	2.0	4.7	4.5	1.8
29	---	---	---	---	---	---	e250	26	1.9	4.2	4.4	1.8
30	---	---	---	---	---	---	e190	e20	1.8	3.6	4.2	1.7
31	---	---	---	---	---	---	---	e15	---	5.6	3.7	---
TOTAL	---	---	---	---	---	---	453.56	1462	181.0	89.84	889.6	66.3
MEAN	---	---	---	---	---	---	15.1	47.2	6.03	2.90	28.7	2.21
MAX	---	---	---	---	---	---	250	120	14	10	182	3.5
MIN	---	---	---	---	---	---	.12	15	1.8	.52	3.7	1.6
AC-FT	---	---	---	---	---	---	900	2900	359	178	1760	132

e Estimated

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR, NEAR STONE CITY, CO

LOCATION.--Lat 38°27'54", long 104°49'33", in SW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--Record 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.41	.32	.30	.04	.32	.69	620	44	e2.0	e40	e7.5
2	.25	.41	.33	.29	.03	.33	.78	312	39	e2.0	e40	e7.5
3	.28	.43	.32	.30	.02	.34	.89	260	e32	e1.5	e35	e7.0
4	.28	.44	.31	.31	.01	.35	.90	242	e28	e1.5	e35	e7.0
5	.30	.43	.31	.33	.02	.35	.73	167	e24	e1.0	836	e6.5
6	.32	.41	.32	.31	.01	.36	.71	106	e19	e1.0	506	e6.0
7	.34	.42	.35	.30	.01	.38	.68	81	e15	e1.0	252	e5.5
8	.34	.41	.36	.30	.01	.38	.66	84	e12	e1.0	140	e5.0
9	.34	.40	.36	.33	.01	.38	.65	126	e10	e1.0	84	e5.0
10	.33	.39	.36	.31	.01	.40	.65	151	e8.0	e1.5	64	e4.5
11	.34	.39	.37	.30	.01	.40	.66	118	e8.0	e2.0	56	e4.0
12	.35	.39	.37	.28	.01	.41	.66	82	e8.5	e2.0	47	e4.0
13	.36	.38	.36	.28	.04	.45	.67	71	e7.5	e2.0	42	e3.5
14	.38	.37	.35	.29	.04	.41	.70	87	e7.0	e2.0	37	e3.5
15	.37	.36	.34	.28	.04	.46	.76	129	e6.5	e2.0	33	e3.5
16	.38	.36	.34	.26	.04	.52	.78	126	e6.5	e2.0	30	e3.0
17	.38	.36	.34	.26	.08	.55	.77	102	e6.5	e2.0	e25	e3.0
18	.39	.36	.33	.25	.10	.57	.72	80	e7.0	e1.5	e20	e3.0
19	.41	.35	.34	.21	e.11	.61	.68	69	e6.0	e20	e15	e3.0
20	.41	.35	.34	.19	e.12	.61	.67	66	e5.0	e20	e15	e3.0
21	.39	.35	.32	.15	e.13	.61	.69	63	e5.0	e15	e10	e3.0
22	.40	.34	.33	.12	e.13	.62	.82	68	e4.5	e15	e10	e3.0
23	.41	.33	.33	.08	.14	.64	.99	61	e4.0	e15	e10	e3.0
24	.41	.33	.33	e.10	.25	.64	.84	54	e3.5	e15	e10	e3.0
25	.41	.33	.37	e.10	.23	.65	.64	77	e3.0	e15	e9.5	e3.0
26	.41	.31	.46	e.10	.29	.66	.59	89	e3.0	e15	e9.5	e3.0
27	.41	.31	.47	.09	.31	.67	.56	95	e2.5	e15	e9.0	e3.0
28	.41	.31	.41	.10	.32	.67	.58	89	e2.5	e20	e9.0	e3.0
29	.40	.31	.35	.07	---	.65	13	69	e2.5	e20	e8.5	e3.0
30	.38	.32	.33	.09	---	.67	622	60	e2.0	e20	e8.5	e3.0
31	.39	---	.31	.05	---	.67	---	51	---	e30	e8.0	---
TOTAL	11.28	11.06	10.83	6.73	2.56	15.73	655.12	3855	332.0	264.0	2454.0	125.0
MEAN	.36	.37	.35	.22	.091	.51	21.8	124	11.1	8.52	79.2	4.17
MAX	.41	.44	.47	.33	.32	.67	622	620	44	30	836	7.5
MIN	.25	.31	.31	.05	.01	.32	.56	51	2.0	1.0	8.0	3.0
AC-FT	22	22	21	13	5.1	31	1300	7650	659	524	4870	248

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1999, BY WATER YEAR (WY)

	1978	1979	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985
MEAN	2.80	1.90	.91	.71	.68	.68	2.78	18.5	11.1	3.09	7.34	1.63									
MAX	44.6	26.7	6.47	2.69	2.58	2.75	21.8	124	60.1	17.1	79.2	18.1									
(WY)	1985	1985	1985	1985	1985	1985	1999	1999	1997	1985	1999	1982									
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000									
(WY)	1979	1979	1979	1979	1979	1979	1979	1979	1989	1978	1990	1978									

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1978 - 1999

ANNUAL TOTAL	1576.57	7743.31	
ANNUAL MEAN	4.32	21.2	4.46
HIGHEST ANNUAL MEAN			21.2
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	31	May 9	836
LOWEST DAILY MEAN	.11	Jul 21	.01
ANNUAL SEVEN-DAY MINIMUM	.12	Jul 19	.01
INSTANTANEOUS PEAK FLOW			1470
INSTANTANEOUS PEAK STAGE			9.55
ANNUAL RUNOFF (AC-FT)	3130	15360	3230
10 PERCENT EXCEEDS	13	58	6.9
50 PERCENT EXCEEDS	1.4	.65	.48
90 PERCENT EXCEEDS	.28	.22	.00

e Estimated

a No flow many days during most years.

b From rating curve extended above 100 ft<sup>3</sup>/s, on the basis of slope-area measurements at gage heights 8.04 ft and 11.27 ft at site and datum then in use.

c Maximum gage height, 11.88 ft, June 8, 1987, site and datum then in use.

## ARKANSAS RIVER BASIN

07099233 TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°26'33", long 104°49'31", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 poor. Reservoir is formed by an earthfill dam completed around 1908. Reservoir area-capacity table from 1980 survey. Total capacity, 2,620 acre-ft, at elevation 92 ft. Elevation of high crest of spillway, about 84 ft since 1996, with capacity of 1,130 acre-ft. Elevation of uncontrolled tower outlet invert is about 88 ft, with capacity of 1,780 acre-ft. There is a controlled outlet from reservoir, however considerable leakage occurs along dam margins.

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, 1,640 acre-ft, Apr. 30, elevation, 87.21 ft; minimum contents, 827 acre-ft, Apr. 12, elevation, 81.58 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	940	863	851	855	861	849	837	1570	1270	1140	1110	870
2	946	864	851	855	860	849	839	1460	1260	1130	1120	881
3	943	864	851	855	860	848	839	1430	1260	1130	1130	891
4	922	864	849	857	860	849	839	1400	1250	1120	1140	899
5	912	863	850	857	861	848	839	1380	1240	1110	1620	908
6	907	863	851	858	857	847	838	1350	1230	1110	1550	913
7	904	862	851	859	860	847	836	1330	1230	1110	1460	920
8	900	863	850	859	860	846	834	1320	1220	1100	1400	921
9	892	863	849	860	859	846	831	1340	1210	1100	1350	922
10	891	861	849	860	862	845	829	1360	1210	1090	1320	922
11	889	862	850	861	857	845	828	1360	1210	1090	1300	926
12	883	861	e849	861	857	846	827	1340	1210	1090	1280	933
13	883	860	e849	861	857	847	828	1320	1200	1080	1260	940
14	881	860	849	859	857	847	828	1330	1200	1080	1250	946
15	878	860	849	861	855	847	830	1350	1190	1080	1240	953
16	874	860	849	862	855	847	830	1360	1190	1080	1230	962
17	877	859	849	861	858	846	830	1340	1200	1080	1220	975
18	876	857	850	860	855	846	830	1330	1200	1100	1210	980
19	872	857	851	861	854	846	830	1320	1190	1110	1180	986
20	874	857	851	862	854	846	829	1310	1190	1110	1140	993
21	873	857	851	861	854	846	834	1310	1190	1110	1120	1000
22	869	854	850	861	852	845	838	1310	1180	1110	1090	1010
23	870	854	850	861	853	846	845	1300	1170	1100	1070	1010
24	868	853	850	862	852	845	846	1290	1170	1100	1030	1010
25	868	853	849	862	852	845	847	1310	1170	1100	1000	1010
26	865	852	849	861	850	843	847	1320	1170	1100	970	1020
27	868	853	850	860	850	843	847	1340	1160	1100	934	1020
28	864	853	851	861	850	841	850	1320	1150	1090	898	1020
29	865	852	852	861	---	840	895	1310	1150	1090	863	1020
30	864	852	853	861	---	839	1640	1300	1140	1090	852	1030
31	864	---	854	862	---	836	---	1280	---	1080	863	---
TOTAL	27482	25756	26357	26657	23972	26206	25940	41690	36010	34110	36200	28791
MEAN	887	859	850	860	856	845	865	1340	1200	1100	1170	960
MAX	946	864	854	862	862	849	1640	1570	1270	1140	1620	1030
MIN	864	852	849	855	850	836	827	1280	1140	1080	852	870

CAL YR 1998 TOTAL 368580 MEAN 1010 MAX 1270 MIN 719  
WTR YR 1999 TOTAL 359171 MEAN 984 MAX 1640 MIN 827

e Estimated

07099235 TURKEY CREEK NEAR STONE CITY, CO

LOCATION.--Lat 38°26'22", long 104°49'34", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 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.--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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	.39	.34	.34	.35	.30	.38	45	e1.1	e.74	e1.1	e1.2
2	.56	.38	.34	.34	.34	.33	.39	20	e1.1	e.74	e1.0	e1.2
3	.53	.38	.34	.34	.32	.34	.39	4.2	e1.1	e.72	e.94	e1.3
4	.53	.37	.34	.34	.30	.34	.38	3.5	e1.1	e.72	e.94	e1.2
5	.53	.36	.34	.34	.30	.33	.38	e1.8	e1.1	e.70	e4.5	e1.2
6	.52	.35	.34	.34	.29	.34	.38	e1.0	e1.0	e.70	e25	e1.2
7	.49	.35	.34	.34	.31	.34	.38	e.90	e1.0	e.68	e10	e1.2
8	.49	.34	.34	.34	.31	.33	.38	.89	e1.0	e.70	e3.0	e1.2
9	.48	.34	.34	.34	.31	.34	.38	.89	e1.0	e.74	e2.0	e1.1
10	.48	.33	.34	.34	.33	.30	.38	.89	1.0	e.76	e1.6	e1.1
11	.48	.32	.34	.34	.34	.30	.38	.90	e1.0	e.78	e1.5	e1.1
12	.47	.32	.34	.34	.34	.31	.38	.89	e1.1	e.80	e1.4	e1.1
13	.48	.31	.34	.34	.34	.30	.39	.90	e1.0	e.78	e1.3	e1.0
14	.49	.32	.34	.34	.34	.30	.40	.88	e.98	e.76	e1.3	e1.0
15	.48	.31	.34	.34	.34	.33	.42	.89	e.96	e.74	e1.3	e.96
16	.46	.31	.34	.34	.34	.34	.39	1.8	e.94	e.74	e1.3	e.94
17	.40	.33	.34	.34	.34	.33	.39	1.7	e.90	e.74	e1.3	e.90
18	.40	.33	.35	.34	.34	.34	.38	1.9	e.94	e.74	e1.3	e.88
19	.40	.34	.34	.34	.31	.34	.38	1.8	e.94	e.86	e1.3	e.86
20	.40	.34	.34	.34	.29	.34	.38	1.9	e.90	e1.0	e1.3	e.86
21	.40	.34	.34	.34	.32	.34	.39	1.4	e.88	e.90	e1.2	e.85
22	.40	.33	.34	.34	.30	.34	.45	1.4	e.86	e.88	e1.2	e.84
23	.40	.34	.34	.33	.29	.34	.45	1.4	e.82	e.86	e1.2	e.83
24	.40	.33	.34	.34	.29	.34	.45	e1.4	e.80	e.84	e1.2	e.81
25	.40	.34	.34	.34	.30	.34	.47	e1.5	e.80	e.80	e1.2	e.80
26	.40	.34	.34	.34	.31	.36	.47	e1.5	e.78	e.80	e1.2	e.80
27	.40	.34	.34	.34	.30	.37	.47	e1.5	e.78	e.80	e1.2	e.80
28	.40	.34	.34	.35	.29	.37	.47	e1.5	e.76	e.80	e1.2	e.80
29	.40	.34	.34	.34	---	.37	.56	e1.4	e.76	e.80	e1.1	e.80
30	.40	.34	.34	.34	---	.38	11	e1.3	e.74	e.90	e1.2	e.80
31	.39	---	.34	.37	---	.38	---	e1.2	---	e1.0	e1.2	---
TOTAL	13.95	10.20	10.55	10.57	8.88	10.45	22.89	108.13	28.14	24.52	76.48	29.63
MEAN	.45	.34	.34	.34	.32	.34	.76	3.49	.94	.79	2.47	.99
MAX	.56	.39	.35	.37	.35	.38	11	45	1.1	1.0	25	1.3
MIN	.39	.31	.34	.33	.29	.30	.38	.88	.74	.68	.94	.80
AC-FT	28	20	21	21	18	21	45	214	56	49	152	59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1999, 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	1999	
MEAN	.35	.33	.29	.27	.30	.29	.32	1.41	2.57	1.16	.89	.66											
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	1983	1998	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 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1978 - 1999

ANNUAL TOTAL	493.79	354.39		
ANNUAL MEAN	1.35	.97	.75	
HIGHEST ANNUAL MEAN			3.93	1995
LOWEST ANNUAL MEAN			.024	1979
HIGHEST DAILY MEAN	6.2	May 23	45	May 1
LOWEST DAILY MEAN	.31	Nov 13	.29	Feb 6
ANNUAL SEVEN-DAY MINIMUM	.32	Nov 10	.30	Feb 22
INSTANTANEOUS PEAK FLOW			55	Apr 30
INSTANTANEOUS PEAK STAGE			6.02	Apr 30
ANNUAL RUNOFF (AC-FT)	979	703	541	6.29
10 PERCENT EXCEEDS	3.3	1.3	1.6	
50 PERCENT EXCEEDS	.76	.40	.16	
90 PERCENT EXCEEDS	.34	.33	.02	

e Estimated

a From rating curve extended above 62 ft<sup>3</sup>/s.

## ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO

LOCATION.--Lat 38°16'15", long 104°43'30", in NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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 (AT 2400) FOR CURRENT YEAR.--Maximum contents, 262,050 acre-ft, Aug. 7, elevation, 4,881.59 ft; minimum contents, 145,640 acre-ft, Oct. 27, elevation, 4,851.36 ft.

## MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30. . . . .	4,852.06	147,850	-
Oct. 31. . . . .	4,851.43	145,860	-1,990
Nov. 30. . . . .	4,855.33	158,460	+12,600
Dec. 31. . . . .	4,860.92	177,700	+19,240
CAL YR 1998. . . . .	-	-	-34,480
Jan. 31. . . . .	4,867.72	203,070	+25,370
Feb. 28. . . . .	4,873.89	227,960	+24,890
Mar. 31. . . . .	4,873.62	226,830	-1,130
Apr. 30. . . . .	4,873.04	224,420	-2,410
May 31. . . . .	4,880.50	257,000	+32,580
June 30. . . . .	4,880.45	256,770	-230
July 31. . . . .	4,880.10	255,160	-1,610
Aug. 31. . . . .	4,879.05	250,370	-4,790
Sept. 30. . . . .	4,876.69	239,900	-10,470
WTR YR 1999. . . . .	-	-	+92,050



PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued  
WATER-QUALITY RECORDS

REMARKS.--Field measurements were made 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 SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, 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 1998 TO SEPTEMBER 1999

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							
06...	1320	--	--	--	--	.20	--
06...	1321	.10	586	8.4	9.8	--	8.3
06...	1322	3.00	587	8.4	9.6	--	8.1
06...	1323	6.00	587	8.4	9.6	--	8.1
06...	1324	9.00	587	8.4	9.4	--	8.2
06...	1325	12.0	587	8.4	9.3	--	8.2
06...	1326	15.0	587	8.4	9.3	--	8.1
06...	1327	18.0	586	8.4	9.1	--	8.1
06...	1328	21.0	586	8.4	9.0	--	8.1
06...	1329	24.0	586	8.4	8.8	--	8.2
AUG							
26...	1200	--	--	--	--	1.20	--
26...	1201	.10	363	8.7	23.9	--	8.0
26...	1202	3.00	366	8.7	23.5	--	8.4
26...	1203	6.00	367	8.7	23.3	--	8.5
26...	1204	9.00	368	8.7	23.1	--	8.6
26...	1205	12.0	365	8.6	23.0	--	8.6
26...	1206	15.0	355	8.5	22.5	--	8.1
26...	1207	18.0	353	8.4	21.9	--	7.9
26...	1208	21.0	347	8.4	21.5	--	7.8
26...	1209	22.0	344	8.3	20.0	--	7.4
SEP							
30...	1255	--	--	--	--	1.20	--
30...	1256	.10	428	8.7	17.1	--	8.5
30...	1257	3.00	428	8.6	17.0	--	8.5
30...	1258	6.00	428	8.6	17.0	--	8.5
30...	1259	9.00	429	8.6	17.0	--	8.4
30...	1300	12.0	430	8.6	16.9	--	8.3
30...	1301	15.0	443	8.6	16.2	--	8.3
30...	1302	18.0	464	8.5	15.2	--	8.3
30...	1303	21.0	516	8.4	12.5	--	8.4

## ARKANSAS RIVER BASIN

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued  
WATER-QUALITY RECORDS

381725104494400 PUEBLO RESERVOIR SITE 3B

LOCATION.--Lat 38°17'25", long 104°49'44", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, 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 1998 TO SEPTEMBER 1999

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							
06...	1250	--	--	--	--	.60	--
06...	1251	.10	605	8.4	10.3	--	8.1
06...	1252	3.00	605	8.4	10.1	--	8.0
06...	1253	6.00	605	8.4	9.8	--	8.0
06...	1254	9.00	598	8.4	9.6	--	8.0
06...	1255	12.0	588	8.4	9.4	--	8.1
06...	1256	15.0	589	8.4	9.3	--	8.1
06...	1257	18.0	589	8.4	9.3	--	8.1
06...	1258	21.0	589	8.4	9.3	--	8.1
06...	1259	24.0	589	8.4	9.2	--	8.0
06...	1300	27.0	588	8.4	9.1	--	8.0
06...	1301	30.0	586	8.4	9.0	--	7.9
06...	1302	33.0	582	8.4	8.9	--	7.9
06...	1303	36.0	581	8.4	8.8	--	7.9
06...	1304	38.0	580	8.4	8.8	--	7.9
JUN							
17...	1545	--	--	--	--	1.70	--
17...	1546	.10	403	7.9	20.2	--	7.9
17...	1547	3.00	400	7.9	19.3	--	7.9
17...	1548	6.00	391	7.9	18.3	--	8.0
17...	1549	9.00	364	7.9	17.9	--	7.9
17...	1550	12.0	373	7.9	17.9	--	7.8
17...	1551	15.0	375	7.9	17.9	--	7.7
17...	1552	18.0	352	7.9	17.4	--	7.9
17...	1553	21.0	341	7.9	17.1	--	7.9
17...	1554	23.0	325	7.9	16.4	--	7.8
17...	1555	26.0	262	7.9	13.8	--	8.4
17...	1556	29.0	260	7.8	13.6	--	8.4
17...	1557	32.0	260	7.8	13.5	--	8.5
17...	1558	35.0	260	7.8	13.6	--	8.5
17...	1559	38.0	260	7.8	13.5	--	8.5
AUG							
26...	1115	--	--	--	--	2.10	--
26...	1116	.10	390	8.7	23.6	--	8.4
26...	1117	3.00	389	8.7	23.4	--	8.5
26...	1118	6.00	381	8.7	23.1	--	8.5
26...	1119	9.00	378	8.7	23.1	--	8.5
26...	1120	12.0	378	8.7	23.1	--	8.4
26...	1121	15.0	378	8.7	23.1	--	8.4
26...	1122	18.0	380	8.6	23.0	--	8.0
26...	1123	21.0	381	8.5	22.7	--	7.1
26...	1124	24.0	380	8.3	22.4	--	6.4
26...	1125	27.0	375	8.3	22.2	--	6.5
26...	1126	30.0	373	8.2	21.9	--	6.6
26...	1127	33.0	374	8.3	21.8	--	6.7
26...	1128	36.0	354	8.1	21.1	--	6.5
26...	1129	39.0	364	7.9	20.4	--	5.1
26...	1130	40.0	386	7.8	20.4	--	5.0
SEP							
30...	1320	--	--	--	--	1.50	--
30...	1321	.10	417	8.5	18.3	--	7.7
30...	1322	3.00	417	8.5	18.2	--	7.6
30...	1323	6.00	417	8.5	18.2	--	7.6
30...	1324	9.00	417	8.4	18.0	--	7.5
30...	1325	12.0	418	8.4	18.0	--	7.5
30...	1326	15.0	419	8.4	17.8	--	7.4
30...	1327	18.0	421	8.4	17.7	--	7.4
30...	1328	21.0	422	8.4	17.5	--	7.4
30...	1329	24.0	422	8.4	17.4	--	7.4
30...	1330	27.0	426	8.4	17.2	--	7.5
30...	1331	30.0	480	8.4	15.0	--	7.7
30...	1332	33.0	490	8.4	14.7	--	7.8
30...	1333	34.0	493	8.4	14.7	--	7.7

ARKANSAS RIVER BASIN

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued  
WATER-QUALITY RECORDS

381647104475300 PUEBLO RESERVOIR SITE 4B

LOCATION.--Lat 38°16'47", long 104°47'53", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, 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 1998 TO SEPTEMBER 1999

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							
06...	1215	--	--	--	--	1.10	--
06...	1216	.10	571	8.4	9.5	--	8.3
06...	1217	6.00	571	8.4	9.5	--	8.2
06...	1218	12.0	569	8.4	9.4	--	8.2
06...	1219	18.0	569	8.4	9.4	--	8.2
06...	1220	24.0	566	8.4	9.3	--	8.2
06...	1221	30.0	566	8.4	9.3	--	8.2
06...	1222	36.0	566	8.4	9.3	--	8.2
06...	1223	42.0	566	8.4	9.3	--	8.2
06...	1224	48.0	570	8.4	9.3	--	8.1
06...	1225	54.0	597	8.4	9.2	--	8.0
06...	1226	56.0	603	8.4	9.2	--	7.9
JUN							
17...	1125	--	--	--	--	2.60	--
17...	1126	.10	441	8.2	18.9	--	7.5
17...	1127	6.00	447	8.2	18.5	--	7.5
17...	1128	12.0	454	8.2	18.3	--	7.5
17...	1129	18.0	443	8.2	18.2	--	7.4
17...	1130	24.0	448	8.1	18.2	--	7.4
17...	1131	30.0	353	8.1	17.4	--	7.3
17...	1132	36.0	314	8.1	17.0	--	7.3
17...	1133	42.0	274	8.1	15.8	--	7.4
17...	1134	48.0	272	8.0	15.6	--	7.4
17...	1135	54.0	269	8.1	15.0	--	7.6
AUG							
26...	1045	--	--	--	--	2.70	--
26...	1046	.10	394	8.6	23.5	--	8.0
26...	1047	6.00	394	8.6	23.4	--	8.0
26...	1048	12.0	393	8.6	23.2	--	8.0
26...	1049	18.0	392	8.5	23.0	--	7.2
26...	1050	24.0	392	8.1	22.6	--	5.3
26...	1051	30.0	392	8.0	22.5	--	4.9
26...	1052	36.0	387	7.9	22.3	--	4.8
26...	1053	42.0	382	7.9	21.9	--	4.9
26...	1054	48.0	380	7.8	21.4	--	4.4
26...	1055	52.0	372	7.9	21.1	--	4.9
SEP							
30...	1205	--	--	--	--	1.50	--
30...	1206	.10	414	8.4	18.6	--	7.0
30...	1207	6.00	414	8.4	18.6	--	7.0
30...	1208	12.0	414	8.4	18.5	--	6.9
30...	1209	18.0	414	8.3	18.4	--	6.8
30...	1210	24.0	414	8.3	18.4	--	6.8
30...	1211	30.0	415	8.3	18.3	--	6.7
30...	1212	36.0	415	8.3	18.3	--	6.7
30...	1213	42.0	415	8.3	18.3	--	6.7
30...	1214	48.0	416	8.3	18.2	--	6.7
30...	1215	51.0	419	8.3	17.9	--	6.6

## ARKANSAS RIVER BASIN

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued  
WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B

LOCATION.--Lat 38°16'02", long 104°43'52", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub>, 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 1998 TO SEPTEMBER 1999

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							
06...	0940	--	--	--	--	3.00	--
06...	0941	.10	530	8.4	9.5	--	8.6
06...	0942	3.00	531	8.4	9.5	--	8.5
06...	0943	6.00	530	8.4	9.5	--	8.4
06...	0944	9.00	531	8.4	9.5	--	8.4
06...	0945	12.0	531	8.4	9.5	--	8.4
06...	0946	15.0	531	8.4	9.5	--	8.4
06...	0947	18.0	531	8.4	9.5	--	8.4
06...	0948	21.0	531	8.4	9.5	--	8.4
06...	0949	24.0	531	8.4	9.5	--	8.4
06...	0950	27.0	531	8.4	9.5	--	8.4
06...	0951	30.0	531	8.4	9.5	--	8.4
06...	0952	33.0	531	8.4	9.5	--	8.4
06...	0953	36.0	531	8.4	9.5	--	8.4
06...	0954	39.0	532	8.4	9.4	--	8.3
06...	0955	42.0	532	8.4	9.4	--	8.3
06...	0956	45.0	534	8.4	9.3	--	8.3
06...	0957	48.0	535	8.4	9.2	--	8.3
06...	0958	51.0	536	8.4	9.2	--	8.3
06...	0959	54.0	536	8.4	9.2	--	8.3
06...	1000	57.0	537	8.4	9.2	--	8.3
06...	1001	60.0	537	8.4	9.2	--	8.2
06...	1002	63.0	539	8.4	9.1	--	8.2
06...	1003	66.0	540	8.4	9.0	--	8.2
06...	1004	69.0	540	8.4	9.0	--	8.2
06...	1005	72.0	541	8.4	9.0	--	8.2
06...	1006	75.0	542	8.4	8.9	--	8.1
06...	1007	78.0	549	8.4	8.7	--	8.0
06...	1008	81.0	552	8.3	8.7	--	8.0
06...	1009	84.0	564	8.3	8.6	--	7.8
06...	1010	87.0	570	8.3	8.5	--	7.7
06...	1011	90.0	576	8.3	8.5	--	7.6
06...	1012	93.0	578	8.3	8.4	--	7.5
06...	1013	96.0	579	8.2	8.4	--	7.5
06...	1014	99.0	580	8.2	8.4	--	7.5
06...	1015	102	582	8.2	8.4	--	7.4
06...	1016	105	583	8.2	8.4	--	7.4
06...	1017	108	584	8.2	8.4	--	7.4
06...	1018	111	584	8.2	8.4	--	7.3
06...	1019	114	584	8.2	8.4	--	7.3
06...	1020	117	584	8.2	8.4	--	7.3
06...	1021	120	584	8.2	8.4	--	7.3
06...	1022	123	584	8.2	8.4	--	7.3

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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							
17...	0930	--	--	--	--	4.60	--
17...	0931	.10	510	8.1	18.3	--	7.6
17...	0932	3.00	509	8.1	18.3	--	7.6
17...	0933	6.00	509	8.0	18.2	--	7.6
17...	0934	9.00	509	8.0	18.2	--	7.6
17...	0935	12.0	510	8.0	18.2	--	7.6
17...	0936	15.0	510	7.9	18.2	--	7.6
17...	0937	18.0	510	7.9	18.1	--	7.5
17...	0938	21.0	510	7.9	18.1	--	7.5
17...	0939	24.0	510	7.9	18.1	--	7.5
17...	0940	27.0	503	7.9	18.1	--	7.4
17...	0941	30.0	496	7.9	18.0	--	7.4
17...	0942	33.0	508	7.9	17.9	--	7.2
17...	0943	36.0	508	7.9	17.5	--	6.9
17...	0944	39.0	489	7.9	17.3	--	6.9
17...	0945	42.0	509	7.9	17.3	--	6.9
17...	0946	45.0	487	7.9	17.1	--	6.9
17...	0947	48.0	500	7.8	16.9	--	6.9
17...	0948	51.0	495	7.9	16.8	--	6.9
17...	0949	54.0	497	7.9	16.7	--	6.8
17...	0950	57.0	494	7.8	16.5	--	6.8
17...	0951	60.0	494	7.8	16.4	--	6.8
17...	0952	63.0	475	7.8	16.3	--	6.8
17...	0953	66.0	493	7.8	16.2	--	6.8
17...	0954	69.0	495	7.8	16.0	--	6.8
17...	0955	72.0	502	7.8	15.6	--	6.8
17...	0956	75.0	504	7.8	15.3	--	6.8
17...	0957	78.0	521	7.8	14.7	--	6.8
17...	0958	81.0	526	7.8	14.2	--	6.8
17...	0959	84.0	513	7.8	13.8	--	6.6
17...	1000	87.0	523	7.8	13.3	--	6.6
17...	1001	90.0	542	7.8	12.9	--	6.7
17...	1002	93.0	549	7.8	12.5	--	6.7
17...	1003	96.0	553	7.7	12.2	--	6.7
17...	1004	99.0	558	7.7	11.8	--	6.8
17...	1005	102	561	7.7	11.5	--	6.7
17...	1006	105	561	7.7	11.1	--	6.6
17...	1007	108	562	7.7	10.9	--	6.6
17...	1008	111	565	7.7	10.7	--	6.5
17...	1009	114	566	7.7	10.5	--	6.1
17...	1010	117	566	7.7	10.4	--	6.0
17...	1011	120	565	7.7	10.2	--	5.8
17...	1012	123	566	7.7	10.0	--	5.5

## ARKANSAS RIVER BASIN

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
AUG							
26...	0830	--	--	--	--	3.50	--
26...	0831	.10	393	8.6	23.4	--	8.4
26...	0832	3.00	393	8.6	23.4	--	8.4
26...	0833	6.00	393	8.6	23.4	--	8.4
26...	0834	9.00	393	8.6	23.4	--	8.4
26...	0835	12.0	393	8.6	23.4	--	8.3
26...	0836	15.0	394	8.6	23.3	--	8.3
26...	0837	18.0	394	8.6	23.3	--	8.3
26...	0838	21.0	394	8.6	23.3	--	8.2
26...	0839	24.0	393	8.6	23.3	--	8.1
26...	0840	27.0	393	8.6	23.2	--	8.2
26...	0841	30.0	393	8.6	23.2	--	8.1
26...	0842	33.0	393	8.6	23.2	--	8.0
26...	0843	36.0	394	8.5	23.0	--	7.6
26...	0844	39.0	395	8.1	22.4	--	5.4
26...	0845	42.0	394	7.7	22.1	--	4.2
26...	0846	45.0	393	7.6	21.8	--	2.9
26...	0847	48.0	391	7.6	21.7	--	2.9
26...	0848	51.0	392	7.5	21.6	--	2.5
26...	0849	54.0	391	7.5	21.3	--	2.4
26...	0850	57.0	391	7.5	21.2	--	2.4
26...	0851	60.0	392	7.5	21.1	--	2.4
26...	0852	63.0	391	7.5	21.0	--	2.4
26...	0853	66.0	391	7.5	21.0	--	2.3
26...	0854	69.0	390	7.5	20.9	--	2.6
26...	0855	72.0	390	7.5	20.9	--	2.6
26...	0856	75.0	389	7.6	20.9	--	2.7
26...	0857	78.0	388	7.6	20.8	--	2.9
26...	0858	81.0	388	7.6	20.9	--	3.0
26...	0859	84.0	388	7.6	20.7	--	3.1
26...	0900	87.0	389	7.6	20.6	--	3.1
26...	0901	90.0	389	7.6	20.6	--	3.1
26...	0902	93.0	390	7.6	20.5	--	3.1
26...	0903	96.0	391	7.6	20.4	--	3.1
26...	0904	99.0	394	7.6	20.2	--	2.5
26...	0905	102	394	7.6	20.0	--	2.4
26...	0906	105	395	7.6	20.0	--	2.4
26...	0907	108	396	7.5	19.8	--	2.0
26...	0908	111	395	7.5	19.3	--	1.3
26...	0909	114	393	7.5	19.0	--	1.0
26...	0910	117	395	7.5	18.7	--	.6
26...	0911	120	393	7.5	18.0	--	.2
26...	0912	123	394	7.5	17.8	--	.1

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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							
30...	1005	--	--	--	--	1.40	--
30...	1006	.10	417	8.1	18.5	--	5.9
30...	1007	3.00	417	8.1	18.5	--	5.9
30...	1008	6.00	417	8.1	18.5	--	5.9
30...	1009	9.00	417	8.1	18.5	--	5.9
30...	1010	12.0	418	8.1	18.5	--	5.9
30...	1011	15.0	418	8.1	18.5	--	5.9
30...	1012	18.0	417	8.1	18.5	--	5.9
30...	1013	21.0	417	8.1	18.5	--	5.9
30...	1014	24.0	417	8.1	18.5	--	5.9
30...	1015	27.0	418	8.1	18.5	--	5.9
30...	1016	30.0	417	8.1	18.5	--	5.9
30...	1017	33.0	417	8.1	18.5	--	5.9
30...	1018	36.0	418	8.1	18.5	--	5.9
30...	1019	39.0	418	8.1	18.5	--	5.9
30...	1020	42.0	418	8.1	18.5	--	5.9
30...	1021	45.0	418	8.1	18.5	--	5.9
30...	1022	48.0	417	8.1	18.5	--	5.9
30...	1023	51.0	418	8.1	18.5	--	5.9
30...	1024	54.0	418	8.1	18.5	--	5.9
30...	1025	57.0	418	8.1	18.5	--	5.9
30...	1026	60.0	418	8.1	18.5	--	5.9
30...	1027	63.0	418	8.1	18.5	--	5.8
30...	1028	66.0	418	8.1	18.5	--	5.8
30...	1029	69.0	418	8.1	18.5	--	5.8
30...	1030	72.0	418	8.1	18.5	--	5.8
30...	1031	75.0	418	8.1	18.5	--	5.8
30...	1032	78.0	418	8.1	18.5	--	5.8
30...	1033	81.0	419	8.1	18.5	--	5.8
30...	1034	84.0	419	8.1	18.5	--	5.7
30...	1035	87.0	419	8.1	18.5	--	5.7
30...	1036	90.0	418	8.1	18.4	--	5.7
30...	1037	93.0	417	8.1	18.4	--	5.9
30...	1038	96.0	418	8.1	18.4	--	5.8
30...	1039	99.0	418	8.1	18.3	--	5.8
30...	1040	102	418	8.1	18.3	--	5.8
30...	1041	105	418	8.1	18.2	--	5.9
30...	1042	108	418	8.1	18.2	--	5.9
30...	1043	111	418	8.1	18.1	--	5.9
30...	1044	114	418	8.1	18.1	--	5.9
30...	1045	117	418	8.1	18.1	--	5.9
30...	1046	120	418	8.1	18.1	--	5.8

## ARKANSAS RIVER BASIN

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued  
WATER-QUALITY RECORDS

381559104465500 PUEBLO RESERVOIR SITE 5C

LOCATION.--Lat 38°15'59", long 104°46'55", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, 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 1998 TO SEPTEMBER 1999

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							
06...	1130	--	--	--	--	1.50	--
06...	1131	.10	542	8.6	9.5	--	8.4
06...	1132	3.00	542	8.5	9.5	--	8.4
06...	1133	6.00	542	8.5	9.4	--	8.4
06...	1134	9.00	544	8.5	9.4	--	8.4
06...	1135	12.0	545	8.5	9.4	--	8.4
06...	1136	15.0	546	8.5	9.4	--	8.4
06...	1137	18.0	547	8.5	9.4	--	8.3
06...	1138	21.0	551	8.5	9.3	--	8.3
06...	1139	24.0	551	8.5	9.3	--	8.2
06...	1140	27.0	551	8.5	9.3	--	8.2
06...	1141	30.0	552	8.5	9.3	--	8.2
06...	1142	33.0	552	8.5	9.3	--	8.2
06...	1143	36.0	555	8.5	9.2	--	8.2
06...	1144	39.0	566	8.4	9.2	--	8.2
06...	1145	42.0	581	8.4	9.1	--	8.0
06...	1146	45.0	588	8.4	9.1	--	8.0
06...	1147	48.0	588	8.4	9.1	--	8.0
06...	1148	51.0	588	8.4	9.0	--	8.0
06...	1149	54.0	589	8.4	9.1	--	8.0
06...	1150	57.0	592	8.4	9.1	--	8.0
06...	1151	60.0	605	8.4	9.0	--	7.9
06...	1152	63.0	607	8.4	9.0	--	7.9
06...	1153	66.0	615	8.4	9.0	--	7.9
06...	1154	68.0	619	8.4	9.1	--	7.9
JUN							
17...	1055	--	--	--	--	2.70	--
17...	1056	.10	449	8.1	18.9	--	7.5
17...	1057	3.00	447	8.1	18.8	--	7.4
17...	1058	6.00	446	8.1	18.4	--	7.5
17...	1059	9.00	445	8.1	18.2	--	7.4
17...	1100	12.0	449	8.1	18.2	--	7.4
17...	1101	15.0	451	8.1	18.2	--	7.4
17...	1102	18.0	452	8.1	18.2	--	7.4
17...	1103	21.0	455	8.1	18.2	--	7.4
17...	1104	24.0	452	8.1	18.1	--	7.3
17...	1105	27.0	452	8.1	18.0	--	7.1
17...	1106	30.0	439	8.0	17.8	--	7.0
17...	1107	33.0	418	8.0	17.4	--	6.8
17...	1108	36.0	317	8.0	16.7	--	7.1
17...	1109	39.0	314	8.0	16.5	--	7.1
17...	1110	42.0	311	7.9	16.2	--	7.0
17...	1111	45.0	299	7.9	15.9	--	7.0
17...	1112	48.0	298	7.9	15.9	--	7.0
17...	1113	51.0	296	7.9	15.7	--	7.0
17...	1114	54.0	296	7.9	15.7	--	7.0
17...	1115	57.0	300	7.9	15.7	--	7.0
17...	1116	60.0	306	7.9	15.6	--	6.9
17...	1117	63.0	304	7.9	15.6	--	6.9
AUG							
26...	1010	--	--	--	--	3.00	--
26...	1011	.10	394	8.6	23.6	--	7.9
26...	1012	3.00	394	8.6	23.5	--	7.9
26...	1013	6.00	394	8.6	23.5	--	7.9
26...	1014	9.00	394	8.6	23.4	--	7.9
26...	1015	12.0	394	8.6	23.4	--	7.8
26...	1016	15.0	394	8.6	23.4	--	7.8
26...	1017	18.0	394	8.5	23.2	--	7.4
26...	1018	21.0	395	8.4	23.0	--	7.0
26...	1019	24.0	395	8.4	22.9	--	6.5
26...	1020	27.0	396	8.2	22.8	--	5.7
26...	1021	30.0	396	8.0	22.7	--	4.9
26...	1022	33.0	395	7.9	22.5	--	4.4
26...	1023	36.0	394	7.9	22.4	--	4.3
26...	1024	39.0	391	7.8	22.2	--	4.4
26...	1025	42.0	387	7.9	22.0	--	4.5
26...	1026	45.0	387	7.8	21.8	--	4.3
26...	1027	48.0	386	7.8	21.8	--	4.3
26...	1028	51.0	385	7.8	21.6	--	4.3
26...	1029	54.0	383	7.8	21.5	--	4.2
26...	1030	57.0	384	7.7	21.3	--	4.0
26...	1031	60.0	381	7.7	21.3	--	4.1
26...	1032	63.0	380	7.8	21.2	--	4.2
26...	1033	66.0	376	7.8	21.1	--	4.4
26...	1034	69.0	372	7.8	21.0	--	4.7
26...	1035	70.0	371	7.8	20.9	--	4.7
26...	1036	71.0	372	7.8	20.8	--	4.5



ARKANSAS RIVER BASIN

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

381559104465500 PUEBLO RESERVOIR SITE 5C--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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							
30...	1115	--	--	--	--	1.50	--
30...	1116	.10	412	8.3	18.5	--	6.6
30...	1117	3.00	412	8.3	18.5	--	6.6
30...	1118	6.00	412	8.3	18.5	--	6.6
30...	1119	9.00	412	8.3	18.5	--	6.6
30...	1120	12.0	412	8.3	18.4	--	6.5
30...	1121	15.0	412	8.3	18.4	--	6.6
30...	1122	18.0	412	8.3	18.4	--	6.5
30...	1123	21.0	412	8.3	18.4	--	6.5
30...	1124	24.0	412	8.3	18.4	--	6.5
30...	1125	27.0	412	8.3	18.4	--	6.5
30...	1126	30.0	412	8.3	18.4	--	6.5
30...	1127	33.0	412	8.3	18.4	--	6.5
30...	1128	36.0	412	8.3	18.3	--	6.5
30...	1129	39.0	412	8.3	18.3	--	6.5
30...	1130	42.0	412	8.3	18.3	--	6.5
30...	1131	45.0	412	8.3	18.3	--	6.5
30...	1132	48.0	412	8.3	18.3	--	6.6
30...	1133	51.0	412	8.3	18.3	--	6.6
30...	1134	54.0	412	8.3	18.3	--	6.6
30...	1135	57.0	412	8.3	18.3	--	6.5
30...	1136	60.0	412	8.3	18.3	--	6.5
30...	1137	63.0	412	8.3	18.2	--	6.5

## ARKANSAS RIVER BASIN

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued  
WATER-QUALITY RECORDS

381548104453300 PUEBLO RESERVOIR SITE 6C

LOCATION.--Lat 38°15'48", long 104°45'33", in NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub>, 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 1998 TO SEPTEMBER 1999

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							
06...	1015	--	--	--	--	3.00	--
06...	1016	.10	532	8.6	9.5	--	8.2
06...	1017	6.00	532	8.5	9.5	--	8.2
06...	1018	12.0	532	8.5	9.5	--	8.2
06...	1019	18.0	532	8.5	9.5	--	8.2
06...	1020	24.0	532	8.5	9.4	--	8.2
06...	1021	30.0	533	8.5	9.5	--	8.2
06...	1022	36.0	534	8.5	9.4	--	8.2
06...	1023	42.0	543	8.5	9.2	--	8.1
06...	1024	48.0	553	8.4	9.1	--	8.1
06...	1025	54.0	552	8.4	9.1	--	8.0
06...	1026	60.0	551	8.4	9.1	--	8.0
06...	1027	66.0	552	8.4	9.1	--	8.0
06...	1028	72.0	561	8.4	9.0	--	8.0
06...	1029	78.0	564	8.4	9.0	--	8.0
06...	1030	84.0	571	8.4	9.0	--	7.9
06...	1031	90.0	601	8.4	8.9	--	7.8
06...	1032	96.0	600	8.4	8.9	--	7.7
JUN							
17...	1005	--	--	--	--	3.70	--
17...	1006	.10	502	8.2	18.8	--	7.6
17...	1007	6.00	495	8.1	18.3	--	7.6
17...	1008	12.0	490	8.1	18.2	--	7.5
17...	1009	18.0	490	8.1	18.2	--	7.5
17...	1010	24.0	490	8.1	18.1	--	7.5
17...	1011	30.0	493	8.1	18.1	--	7.4
17...	1012	36.0	396	8.0	17.6	--	7.2
17...	1013	42.0	341	8.0	16.9	--	7.1
17...	1014	48.0	397	7.9	16.5	--	6.9
17...	1015	54.0	354	7.9	15.9	--	6.8
17...	1016	60.0	393	7.9	15.7	--	6.7
17...	1017	66.0	476	7.8	15.7	--	6.7
17...	1018	72.0	483	7.8	15.4	--	6.7
17...	1019	78.0	473	7.8	14.6	--	6.4
17...	1020	84.0	490	7.8	14.2	--	6.4
17...	1021	90.0	520	7.8	13.3	--	6.1
17...	1022	96.0	538	7.8	12.7	--	6.1
17...	1023	99.0	544	7.8	12.4	--	6.0
AUG							
26...	0920	--	--	--	--	2.60	--
26...	0921	.10	394	8.6	23.2	--	8.0
26...	0922	6.00	394	8.6	23.2	--	7.9
26...	0923	12.0	394	8.6	23.2	--	7.8
26...	0924	18.0	394	8.6	23.1	--	7.7
26...	0925	24.0	395	8.5	23.0	--	7.3
26...	0926	30.0	395	8.3	22.7	--	6.2
26...	0927	36.0	396	7.9	22.5	--	4.6
26...	0928	42.0	390	7.8	22.0	--	4.0
26...	0929	48.0	391	7.7	21.8	--	3.2
26...	0930	54.0	386	7.7	21.4	--	3.8
26...	0931	60.0	384	7.7	21.1	--	4.0
26...	0932	66.0	384	7.7	21.1	--	4.0
26...	0933	72.0	384	7.7	21.0	--	4.0
26...	0934	78.0	382	7.7	20.9	--	4.0
26...	0935	84.0	382	7.7	20.8	--	3.9
26...	0936	90.0	365	7.8	20.6	--	4.7
26...	0937	94.0	370	7.8	20.5	--	4.3

PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

381548104453300 PUEBLO RESERVOIR SITE 6C--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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							
30...	1040	--	--	--	--	1.40	--
30...	1041	.10	413	8.3	18.6	--	6.4
30...	1042	6.00	413	8.2	18.6	--	6.4
30...	1043	12.0	413	8.2	18.5	--	6.3
30...	1044	18.0	413	8.2	18.5	--	6.3
30...	1045	24.0	413	8.2	18.5	--	6.2
30...	1046	30.0	413	8.2	18.5	--	6.2
30...	1047	36.0	413	8.2	18.5	--	6.2
30...	1048	42.0	413	8.2	18.4	--	6.2
30...	1049	48.0	412	8.2	18.4	--	6.2
30...	1050	54.0	412	8.2	18.4	--	6.2
30...	1051	60.0	413	8.2	18.4	--	6.2
30...	1052	66.0	414	8.2	18.3	--	6.3
30...	1053	72.0	416	8.2	18.2	--	6.3
30...	1054	78.0	419	8.3	18.1	--	6.4
30...	1055	84.0	434	8.3	17.4	--	6.6
30...	1056	90.0	438	8.3	17.2	--	6.6
30...	1057	93.0	438	8.3	17.2	--	6.6

ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

LOCATION.--Lat 38°16'18", long 104°43'03", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 good except for estimated daily discharges, which are fair. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	460	96	100	104	310	482	104	2040	2160	1220	747
2	162	432	98	100	104	435	483	103	2070	2370	1400	809
3	232	372	98	100	104	408	502	103	1840	2040	1670	815
4	267	333	98	100	104	381	533	103	1740	1820	1770	790
5	267	331	98	100	104	381	408	104	1840	1820	1540	756
6	268	332	98	100	104	379	324	104	1950	1850	1430	740
7	291	332	98	100	104	381	635	284	1700	2020	2010	764
8	291	331	98	100	104	330	738	850	1610	1790	2840	724
9	280	307	96	100	104	300	735	1140	1560	1350	3050	655
10	279	288	96	100	104	299	735	1600	2600	1170	2340	564
11	281	290	96	100	108	301	1580	1330	3270	1040	1910	621
12	282	355	96	104	108	302	691	1250	3040	1040	1740	662
13	245	418	96	104	107	323	527	1100	2730	1170	1430	612
14	213	e326	96	104	108	353	450	1020	2660	1330	1270	612
15	213	e96	96	104	108	352	428	1020	2650	1510	1090	574
16	197	e96	96	104	108	335	428	1020	2760	1610	1020	510
17	187	e96	96	104	108	293	427	1020	3220	1300	1060	539
18	187	96	98	104	108	252	429	1020	3250	1120	1170	568
19	201	96	98	104	108	242	314	827	2990	1250	1300	608
20	252	96	98	104	108	236	234	633	3000	1470	1400	612
21	311	97	96	104	108	216	253	702	3080	1540	1280	601
22	322	96	96	104	106	203	268	862	3110	1270	1230	681
23	294	96	96	104	106	223	303	1120	3160	859	1260	721
24	276	96	96	104	106	266	281	1370	3300	722	1370	709
25	254	96	96	104	106	291	246	1100	3550	801	1420	643
26	217	96	96	104	106	329	246	1630	4060	841	1410	600
27	201	96	96	104	106	369	313	2470	3640	839	1400	529
28	200	97	98	104	106	379	564	2470	3140	856	1410	443
29	223	96	98	104	---	418	1310	2390	2960	910	1310	379
30	347	96	96	104	---	484	359	2140	2360	1090	989	330
31	442	---	98	104	---	481	---	1890	---	1210	845	---
TOTAL	7857	6445	3002	3180	2969	10252	15226	32879	80880	42168	46584	18918
MEAN	253	215	96.8	103	106	331	508	1061	2696	1360	1503	631
MAX	442	460	98	104	108	484	1580	2470	4060	2370	3050	815
MIN	162	96	96	100	104	203	234	103	1560	722	845	330
AC-FT	15580	12780	5950	6310	5890	20330	30200	65220	160400	83640	92400	37520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, 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	1999
MEAN	363	259	158	170	217	321	601	1180	2440	1696	1061	478													
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	1977	1977	1977	1977													

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1975 - 1999

ANNUAL TOTAL	231805	270360	
ANNUAL MEAN	635	741	a747
HIGHEST ANNUAL MEAN			1227
LOWEST ANNUAL MEAN			265
HIGHEST DAILY MEAN	3220	Jun 6	4060
LOWEST DAILY MEAN	51	Jan 1	e96
ANNUAL SEVEN-DAY MINIMUM	51	Jan 1	96
INSTANTANEOUS PEAK FLOW			5140
INSTANTANEOUS PEAK STAGE			6.77
ANNUAL RUNOFF (AC-FT)	459800	536300	541300
10 PERCENT EXCEEDS	1540	1930	1880
50 PERCENT EXCEEDS	427	353	401
90 PERCENT EXCEEDS	62	98	88

e Estimated

a Average discharge for 8 years (water years 1966-73), 643 ft<sup>3</sup>/s; 465900 acre-ft/yr, prior to completion of Pueblo Dam.

b Also the maximum daily discharge for period of record.

c Minimum daily discharge for period of record, 28 ft<sup>3</sup>/s, May 11, 1967.

d Present site and datum, from rating curve extended above 1600 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

f 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. Instantaneous discharge and selected water-quality data collected as part of a basin-wide water-quality assessment of the lower Arkansas River basin in Colorado are published elsewhere in this report.

EXTREMES FOR PERIOD OF DAILY 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, 695 microsiemens, Nov. 14; minimum, 378 microsiemens, Aug. 7-8.  
 WATER TEMPERATURE: Maximum, 21.1°C, Sep. 7; minimum, 3.1°C, Jan. 18.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	504	463	483	506	493	499	559	547	551	581	552	566
2	487	472	479	531	501	516	560	547	551	589	561	573
3	475	456	465	532	511	520	564	548	553	596	559	571
4	466	457	461	522	514	516	572	549	555	596	570	582
5	468	462	464	521	515	517	572	542	552	593	569	582
6	467	460	464	523	513	518	553	545	549	591	562	576
7	485	462	471	521	513	518	558	547	551	593	571	583
8	495	480	489	521	509	516	550	540	547	606	575	592
9	496	488	492	515	510	513	561	546	550	603	583	593
10	499	490	494	512	506	509	559	545	553	597	565	580
11	503	489	497	512	506	509	575	550	560	592	561	574
12	500	491	495	513	500	507	569	550	558	579	567	573
13	503	481	492	531	510	516	580	555	565	581	566	573
14	504	487	496	695	515	562	581	559	567	582	554	567
15	511	490	500	656	587	618	584	560	571	588	554	567
16	521	499	507	613	583	594	582	565	574	599	573	584
17	521	500	507	593	566	581	588	574	579	594	567	580
18	504	489	495	566	543	552	599	567	582	579	557	571
19	489	480	485	570	545	556	594	574	584	581	556	569
20	495	486	491	570	547	556	594	570	577	570	554	562
21	504	489	496	572	546	553	599	568	579	570	549	556
22	506	493	501	577	548	557	593	562	575	561	551	556
23	523	504	514	580	552	560	583	552	566	562	551	556
24	524	507	517	568	545	555	598	550	564	560	550	556
25	523	515	519	553	542	546	562	551	555	571	551	560
26	525	514	521	560	546	552	562	550	554	572	552	562
27	529	518	524	568	547	554	557	548	553	572	556	560
28	529	493	509	559	550	554	558	549	554	568	555	559
29	500	491	496	563	552	556	565	550	556	568	555	562
30	494	484	489	557	544	551	580	553	565	567	560	564
31	500	488	493	---	---	---	565	550	556	571	557	565
MONTH	529	456	494	695	493	541	599	540	561	606	549	570

## ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	570	557	563	557	522	539	534	523	528	668	586	619
2	572	553	562	525	518	521	534	529	531	642	603	622
3	572	555	562	539	524	529	533	522	528	623	601	610
4	572	557	562	542	529	535	531	525	527	626	606	614
5	567	558	563	540	529	534	542	527	532	619	591	606
6	570	559	565	544	531	537	536	525	531	613	595	606
7	574	560	566	536	528	532	531	515	522	610	566	591
8	570	556	560	539	529	533	526	516	521	579	561	571
9	562	554	558	538	528	532	528	524	526	585	566	577
10	570	556	561	541	528	532	531	525	528	582	559	574
11	561	551	556	540	528	532	533	514	525	592	568	580
12	567	557	560	535	527	530	536	530	532	590	574	581
13	565	556	560	531	524	528	566	527	540	595	575	586
14	575	556	562	539	525	531	552	534	540	590	580	586
15	571	560	563	533	526	530	545	530	535	587	581	585
16	568	559	563	534	527	530	535	527	530	585	580	583
17	571	561	565	535	528	531	534	527	529	585	575	581
18	567	557	561	537	529	533	531	525	528	584	580	582
19	569	556	563	537	531	533	537	523	529	588	581	584
20	572	555	566	534	528	531	531	526	530	588	580	584
21	570	554	564	536	529	532	532	526	529	587	576	581
22	556	549	552	537	528	532	531	525	528	583	573	579
23	---	---	---	537	529	534	529	523	526	582	574	578
24	---	---	---	534	528	531	531	525	528	577	571	575
25	---	---	---	533	526	530	531	527	529	604	570	582
26	---	---	---	530	523	526	531	527	529	590	570	577
27	---	---	---	530	525	527	531	525	529	572	570	571
28	---	---	---	539	528	533	534	523	528	573	568	572
29	---	---	---	542	523	531	541	516	528	574	570	572
30	---	---	---	533	525	528	637	537	595	575	571	572
31	---	---	---	532	525	529	---	---	---	574	570	572
MONTH	---	---	---	557	518	531	637	514	531	668	559	586
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	573	570	571	425	414	420	395	388	390	411	405	408
2	573	569	571	429	398	417	394	384	389	408	405	407
3	573	569	571	424	406	417	388	384	386	408	406	407
4	573	570	571	421	401	413	385	381	383	408	405	407
5	573	568	571	419	397	409	385	380	383	408	406	407
6	573	569	571	423	402	413	385	382	383	408	405	407
7	573	570	571	416	400	409	384	378	380	409	400	405
8	573	570	572	410	391	401	384	378	381	410	402	406
9	574	570	572	412	394	406	383	380	381	409	406	408
10	572	567	570	415	400	408	398	382	390	422	407	413
11	572	567	570	414	400	407	405	392	398	415	403	408
12	572	567	571	413	395	402	404	392	399	416	407	411
13	571	567	569	408	393	403	407	400	404	415	412	413
14	572	566	569	401	392	396	407	401	404	420	413	415
15	572	559	566	400	388	397	416	405	409	429	417	423
16	566	559	562	401	388	395	412	404	407	446	429	436
17	563	551	557	409	395	400	412	407	409	445	429	436
18	552	533	542	403	390	396	413	406	410	441	431	436
19	539	515	524	394	387	390	412	400	405	445	437	441
20	531	506	516	398	390	394	406	401	403	450	441	446
21	510	481	492	397	388	392	407	401	403	447	433	441
22	503	454	469	398	383	391	404	401	403	442	427	435
23	468	440	449	397	383	393	404	401	403	448	440	443
24	486	444	459	401	391	394	405	400	402	454	440	446
25	486	434	448	398	388	393	404	401	402	459	445	451
26	442	427	436	398	387	392	404	402	403	462	455	459
27	444	428	438	400	388	394	405	402	403	476	456	465
28	447	413	426	395	386	390	405	403	404	481	450	466
29	428	413	420	398	387	392	421	403	406	460	444	453
30	428	412	421	398	385	390	412	406	408	454	444	448
31	---	---	---	395	386	390	418	406	409	---	---	---
MONTH	574	412	524	429	383	400	421	378	398	481	400	428

ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	20.3	19.9	20.1	14.5	14.3	14.4	9.9	8.5	8.9	5.2	4.2	4.5
2	20.8	19.8	20.1	14.3	13.9	14.1	9.8	8.6	9.0	4.8	3.9	4.2
3	20.6	19.7	20.0	13.9	13.5	13.8	9.7	8.5	8.9	4.6	3.6	3.9
4	20.0	19.2	19.6	13.6	13.1	13.4	9.5	8.4	8.7	4.5	3.4	3.8
5	19.7	18.9	19.1	13.1	12.9	13.1	9.4	8.4	8.7	4.7	3.7	4.0
6	19.4	18.5	18.8	13.4	12.7	13.0	8.7	8.2	8.4	5.0	3.7	4.2
7	18.9	17.9	18.4	13.1	12.3	12.7	9.0	7.9	8.3	4.7	3.7	4.0
8	18.4	17.4	17.8	12.7	12.2	12.4	8.9	7.7	8.1	4.2	3.6	3.8
9	18.1	17.1	17.4	12.5	12.0	12.2	8.0	7.5	7.7	4.6	3.5	3.9
10	17.8	16.9	17.2	12.1	11.5	11.8	8.3	7.4	7.7	4.6	3.4	3.8
11	17.5	16.9	17.1	12.0	11.4	11.5	8.4	7.1	7.5	5.0	3.6	4.1
12	17.5	16.9	17.1	11.8	10.9	11.4	8.4	7.1	7.5	4.1	3.6	3.9
13	17.6	16.8	17.1	11.1	10.5	10.8	8.0	6.8	7.2	4.0	3.4	3.7
14	17.6	16.7	17.0	10.9	9.7	10.4	7.9	6.5	7.0	4.1	3.3	3.6
15	17.5	16.5	16.9	11.0	9.6	10.1	7.6	6.4	6.8	4.6	3.5	3.9
16	17.2	16.4	16.7	10.8	9.4	9.8	7.2	6.0	6.5	4.3	3.4	3.7
17	17.2	16.2	16.6	10.0	9.4	9.6	7.2	5.8	6.4	4.5	3.4	3.7
18	17.1	16.1	16.4	11.3	9.3	10.2	7.2	5.7	6.5	4.6	3.1	3.7
19	16.9	15.9	16.3	10.8	9.6	10.0	5.7	5.4	5.6	4.8	3.6	3.9
20	16.2	15.9	16.0	10.7	9.5	9.8	6.0	5.2	5.5	4.5	3.5	3.8
21	16.1	15.6	15.8	10.6	9.5	9.9	5.9	5.0	5.3	3.8	3.4	3.5
22	16.2	15.5	15.7	10.9	9.6	10.0	5.8	4.8	5.2	4.4	3.4	3.7
23	16.0	15.2	15.5	10.5	9.3	9.8	5.5	4.3	4.8	4.6	3.2	3.7
24	15.7	14.9	15.3	10.5	9.1	9.6	5.1	4.1	4.5	4.5	3.4	3.8
25	15.6	14.9	15.1	10.1	9.2	9.6	5.3	4.1	4.6	4.4	3.4	3.8
26	15.6	14.9	15.1	10.4	9.0	9.4	5.5	4.4	4.7	4.6	3.3	3.7
27	15.1	14.7	14.9	10.4	8.9	9.4	5.4	4.4	4.7	4.5	3.2	3.7
28	15.6	14.6	15.0	9.9	8.9	9.2	5.4	4.3	4.7	4.4	3.4	3.7
29	15.5	14.5	14.9	9.8	8.7	9.0	5.4	4.3	4.6	4.0	3.2	3.5
30	15.2	14.7	14.8	10.0	8.6	9.1	5.6	4.3	4.8	4.0	3.5	3.7
31	14.7	14.5	14.6	---	---	---	4.9	4.4	4.6	4.6	3.5	3.9
MONTH	20.8	14.5	16.9	14.5	8.6	11.0	9.9	4.1	6.6	5.2	3.1	3.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4.6	3.4	3.9	5.4	4.7	4.9	8.2	6.4	7.4	8.7	8.2	8.5
2	4.6	3.2	3.8	5.0	4.6	4.7	7.2	6.4	6.8	10.2	8.1	8.8
3	4.8	3.5	3.9	5.1	4.5	4.7	7.5	6.7	7.0	10.0	8.3	8.8
4	4.3	3.2	3.6	5.1	4.5	4.7	7.3	6.8	7.0	9.8	8.2	8.8
5	4.6	3.6	3.9	5.1	4.5	4.7	8.0	6.8	7.4	10.3	8.2	9.0
6	4.7	3.4	3.9	5.0	4.5	4.7	7.9	7.0	7.3	10.4	8.1	9.0
7	5.1	3.5	4.2	5.1	4.5	4.7	7.8	6.8	7.2	10.1	8.3	8.9
8	5.4	3.7	4.3	5.3	4.7	4.9	8.6	7.1	8.1	9.2	8.7	8.9
9	5.0	3.6	4.1	5.5	4.7	5.0	8.5	7.8	8.1	9.2	8.8	9.0
10	5.4	3.7	4.4	5.9	4.9	5.3	8.3	7.7	8.0	9.2	8.8	9.0
11	4.6	3.4	3.8	5.7	5.0	5.2	8.1	7.7	7.9	9.8	8.9	9.1
12	4.9	3.3	3.9	5.1	4.9	5.0	8.3	7.7	7.9	9.6	8.8	9.2
13	5.0	3.4	4.0	5.6	4.8	5.1	8.3	7.8	7.9	9.6	9.0	9.3
14	5.2	3.6	4.2	5.6	4.8	5.1	8.3	7.8	7.9	9.8	9.1	9.3
15	4.7	3.6	4.0	5.5	4.9	5.0	8.4	7.7	8.0	9.9	9.1	9.4
16	4.5	3.5	3.9	5.9	5.0	5.4	8.4	7.7	7.9	9.9	9.2	9.4
17	4.7	3.6	4.1	6.0	5.0	5.3	8.5	7.7	8.0	10.3	9.3	9.6
18	5.2	3.6	4.1	5.3	5.0	5.1	8.7	7.8	8.1	9.9	9.3	9.6
19	5.2	3.6	4.2	5.8	5.0	5.2	8.9	7.9	8.2	10.0	9.3	9.6
20	5.2	3.7	4.3	6.1	5.0	5.4	8.9	7.8	8.2	10.2	9.3	9.8
21	5.0	3.6	4.1	6.2	5.0	5.6	8.8	7.9	8.2	10.1	9.5	9.8
22	---	3.7	---	6.7	5.3	5.8	8.3	7.9	8.0	10.2	9.4	9.7
23	---	---	---	6.3	5.2	5.6	8.3	7.7	8.0	10.1	9.4	9.7
24	---	---	---	6.3	5.3	5.8	8.1	7.9	8.0	10.4	9.7	9.9
25	---	---	---	6.3	5.3	5.7	8.8	7.9	8.1	10.5	9.5	9.9
26	---	---	---	6.4	5.4	5.9	8.7	7.9	8.2	10.3	9.7	10.0
27	---	---	---	6.3	5.6	5.8	8.9	7.9	8.3	10.3	9.9	10.0
28	---	---	---	6.4	5.4	5.8	8.6	8.0	8.2	10.5	9.8	10.1
29	---	---	---	6.4	5.6	5.9	8.2	8.0	8.1	10.6	10.0	10.2
30	---	---	---	6.6	5.7	6.1	8.5	8.2	8.3	10.4	10.0	10.2
31	---	---	---	7.7	5.9	6.7	---	---	---	10.7	10.1	10.4
MONTH	---	---	---	7.7	4.5	5.3	8.9	6.4	7.9	10.7	8.1	9.4

## ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.7	10.1	10.4	16.1	15.6	15.8	18.2	17.8	18.0	20.8	20.0	20.3
2	10.8	10.2	10.6	16.1	15.5	15.8	18.5	18.1	18.3	20.7	20.2	20.4
3	11.0	10.2	10.7	16.1	15.7	15.9	18.6	18.3	18.4	20.6	20.1	20.3
4	11.0	10.3	10.7	16.2	15.5	15.8	18.7	18.4	18.5	20.9	20.1	20.4
5	11.4	10.5	10.9	16.3	15.7	16.0	19.0	18.3	18.7	20.8	20.2	20.4
6	11.4	10.5	10.9	16.6	15.9	16.2	19.0	18.2	18.6	20.8	20.1	20.4
7	11.6	10.7	11.2	16.5	16.2	16.3	19.3	18.6	19.0	21.1	20.0	20.5
8	11.4	10.6	11.0	16.7	15.8	16.3	19.6	19.2	19.5	20.8	20.1	20.5
9	11.5	10.6	11.1	16.6	16.1	16.3	19.8	19.3	19.5	20.8	20.2	20.4
10	12.0	11.0	11.3	16.5	16.0	16.3	19.7	19.3	19.5	20.7	20.1	20.3
11	12.4	11.3	11.7	16.8	16.1	16.4	19.9	19.2	19.6	20.7	20.1	20.4
12	12.4	11.6	11.8	16.9	16.0	16.5	19.9	19.1	19.6	20.6	20.1	20.4
13	12.3	11.7	12.0	16.9	16.2	16.6	20.0	19.5	19.7	20.7	20.2	20.4
14	12.4	11.6	12.1	17.0	16.4	16.7	19.7	19.2	19.6	20.7	20.2	20.4
15	12.9	11.6	12.3	17.2	16.7	16.9	19.9	19.4	19.6	20.3	19.9	20.1
16	12.9	12.3	12.5	17.4	16.7	17.1	19.9	19.5	19.7	20.5	19.8	20.1
17	13.1	12.5	12.8	17.2	16.8	17.0	20.1	19.5	19.8	20.4	19.8	20.0
18	13.8	13.1	13.4	17.4	16.8	17.0	20.1	19.4	19.8	20.4	19.7	19.9
19	14.0	13.5	13.9	17.5	16.9	17.2	20.3	19.6	20.0	19.9	19.5	19.7
20	14.3	13.5	13.9	17.7	17.1	17.3	20.3	19.8	20.0	19.8	19.7	19.7
21	14.5	13.8	14.2	17.7	17.1	17.4	20.3	19.8	20.0	20.2	19.6	19.8
22	14.7	13.8	14.3	17.7	17.0	17.5	20.3	19.9	20.1	20.0	19.4	19.7
23	14.8	14.2	14.6	17.8	17.1	17.3	20.4	19.7	20.0	19.7	19.1	19.4
24	15.3	14.2	14.7	17.8	16.9	17.3	20.4	20.0	20.2	19.6	18.9	19.2
25	15.2	14.2	14.9	17.9	17.0	17.4	20.5	20.1	20.2	19.4	18.7	19.0
26	15.5	15.0	15.3	18.0	17.4	17.6	20.5	20.0	20.3	19.1	18.6	18.8
27	15.5	15.2	15.3	18.1	17.3	17.6	20.6	20.2	20.4	18.8	18.6	18.7
28	15.7	15.2	15.4	18.1	17.4	17.8	20.6	20.2	20.4	18.8	18.3	18.5
29	15.9	15.4	15.6	18.4	17.6	17.9	20.7	20.2	20.4	19.0	18.1	18.5
30	16.0	15.5	15.8	18.4	17.6	17.9	20.7	20.1	20.3	18.6	17.8	18.2
31	---	---	---	18.3	17.8	18.1	20.8	20.0	20.4	---	---	---
MONTH	16.0	10.1	12.8	18.4	15.5	16.9	20.8	17.8	19.6	21.1	17.8	19.8



07099969 ARKANSAS RIVER AT ST. CHARLES MESA DIVERSION AT PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°15'13", long 104°36'20", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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, 1,500 microsiemens, May 2; minimum, 302 microsiemens, July 30.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	739	510	646	646	556	605	766	754	761	804	773	790
2	702	664	696	674	646	661	764	753	759	790	778	785
3	712	679	690	698	674	680	817	748	766	795	772	786
4	680	643	659	703	690	696	778	765	769	797	761	779
5	665	650	661	694	687	690	774	758	766	800	782	793
6	666	648	658	693	683	689	764	755	761	820	782	798
7	667	644	658	696	677	689	755	738	745	798	775	785
8	682	645	668	703	689	696	787	729	748	788	775	782
9	695	681	690	692	677	684	765	732	745	797	781	789
10	688	674	684	692	682	687	757	741	750	791	777	785
11	694	674	688	690	685	688	784	750	762	791	772	783
12	689	673	683	693	678	689	779	749	766	789	774	783
13	685	666	679	678	656	660	773	748	766	784	773	777
14	695	664	681	662	636	649	781	760	768	790	758	780
15	694	669	681	795	643	751	777	763	772	809	775	792
16	700	657	684	796	782	790	775	767	771	804	786	794
17	732	689	708	787	769	781	806	763	778	805	788	795
18	712	687	699	792	781	785	813	800	807	792	770	785
19	690	681	687	783	763	770	809	791	800	808	782	793
20	689	682	685	772	766	769	803	785	794	787	766	777
21	689	672	684	778	760	771	803	774	789	817	774	783
22	683	663	672	781	764	774	842	798	815	834	771	783
23	696	674	683	788	766	780	827	778	796	787	763	778
24	710	696	705	777	766	772	851	775	805	788	755	775
25	711	699	705	780	761	772	823	780	791	784	766	774
26	745	709	723	763	756	759	857	805	826	778	766	773
27	734	723	727	774	757	763	863	813	830	777	759	770
28	731	702	719	783	766	775	831	811	818	777	759	766
29	710	668	701	793	771	781	826	801	816	767	759	762
30	702	649	682	779	757	772	811	799	804	777	756	765
31	669	629	650	---	---	---	813	795	806	778	763	771
MONTH	745	510	685	796	556	728	863	729	782	834	755	782

## ARKANSAS RIVER BASIN

07099969 ARKANSAS RIVER AT ST. CHARLES MESA DIVERSION AT PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	782	764	773	761	639	726	640	607	625	1400	634	1140
2	767	752	759	640	621	630	669	545	603	1500	1370	1430
3	773	755	764	631	619	623	645	615	632	1490	1270	1350
4	765	761	763	637	631	634	635	598	625	1490	1320	1420
5	771	755	762	634	629	632	680	623	638	1360	1320	1340
6	760	747	754	633	623	629	683	662	674	1320	1220	1260
7	765	749	757	629	622	625	683	609	654	1230	882	1160
8	809	763	785	646	623	631	614	603	608	882	723	765
9	815	786	803	649	643	646	613	605	608	724	652	695
10	800	777	791	647	642	644	616	601	608	667	631	640
11	788	762	772	668	644	652	641	552	596	709	630	653
12	797	758	772	687	653	670	643	629	635	707	643	673
13	807	775	787	689	661	671	669	629	642	705	639	666
14	801	781	790	661	652	657	660	635	649	707	662	685
15	798	785	792	662	650	657	672	633	647	702	668	681
16	786	774	781	667	650	660	659	645	651	689	650	672
17	780	774	776	681	663	674	659	648	652	677	649	662
18	780	751	766	691	673	679	658	646	652	667	644	656
19	764	752	756	694	679	689	683	640	655	686	651	665
20	757	749	754	694	677	684	704	683	695	723	679	693
21	752	746	750	691	662	671	716	536	683	735	675	706
22	765	735	755	689	661	676	705	547	648	702	652	683
23	742	731	737	701	662	676	679	497	598	678	632	657
24	770	738	752	715	661	688	739	679	695	648	615	631
25	767	744	754	693	666	685	739	678	700	746	575	641
26	761	751	754	676	659	670	733	696	708	776	607	696
27	763	742	753	672	630	660	724	671	700	614	597	609
28	750	740	743	670	647	657	690	538	665	611	586	606
29	---	---	---	662	646	653	647	380	585	617	596	609
30	---	---	---	646	627	636	1210	381	682	618	610	613
31	---	---	---	645	621	637	---	---	---	628	613	621
MONTH	815	731	766	761	619	659	1210	380	647	1500	575	806
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	622	613	617	479	465	472	465	346	440	539	508	527
2	618	612	615	470	449	463	470	349	439	529	502	520
3	625	614	619	484	443	464	433	422	428	527	509	518
4	628	614	623	478	463	471	444	317	412	529	511	522
5	627	608	619	472	456	464	451	426	438	537	515	525
6	623	607	615	529	452	471	453	431	438	535	512	524
7	633	605	621	471	453	462	452	402	421	533	501	521
8	632	616	626	475	447	459	428	395	408	536	510	524
9	635	621	629	508	461	485	410	394	400	538	509	527
10	636	599	615	515	502	509	441	398	417	561	521	535
11	602	596	600	545	498	518	448	429	437	599	508	544
12	609	597	601	537	506	519	451	433	440	566	518	535
13	608	602	605	518	495	504	473	446	460	547	531	540
14	608	382	582	497	467	482	491	462	471	583	529	540
15	611	596	604	475	456	467	500	473	486	568	531	550
16	600	593	597	---	---	---	509	495	502	578	558	566
17	599	578	588	490	358	459	536	468	501	591	548	571
18	579	535	569	483	462	472	501	490	495	561	547	553
19	576	548	560	477	421	454	497	418	485	583	481	555
20	560	537	549	452	432	440	478	460	467	571	557	564
21	542	513	525	440	351	428	508	474	479	576	555	565
22	531	484	503	471	413	447	486	476	482	572	552	561
23	497	465	479	519	460	488	541	468	486	569	554	563
24	496	469	481	524	506	516	475	459	467	574	555	563
25	501	462	473	527	486	506	466	457	461	577	560	567
26	463	448	453	539	489	500	466	460	462	592	574	584
27	476	449	460	512	450	497	477	461	464	606	584	591
28	471	440	456	523	482	497	504	460	470	617	586	602
29	462	440	452	500	476	490	503	461	475	631	606	616
30	475	451	464	490	302	457	515	493	507	639	625	631
31	---	---	---	499	419	450	531	494	512	---	---	---
MONTH	636	382	560	---	---	---	541	317	460	639	481	553

07099970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO

LOCATION.--Lat 38°15'13", long 104°36'20", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	519	98	81	81	209	482	285	2010	2080	1270	681
2	160	479	99	83	83	450	519	121	2070	2300	1390	743
3	209	427	93	83	80	456	516	94	1840	2020	1660	772
4	256	378	92	84	78	426	553	101	1680	1730	1840	750
5	248	379	93	85	79	429	472	94	1780	1720	1590	733
6	252	383	97	86	82	431	314	99	1920	1770	1420	693
7	279	386	103	91	79	433	492	164	1660	1960	1940	703
8	284	381	88	89	74	393	715	835	1510	1760	2900	684
9	258	355	89	85	78	333	709	1100	1460	1310	3220	615
10	267	323	81	89	82	332	722	1600	2420	e1110	2520	539
11	264	320	74	90	82	343	1850	1430	3310	e990	1860	571
12	270	367	75	91	80	352	689	1240	3140	e980	1700	649
13	244	456	76	86	78	356	586	1140	2710	e1100	1380	580
14	192	420	76	82	79	399	472	1000	2820	e1250	1210	576
15	166	101	73	79	78	362	448	1010	2640	1420	1050	557
16	163	102	74	78	82	351	441	1020	2770	1640	930	502
17	171	105	73	78	83	279	436	1010	3260	1370	969	499
18	165	101	67	79	125	260	430	1010	3370	1100	1080	535
19	171	103	65	79	116	241	332	843	3050	1200	1200	574
20	214	100	65	85	115	226	179	651	3050	1420	1360	584
21	295	100	60	82	117	206	225	684	3100	1520	1230	571
22	321	98	60	82	116	200	271	863	3160	1300	1180	618
23	318	97	61	81	118	187	329	1120	3220	883	1190	663
24	287	97	62	81	108	248	282	1390	3370	700	1290	654
25	278	98	62	80	114	267	236	1320	3620	760	1350	610
26	236	99	66	80	110	307	222	1450	4240	803	1350	545
27	215	98	67	84	113	338	272	2570	3900	800	1320	496
28	212	95	69	82	113	371	494	2570	3210	805	1360	428
29	228	92	72	82	---	381	1420	2490	3050	849	1320	364
30	343	96	76	83	---	477	775	2210	2400	1030	929	304
31	481	---	78	82	---	476	---	1850	---	1190	814	---
TOTAL	7648	7155	2384	2582	2623	10519	15883	33364	81740	40870	45822	17793
MEAN	247	238	76.9	83.3	93.7	339	529	1076	2725	1318	1478	593
MAX	481	519	103	91	125	477	1850	2570	4240	2300	3220	772
MIN	160	92	60	78	74	187	179	94	1460	700	814	304
AC-FT	15170	14190	4730	5120	5200	20860	31500	66180	162100	81070	90890	35290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	254	217	105	86.5	148	317	585	1134	2355	1629	979	398
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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1989 - 1999
ANNUAL TOTAL	227303	268383	
ANNUAL MEAN	623	735	686
HIGHEST ANNUAL MEAN			1107
LOWEST ANNUAL MEAN			444
HIGHEST DAILY MEAN	3360	4240	6030
LOWEST DAILY MEAN	54	60	3.6
ANNUAL SEVEN-DAY MINIMUM	59	62	8.2
INSTANTANEOUS PEAK FLOW		a5230	a10400
INSTANTANEOUS PEAK STAGE		12.27	14.18
ANNUAL RUNOFF (AC-FT)	450900	532300	496900
10 PERCENT EXCEEDS	1540	1880	1730
50 PERCENT EXCEEDS	448	381	352
90 PERCENT EXCEEDS	65	80	54

e Estimated

a From rating curve extended above 5200 ft<sup>3</sup>/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 July 15, which is poor. Daily data not published are either during periods of estimated daily discharge, or are missing 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. Instantaneous discharge and selected water-quality data collected as part of a basin-wide water-quality assessment of the lower Arkansas River basin in Colorado are published elsewhere in this report.

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, 1,300 microsiemens, May 4; minimum daily mean, 366 microsiemens, July 21.

WATER TEMPERATURE: Maximum, 24.0° C, Aug. 31; minimum, 0.0° C, Dec. 21-24.

 SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	569	511	724	749	747	661	529	1000	564	430	367	417
2	618	560	722	742	733	552	509	1290	565	437	371	409
3	606	579	737	745	740	546	534	1240	552	424	374	405
4	572	596	736	738	742	558	526	1300	545	415	369	408
5	575	591	732	751	741	556	542	1230	549	409	379	411
6	573	590	725	752	732	555	582	1150	555	418	370	412
7	570	589	708	734	737	551	556	1050	541	419	379	408
8	578	596	718	734	748	560	505	634	534	406	403	411
9	599	587	713	743	745	577	506	578	533	405	403	424
10	593	592	722	738	732	577	505	563	576	---	396	451
11	597	593	739	736	715	572	531	566	609	---	392	460
12	592	591	741	736	717	575	529	573	603	---	384	450
13	592	561	741	734	734	576	539	568	589	---	385	458
14	599	565	743	740	737	562	551	581	569	---	386	460
15	600	708	748	754	740	564	550	582	586	395	392	472
16	603	743	746	757	729	567	554	577	584	---	402	489
17	623	734	745	760	723	584	555	573	594	387	398	495
18	616	750	766	749	701	590	556	571	579	385	395	480
19	604	734	762	758	690	601	566	590	559	375	390	481
20	598	734	757	740	689	598	615	600	547	373	381	490
21	590	735	758	748	685	589	599	591	525	366	385	513
22	578	740	782	748	691	595	562	568	505	373	383	489
23	589	745	765	745	675	597	515	551	482	401	386	468
24	610	736	773	743	694	599	603	545	489	428	375	469
25	611	736	759	743	694	595	611	553	487	417	372	473
26	632	723	791	743	697	578	620	617	471	411	373	491
27	637	728	795	739	695	568	608	587	472	409	373	499
28	631	740	782	737	687	563	565	585	469	409	377	513
29	613	747	779	734	---	559	493	584	451	402	380	528
30	587	736	764	737	---	539	577	574	440	375	394	546
31	551	---	765	744	---	540	---	555	---	372	401	---
MEAN	597	662	750	744	718	574	553	714	537	---	384	463
MAX	637	750	795	760	748	661	620	1300	609	---	403	546
MIN	551	511	708	734	675	539	493	545	440	---	367	405

ARKANSAS RIVER BASIN

07099970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	19.9	16.0	17.0	13.7	11.5	12.7	10.3	6.9	8.7	5.6	3.4	4.5
2	20.6	16.0	17.9	13.3	12.7	13.1	10.8	8.2	9.4	4.7	3.1	3.8
3	19.9	16.2	18.2	13.3	12.2	12.7	10.2	7.1	8.8	3.3	1.5	2.4
4	19.2	16.3	17.8	13.1	11.6	12.2	8.9	6.9	8.1	3.1	.3	1.9
5	18.1	14.6	16.4	12.2	11.2	11.6	8.5	6.5	7.7	5.4	2.4	3.7
6	18.9	14.4	16.6	14.0	11.6	12.5	7.2	6.1	6.5	5.5	2.4	4.1
7	19.4	14.2	16.8	13.3	11.0	11.9	7.4	5.4	6.3	4.8	3.1	3.9
8	19.8	15.0	17.4	12.0	10.1	11.0	6.6	4.0	5.4	3.8	2.2	3.1
9	19.3	15.0	17.2	11.2	9.5	10.3	5.6	4.8	5.2	4.7	2.0	3.3
10	19.3	14.4	16.8	10.4	8.5	9.5	6.6	4.5	5.4	4.9	2.1	3.6
11	17.8	14.1	16.1	11.7	8.1	9.8	6.2	3.2	4.9	5.9	3.2	4.5
12	17.5	13.8	15.6	11.8	8.8	10.3	7.2	4.3	5.9	5.4	3.9	4.6
13	18.4	13.7	16.1	12.1	8.6	10.2	7.2	4.6	6.0	4.1	2.0	3.2
14	19.1	13.9	16.6	11.9	8.8	10.2	7.2	4.3	5.9	4.1	1.6	3.1
15	18.2	14.4	16.5	11.7	7.7	9.7	7.1	4.6	6.0	6.1	3.2	4.6
16	17.2	13.0	15.2	11.2	8.3	9.9	6.7	4.4	5.7	5.5	3.5	4.7
17	17.0	13.1	15.1	10.0	7.9	8.8	6.5	4.1	5.5	5.5	2.7	4.0
18	16.5	12.2	14.7	10.1	6.9	8.6	6.8	4.7	5.7	5.6	1.9	3.9
19	16.4	12.4	14.7	10.3	7.9	8.8	5.4	1.3	2.8	6.9	4.3	5.5
20	15.7	13.5	14.4	10.1	6.8	8.5	1.8	.6	1.2	5.8	3.1	4.7
21	15.5	14.0	14.6	9.8	6.4	8.1	1.0	.0	.4	4.9	3.3	3.9
22	17.4	12.9	15.0	11.4	7.8	9.6	1.5	.0	.6	6.1	2.8	4.2
23	17.6	13.4	15.4	10.5	8.0	9.3	1.4	.0	.5	5.4	1.8	3.8
24	16.7	13.0	14.9	10.0	7.0	8.6	1.2	.0	.5	6.4	3.1	4.7
25	16.1	12.9	14.5	9.9	7.3	8.6	2.8	.1	1.5	5.2	2.6	3.9
26	16.8	13.8	15.3	10.7	7.0	8.9	4.4	1.8	3.0	5.6	2.2	3.8
27	15.4	13.5	14.4	11.1	7.5	9.3	5.7	2.9	4.0	5.2	2.0	3.6
28	15.4	12.5	14.0	10.7	8.2	9.4	5.7	3.1	4.3	5.8	3.4	4.4
29	15.4	11.2	13.3	10.5	8.7	9.4	5.7	3.5	4.6	4.1	1.8	3.2
30	15.2	12.2	13.7	10.1	7.0	8.7	6.4	3.5	5.0	5.0	3.5	4.2
31	13.7	12.8	13.3	---	---	---	5.7	4.3	5.0	7.4	4.5	5.7
MONTH	20.6	11.2	15.7	14.0	6.4	10.1	10.8	.0	4.9	7.4	.3	4.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.3	4.5	5.9	9.1	4.3	6.6	11.1	6.5	8.5	9.1	8.6	8.9
2	5.8	2.4	4.4	7.1	4.1	5.3	7.6	4.9	5.9	15.3	7.9	11.2
3	6.9	3.6	5.1	8.1	3.1	5.3	10.8	5.2	7.6	14.9	10.7	12.8
4	5.1	2.4	3.9	8.4	3.7	5.7	9.5	5.8	7.3	14.8	10.5	12.4
5	6.1	3.7	4.9	7.4	3.8	5.4	11.5	6.5	8.6	14.3	8.4	11.1
6	6.5	2.9	4.8	6.2	3.9	4.8	12.8	6.1	9.1	15.5	9.3	12.3
7	8.1	3.6	5.7	8.3	3.3	5.4	12.1	6.3	8.8	17.3	10.2	13.2
8	8.7	4.6	6.7	9.0	4.5	6.3	11.9	6.2	8.6	14.1	8.8	11.0
9	7.8	4.1	6.1	8.8	3.3	5.8	12.0	7.2	8.9	13.0	8.9	10.5
10	8.7	4.2	6.2	8.7	4.1	6.2	11.2	6.2	8.2	11.8	9.2	10.2
11	4.9	2.0	3.2	8.4	3.9	5.9	9.0	6.6	7.9	12.0	9.1	10.0
12	5.4	.5	3.0	5.4	4.0	4.5	12.5	6.8	9.1	13.0	8.9	10.4
13	7.0	2.0	4.5	9.0	3.5	5.8	11.2	7.3	8.9	14.2	9.2	11.1
14	7.1	2.8	5.1	9.8	3.7	6.3	10.1	7.6	8.5	14.1	9.5	11.3
15	5.8	3.2	4.7	8.5	4.3	6.0	9.9	6.4	7.9	14.3	9.4	11.3
16	5.5	2.2	4.1	10.3	4.5	7.0	10.3	5.8	7.9	13.6	9.5	11.0
17	5.9	2.7	4.4	9.2	4.4	6.6	12.8	6.2	9.0	14.1	9.6	11.3
18	6.8	2.6	4.7	6.4	4.3	5.2	11.8	6.8	9.1	14.5	9.5	11.5
19	7.4	2.7	5.1	8.7	4.3	6.2	14.3	7.6	10.7	14.7	9.8	11.9
20	8.3	4.3	6.0	10.4	3.9	7.1	14.5	7.8	11.2	15.2	10.1	12.1
21	6.7	2.5	4.7	10.9	4.6	7.7	12.6	8.4	10.8	15.4	10.0	12.1
22	5.8	2.9	4.4	10.9	4.8	8.0	10.8	8.2	9.2	14.3	9.8	11.4
23	7.7	1.7	4.5	10.6	5.5	8.2	9.1	6.5	7.8	13.2	9.8	11.1
24	9.3	3.8	6.4	11.1	5.9	8.3	8.8	7.5	8.2	13.5	9.8	11.1
25	9.1	3.9	6.6	10.6	5.8	8.0	12.4	7.6	9.8	12.3	10.1	11.1
26	8.8	4.3	6.4	10.8	5.2	7.8	12.9	7.3	9.9	13.8	10.1	11.3
27	8.1	2.9	5.5	10.6	6.2	8.0	15.2	8.0	11.4	12.6	10.2	11.1
28	8.3	3.1	5.8	10.7	5.2	7.5	13.1	8.3	10.1	12.8	10.1	11.2
29	---	---	---	10.9	4.7	7.4	9.7	7.0	8.4	12.4	10.3	11.0
30	---	---	---	9.9	5.2	7.4	9.3	8.5	8.9	13.0	10.3	11.3
31	---	---	---	11.0	5.6	7.9	---	---	---	13.6	10.3	11.5
MONTH	9.3	.5	5.1	11.1	3.1	6.6	15.2	4.9	8.9	17.3	7.9	11.3

## ARKANSAS RIVER BASIN

07099970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13.4	10.4	11.6	18.5	15.9	16.9	19.7	17.9	18.5	23.3	19.3	20.9
2	13.6	10.7	11.6	17.8	15.9	16.7	19.8	18.1	18.7	23.5	19.5	21.0
3	13.9	10.5	12.0	18.7	15.9	17.0	20.5	18.2	19.0	22.5	19.1	20.6
4	14.2	10.5	11.9	19.0	15.8	17.0	20.1	18.5	19.1	23.2	18.7	20.6
5	13.8	10.5	11.8	18.9	15.9	17.2	21.2	18.6	19.5	23.2	19.1	20.6
6	14.1	10.5	12.0	18.8	16.4	17.4	21.2	18.2	19.4	23.2	18.8	20.7
7	15.0	10.8	12.5	19.2	16.4	17.5	21.2	18.6	19.6	23.4	18.5	20.6
8	14.6	10.7	12.4	19.6	16.4	17.5	21.3	19.0	20.0	22.7	18.9	20.4
9	15.1	10.7	12.6	18.1	16.3	17.0	21.2	19.3	20.0	23.2	18.1	20.3
10	13.6	11.4	12.2	20.1	16.1	17.6	21.3	19.3	20.1	23.2	18.7	20.5
11	14.0	11.7	12.5	20.8	16.2	17.8	21.8	19.3	20.2	22.9	18.4	20.3
12	13.8	11.9	12.6	20.9	16.1	18.0	21.9	18.8	20.1	19.9	18.1	18.9
13	14.3	11.9	12.9	20.8	16.4	17.7	22.5	19.0	20.4	22.7	18.4	20.1
14	14.6	12.2	13.0	20.1	17.0	18.0	22.2	19.1	20.2	22.4	18.3	20.0
15	13.7	12.0	12.9	19.9	16.9	17.9	22.1	19.2	20.3	19.6	18.8	19.3
16	13.3	12.7	13.0	19.8	---	---	23.0	18.5	20.3	22.5	18.7	20.1
17	14.5	12.9	13.6	20.0	17.2	18.3	23.1	18.9	20.4	22.3	18.7	20.1
18	16.1	13.4	14.5	21.0	17.1	18.3	22.5	19.0	20.4	22.7	17.8	19.9
19	16.2	13.5	14.7	20.5	16.8	18.3	22.9	19.1	20.5	19.3	17.7	18.4
20	15.9	13.9	14.8	20.3	17.3	18.3	22.3	19.4	20.4	19.0	17.7	18.2
21	16.2	14.3	15.0	20.8	17.2	18.6	22.9	19.4	20.7	22.0	17.3	19.3
22	16.7	14.3	15.3	20.9	17.3	18.6	22.5	19.5	20.6	21.9	17.1	19.1
23	16.9	14.5	15.5	21.2	17.3	18.7	22.8	19.2	20.6	21.7	17.9	19.4
24	17.1	15.1	15.8	21.7	17.1	19.0	22.8	19.1	20.5	20.9	17.6	19.0
25	17.0	14.9	15.9	22.0	17.0	18.9	22.9	19.4	20.7	21.9	17.4	19.2
26	17.3	15.3	16.2	21.9	17.3	19.0	22.9	19.5	20.8	20.4	16.8	18.4
27	17.8	15.7	16.5	22.1	17.6	19.2	23.0	19.7	20.9	17.8	16.4	16.9
28	17.5	15.6	16.4	22.4	17.4	19.4	22.9	19.9	20.8	17.7	15.3	16.6
29	17.8	15.7	16.5	22.1	17.6	19.2	22.2	20.0	20.8	19.6	14.5	16.8
30	18.4	15.8	16.9	22.1	17.6	19.4	23.5	19.4	20.9	19.5	14.7	17.1
31	---	---	---	21.2	18.0	19.0	24.0	19.4	21.3	---	---	---
MONTH	18.4	10.4	13.8	22.4	---	---	24.0	17.9	20.2	23.5	14.5	19.4

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°51'17", long 104°52'39", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder with satellite telemetry, crest-stage gage, 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.--Records good except for estimated daily discharges and those above 400 ft<sup>3</sup>/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.

REVISIONS.--The maximum discharge for water year 1997 has been revised to 1,610 ft<sup>3</sup>/s, June 6, 1997, gage-height, 7.57 ft (estimated). This figure supercedes those published in the report for 1997.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	16	24	14	13	11	8.8	9.8	e460	115	49	54	54	
2	16	20	15	12	10	8.0	9.5	e327	103	47	57	52	
3	14	20	16	12	10	7.5	8.7	253	94	43	56	50	
4	14	21	16	12	10	7.7	8.6	195	89	41	105	49	
5	13	20	16	11	10	7.8	12	133	83	40	150	47	
6	17	20	16	9.1	9.8	7.7	11	102	77	39	112	45	
7	21	20	14	9.3	10	7.7	10	110	78	39	100	43	
8	20	19	14	10	10	7.2	11	141	71	53	126	43	
9	19	19	15	12	9.9	7.0	9.3	171	62	49	129	42	
10	19	18	14	11	11	6.7	9.3	189	64	44	120	40	
11	19	17	15	10	8.5	6.9	8.2	175	68	44	130	45	
12	19	18	17	9.3	10	7.7	8.9	151	75	41	123	46	
13	19	17	18	9.8	11	7.5	11	143	66	37	117	45	
14	19	17	17	9.7	11	6.9	11	141	66	36	111	48	
15	18	17	17	10	10	7.3	10	154	68	41	107	56	
16	18	16	17	10	10	7.6	9.2	148	68	47	92	50	
17	18	17	18	9.6	11	7.9	9.1	145	64	46	89	46	
18	18	16	16	10	9.9	7.7	10	130	56	46	85	42	
19	18	16	14	9.3	9.5	7.5	11	131	51	45	129	42	
20	19	16	13	10	9.4	8.2	9.5	135	52	42	87	46	
21	18	16	14	11	8.6	8.2	17	140	50	40	77	43	
22	19	16	16	11	9.7	7.6	25	123	52	38	74	40	
23	19	16	18	11	9.0	7.6	19	122	48	39	69	39	
24	19	17	20	11	9.6	8.2	15	124	54	36	67	36	
25	19	15	15	11	9.3	8.0	17	161	60	36	65	35	
26	20	15	14	10	9.0	7.8	16	150	52	38	69	33	
27	22	15	12	9.9	9.1	7.6	16	146	51	39	62	34	
28	21	16	11	11	8.7	7.1	e60	148	51	40	64	35	
29	18	15	12	9.4	---	7.5	e758	142	50	52	62	36	
30	20	14	13	11	---	8.3	e813	135	49	82	59	35	
31	21	---	13	11	---	7.3	---	130	---	85	57	---	
TOTAL	570	523	470	326.4	275.0	236.5	1953.1	5055	1987	1394	2804	1297	
MEAN	18.4	17.4	15.2	10.5	9.82	7.63	65.1	163	66.2	45.0	90.5	43.2	
MAX	22	24	20	13	11	8.8	813	460	115	85	150	56	
MIN	13	14	11	9.1	8.5	6.7	8.2	102	48	36	54	33	
AC-FT	1130	1040	932	647	545	469	3870	10030	3940	2760	5560	2570	
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1999, BY WATER YEAR (WY)													
MEAN	12.8	10.9	8.88	8.09	7.71	9.07	14.8	34.4	33.0	22.5	21.5	15.1	
MAX	44.0	34.6	18.8	18.5	13.6	16.9	65.1	172	198	108	90.5	43.2	
(WY)	1985	1985	1985	1985	1986	1998	1999	1980	1997	1995	1999	1999	
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1958 - 1999													
ANNUAL TOTAL				9797.7			16891.0						
ANNUAL MEAN				26.8			46.3			16.6			
HIGHEST ANNUAL MEAN										46.3 1999			
LOWEST ANNUAL MEAN										7.29 1963			
HIGHEST DAILY MEAN				101	May 5	813 Apr 30			813	Apr 30 1999			
LOWEST DAILY MEAN				7.1	Jan 22	6.7 Mar 10			2.0	Jan 24 1969			
ANNUAL SEVEN-DAY MINIMUM				9.5	Jan 16	7.1 Mar 8			3.0	Mar 20 1965			
INSTANTANEOUS PEAK FLOW							a1750	Apr 29			b2630	Aug 4 1964	
INSTANTANEOUS PEAK STAGE							c7.81	Apr 29			d5.27	Aug 4 1964	
ANNUAL RUNOFF (AC-FT)				19430			33500			12020			
10 PERCENT EXCEEDS				54			122			31			
50 PERCENT EXCEEDS				20			19			10			
90 PERCENT EXCEEDS				12			8.8			5.5			

e Estimated

a From rating curve extended above 1000 ft<sup>3</sup>/s.

b From rating curve extended above 488 ft<sup>3</sup>/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 floodmark.

d Maximum gage height, 7.81 ft, Apr 29, 1999, from floodmark.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1974 to current year.

PERIOD OF DAILY RECORD.--Suspended-sediment discharge August 1995 to September 1997 (seasonal peaks only), April 1998 to current year (seasonal record only).

INSTRUMENTATION.--Pumping sediment sampler since August 1995.

REMARKS.--Records for daily sediment during period of seasonal operation are fair.

EXTREMES FOR PERIOD OF SEASONAL DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,090 mg/L, June 6, 1997; minimum daily mean, 2 mg/L, Apr. 15, 1999.  
 SEDIMENT LOADS: Maximum daily, 41,800 tons, June 6, 1997; minimum daily, 0.07 ton, Mar. 29, Apr. 15-16, 1999.

EXTREMES FOR CURRENT SEASON.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,210 mg/L, July 31; minimum daily mean, 2 mg/L, Apr 15.  
 SEDIMENT LOADS: Maximum daily, 23,100 tons (estimated), Apr. 29; minimum daily, 0.07 ton, Mar. 29, Apr. 15-16.

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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
MAR	31...	0930	21	323	7.7	1.5	11.1	<1.0	K13	52	31	6.1
APR	21...	0930	27	259	7.9	3.5	10.6	<1.0	K15	110	27	5.3
JUN	24...	1400	24	234	8.2	16.0	--	<1.6	330	510	24	4.4
JUL	29...	1630	74	153	8.0	17.0	7.8	3.0	K3000	K4900	17	2.8
AUG	18...	1015	31	173	8.0	14.0	7.9	<1.0	1000	490	19	3.5

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	
MAR	31...	--	2.6	.800	.050	660	7.2	<1	<1	30	33.0	<.100
APR	21...	14	2.7	.700	--	470	7.6	<1	<1	20.0	26.0	<.100
JUN	24...	<30	2.9	.600	--	1400	11	<1	<1	20	25	--
JUL	29...	--	2.3	.400	.040	14000	15	1	<1	20	17	.638
AUG	18...	<30	2.8	.400	--	810	14	<1	<1	20	18	<.100

DATE	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)	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)	
MAR	31...	<.070	--	<1.0	5.29	--	900	18.0	1	<.15	76.0	40
APR	21...	<.070	<1	<1.0	--	<.600	666	28.0	1	<.15	75.0	30
JUN	24...	<.1	--	<1.0	--	<.60	1700	<12	5	<.15	120	18
JUL	29...	<.1	5	<1.0	9	--	14000	<12	47	<.15	630	8.0
AUG	18...	<.1	<1	<1.0	--	<.60	910	<12	2	<.15	50	11

K Based on non-ideal colony count.







07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS./100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	
OCT	22...	1330	19	223	8.1	7.5	9.1	1.0	130	>450	25	4.7	--
DEC	09...	0845	14	253	8.3	.5	10.8	<1.0	61	64	31	6.2	<30
FEB	24...	0800	9.2	346	8.4	1.0	11.7	<1.0	35	75	42	8.4	<30
APR	22...	1015	23	393	8.1	4.5	10.2	3.8	K200	580	34	6.9	--
JUN	24...	0815	51	209	8.0	11.5	8.7	<1.0	62	140	24	4.8	--
JUL	30...	2100	129	151	8.4	17.3	7.7	8.0	>12000	>20000	18	4.5	--
AUG	05...	1245	121	161	8.1	13.7	--	<1.0	890	2600	19	3.7	--
	18...	0800	87	152	7.7	11.5	8.8	<1.0	110	160	16	3.2	--

DATE	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L) AS AL (01105)	ALUM-INUM, DIS-SOLVED (UG/L) AS AL (01106)	ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS-SOLVED (UG/L) AS AS (01000)	BORON, TOTAL RECOV-ERABLE (UG/L) AS B (01022)	BORON, DIS-SOLVED (UG/L) AS B (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS CD (01027)	
OCT	22...	2.8	.600	<.020	.100	.020	90	11	<1	<1	20	27	<.100
DEC	09...	2.9	.700	<.0	.030	.020	80	11	<1	<1	30	33	<.100
FEB	24...	2.7	1.10	<.020	<.010	<.010	80	4.1	<1	<1	50	46	<.100
APR	22...	2.0	.800	.050	.200	.030	820	6.3	<1	<1	40	29	<.100
JUN	24...	2.8	.900	.020	.040	.020	520	16.8	<1	<1	20	22	<.100
JUL	30...	1.1	.800	.100	2.50	.040	--	6.9	14	1	60	27	2
AUG	05...	2.5	.400	.020	.200	.030	3800	35	1	<1	20	18	.203
	18...	2.8	.400	<.020	.040	.020	630	25	<1	<1	20	14	<.100

DATE	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)	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)	
OCT	22...	<.1	2	<1.0	1	.60	150	14	<1	<.15	25	19
DEC	09...	<.1	<1	<1.0	<.600	<.60	130	13	<1	<.15	29	24
FEB	24...	<.1	<1	1.0	.896	<.60	150	<12	<1	<.15	34	28
APR	22...	<.1	<1	<1.0	2	1.2	970	18	4	<.15	83	28
JUN	24...	.1	<1	<1.0	4	<.60	770	<12	1	<.15	57	20
JUL	30...	<.1	26	1.1	33	1.5	24000	<12	250	<.15	3500	3.0
AUG	05...	<.1	1	<1.0	4	<.60	6900	100	17	<.15	440	14
	18...	<.1	<1	<1.0	.671	<.60	900	<12	2	<.15	60	15

K Based on non-ideal colony count.



07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	1,2,5,6 -DIBENZ -ANTHRA -CENE TOTAL (UG/L) (34556)	DIETHYL PHTHAL- ATE TOTAL (UG/L) (34336)	DI- METHYL PHTHAL- ATE TOTAL (UG/L) (34341)	FLUOR- ANTHENE TOTAL (UG/L) (34376)	FLUOR- ENE TOTAL (UG/L) (34381)	HEXA- CHLORO- BENZENE TOTAL (UG/L) (39700)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L) (39702)	CYCLOPE NTADIEN HEXA- CHLORO- UNFLTRD RECOVER (UG/L) (34386)	ETHANE HEXA- CHLORO- WATER UNFLTRD RECOVER (UG/L) (34396)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L) (34403)	ISO- PHORONE TOTAL (UG/L) (34408)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
APR 22...	--	--	--	--	--	--	--	--	--	--	--
JUN 24...	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5
AUG 18...	--	--	--	--	--	--	--	--	--	--	--

DATE	N- NITRO- SODI-N- PROPYL- AMINE TOTAL (UG/L) (34428)	N-NITRO -SODI- METHYL- AMINE TOTAL (UG/L) (34438)	N-NITRO -SODI- PHENYL- AMINE TOTAL (UG/L) (34433)	NAPHTH- ALENE TOTAL (UG/L) (34696)	BENZENE NITRO- WATER UNFLTRD RECOVER (UG/L) (34447)	BENZENE NITRO5 SURROGT SED, BM WS, <2MM PERCENT (49280)	PHENAN- THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	BIS(2- CHLORO- ETHYL) ETHOXY METHANE TOTAL (UG/L) (34278)	BIS(2- CHLORO- ETHYL) ETHER UNFLTRD RECOVER (UG/L) (34273)	BIS(2- CHLORO- ISO- PROPYL) ETHER TOTAL (UG/L) (34283)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
APR 22...	--	--	--	--	--	--	--	--	--	--	--
JUN 24...	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	<5	<5	<5	<5	<5	90.8	<5	<5	<5	<5	<5
AUG 18...	--	--	--	--	--	--	--	--	--	--	--

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 01...	1400	16	--	10.0	MAY 02...	1030	318	289	6.0
OCT 01...	1405	16	277	10.0	MAY 04...	1430	185	266	9.5
OCT 29...	1500	21	235	7.5	MAY 10...	1530	197	181	6.5
NOV 04...	0810	21	235	4.0	JUN 02...	1815	96	182	11.5
DEC 08...	1255	15	290	.000	JUN 24...	0645	51	209	11.0
JAN 05...	0920	9.0	404	1.5	JUL 14...	1030	37	--	18.5
FEB 05...	1105	10	347	4.5	JUL 14...	1315	37	227	14.0
MAR 29...	1420	7.2	402	9.5	AUG 03...	1130	58	176	13.0
APR 15...	1415	9.7	--	--	AUG 05...	1030	117	155	12.5
APR 21...	1730	36	502	7.5	AUG 18...	0720	87	147	12.0
APR 29...	1730	895	150	6.0	SEP 02...	1045	53	--	--
APR 30...	0830	1000	170	5.5	SEP 14...	1255	44	192	10.5

ARKANSAS RIVER BASIN

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, SUS-PENDEDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDEDED (T/DAY) (80155)
OCT				
01...	1400	16	3	.13
29...	1500	21	13	.74
DEC				
08...	1255	15	13	.51
JAN				
05...	0920	9.0	8	.20
FEB				
05...	1105	10	2	.05
MAR				
29...	1420	7.2	3	.06
APR				
15...	1415	9.7	2	.05
21...	1730	36	547	53
29...	1730	895	10400	25100
30...	0830	1000	5260	14200
MAY				
02...	1030	318	918	788
04...	1430	185	944	472
10...	1530	197	786	418
JUN				
02...	1815	96	295	76
24...	0645	51	31	4.3
JUL				
14...	1030	37	19	1.9
AUG				
03...	1130	58	104	16
05...	1030	117	748	236
SEP				
02...	1045	53	17	2.4

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	BENZENE 1,2,4-TRI-CHLORO-WAT REC (UG/L) (34551)	BENZENE O-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34536)	BENZENE 1,3-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34571)	2,4-DI-NITRO-TOLUENE TOTAL (UG/L) (34611)	2,6-DI-NITRO-TOLUENE TOTAL (UG/L) (34626)	2-CHLORO-NAPH-THALENE TOTAL (UG/L) (34581)	4-BROMO-PHENYL ETHER TOTAL (UG/L) (34636)	4-CHLORO-PHENYL ETHER TOTAL (UG/L) (34641)
JUL 30...	2100	129	17.3	--	--	--	--	--	--	--	--	--
AUG 05...	1245	121	13.7	<5	<5	<5	<5	<5	<5	<5	<5	<5
DATE	ACE-NAPHTH-ENE TOTAL (UG/L) (34205)	ACE-NAPHTH-YLENE TOTAL (UG/L) (34200)	ANTHRA-CENE TOTAL (UG/L) (34220)	BENZ(A) ANTHRA-CENE WATER UNFLTRD REC (UG/L) (34526)	BENZO-A-PYRENE TOTAL (UG/L) (34247)	BENZO B-FLUOR-THENE TOTAL (UG/L) (34230)	BENZO-[GHI]-PERY-LENE TOTAL (UG/L) (34521)	BENZO K-FLUOR-AN-THENE TOTAL (UG/L) (34242)	BIS(2-ETHYL-HEXYL) PHTHAL-ATE TOTAL (UG/L) (39100)	N-BUTYL BENZYL PHTHAL-ATE TOTAL (UG/L) (34292)	CHRY-SENE TOTAL (UG/L) (34320)	DI-N-BUTYL PHTHAL-ATE TOTAL (UG/L) (39110)
JUL 30...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	<5	<5	<5	<10	<10	<10	<10	<10	<5	<5	<10	<5
DATE	DI-N-OCTYL PHTHAL-ATE TOTAL (UG/L) (34596)	1,2,5,6-DIBENZ-ANTHRA-CENE TOTAL (UG/L) (34556)	DIETHYL PHTHAL-ATE TOTAL (UG/L) (34336)	DI-METHYL PHTHAL-ATE TOTAL (UG/L) (34341)	FLUOR-ANTHENE TOTAL (UG/L) (34376)	FLUOR-ENE TOTAL (UG/L) (34381)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CYCLOPE-NTADIEN-HEXA-CHLORO-UNFLTRD RECOVER (UG/L) (34386)	ETHANE HEXA-CHLORO-WATER UNFLTRD RECOVER (UG/L) (34396)	INDENO (1,2,3-CD) PYRENE TOTAL (UG/L) (34403)	ISO-PHORONE TOTAL (UG/L) (34408)
JUL 30...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	N-NITRO-SODI-N-PROPYLAMINE (UG/L) (34428)	N-NITRO-SODI-METHYLAMINE (UG/L) (34438)	N-NITRO-SODI-PHENYLAMINE (UG/L) (34433)	NAPHTH-ALENE (UG/L) (34696)	BENZENE NITRO-WATER UNFLTRD (UG/L) (34447)	BENZENE NITRO5 SURROGT SED, BM WS, <2MM DW, REC PERCENT (49280)	PHENAN-THRENE (UG/L) (34461)	PYRENE (UG/L) (34469)	BIS(2-CHLORO-ETHOXY) METHANE (UG/L) (34278)	BIS(2-CHLORO-ETHYL) ETHER UNFLTRD (UG/L) (34273)	BIS(2-CHLORO-ISO-PROPYL) ETHER (UG/L) (34283)
JUL 30...	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	<5	<5	<5	<5	<5	90.8	<5	<5	<5	<5	<5

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
	OCTOBER			NOVEMBER			DECEMBER		
1	16	6	.26	24	---	---	14	---	---
2	16	13	.55	20	---	---	15	---	---
3	14	11	.41	20	---	---	16	---	---
4	14	14	.52	21	---	---	16	---	---
5	13	9	.31	20	---	---	16	---	---
6	17	---	e.93	20	---	---	16	---	---
7	21	19	1.0	20	---	---	14	---	---
8	20	11	.61	19	---	---	14	---	---
9	19	9	.45	19	---	---	15	---	---
10	19	9	.49	18	---	---	14	---	---
11	19	---	e.53	17	---	---	15	---	---
12	19	10	.49	18	---	---	17	---	---
13	19	7	.38	17	---	---	18	---	---
14	19	9	.44	17	---	---	17	---	---
15	18	10	.50	17	---	---	17	---	---
16	18	---	e.36	16	---	---	17	---	---
17	18	5	.23	17	---	---	18	---	---
18	18	5	.22	16	---	---	16	---	---
19	18	7	.35	16	---	---	14	---	---
20	19	8	.40	16	---	---	13	---	---
21	18	---	e.32	16	---	---	14	---	---
22	19	6	.30	16	---	---	16	---	---
23	19	8	.39	16	---	---	18	---	---
24	19	7	.38	17	---	---	20	---	---
25	19	12	.61	15	---	---	15	---	---
26	20	---	e.67	15	---	---	14	---	---
27	22	16	1.1	15	---	---	12	---	---
28	21	17	.97	16	---	---	11	---	---
29	18	13	.64	15	---	---	12	---	---
30	20	12	.62	14	---	---	13	---	---
31	21	---	e.63	---	---	---	13	---	---
TOTAL	570	---	16.06	523	---	---	470	---	---

## ARKANSAS RIVER BASIN

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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			FEBRUARY			MARCH		
										1	13	---	---	11	---	---	8.8	---
2	12	---	---	10	---	---	8.0	---	---									
3	12	---	---	10	---	---	7.5	---	---									
4	12	---	---	10	---	---	7.7	---	---									
5	11	---	---	10	---	---	7.8	---	---									
6	9.1	---	---	9.8	---	---	7.7	---	---									
7	9.3	---	---	10	---	---	7.7	---	---									
8	10	---	---	10	---	---	7.2	---	---									
9	12	---	---	9.9	---	---	7.0	---	---									
10	11	---	---	11	---	---	6.7	---	---									
11	10	---	---	8.5	---	---	6.9	---	---									
12	9.3	---	---	10	---	---	7.7	---	---									
13	9.8	---	---	11	---	---	7.5	---	---									
14	9.7	---	---	11	---	---	6.9	---	---									
15	10	---	---	10	---	---	7.3	---	---									
16	10	---	---	10	---	---	7.6	---	---									
17	9.6	---	---	11	---	---	7.9	---	---									
18	10	---	---	9.9	---	---	7.7	---	---									
19	9.3	---	---	9.5	---	---	7.5	---	---									
20	10	---	---	9.4	---	---	8.2	---	---									
21	11	---	---	8.6	---	---	8.2	---	---									
22	11	---	---	9.7	---	---	7.6	---	---									
23	11	---	---	9.0	---	---	7.6	---	---									
24	11	---	---	9.6	---	---	8.2	---	---									
25	11	---	---	9.3	---	---	8.0	---	---									
26	10	---	---	9.0	---	---	7.8	---	---									
27	9.9	---	---	9.1	---	---	7.6	---	---									
28	11	---	---	8.7	---	---	7.1	---	---									
29	9.4	---	---	---	---	---	7.5	3	.07									
30	11	---	---	---	---	---	8.3	---	e.12									
31	11	---	---	---	---	---	7.3	10	.19									
TOTAL	326.4	---	---	275.0	---	---	236.5	---	---									

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	9.8	33	1.2	e460	---	e3300	115	193
2	9.5	---	e.50	e327	---	e795	103	223	61									
3	8.7	33	.82	253	888	604	94	282	72									
4	8.6	36	.84	195	937	497	89	---	e40									
5	12	49	1.7	133	---	e201	83	103	23									
6	11	17	.50	102	---	e97	77	89	18									
7	10	---	e.21	110	---	e87	78	---	e17									
8	11	5	.14	141	---	e150	71	70	13									
9	9.3	4	.10	171	---	e282	62	65	11									
10	9.3	4	.10	189	651	334	64	69	12									
11	8.2	5	.10	175	264	125	68	60	11									
12	8.9	---	e.09	151	208	84	75	211	48									
13	11	69	3.5	143	212	81	66	85	15									
14	11	14	.43	141	231	88	66	---	e20									
15	10	2	.07	154	---	e96	68	61	11									
16	9.2	3	.07	148	---	e80	68	74	14									
17	9.1	---	e.12	145	172	67	64	---	e12									
18	10	9	.24	130	173	61	56	50	7.6									
19	11	15	.42	131	152	54	51	---	e5.8									
20	9.5	23	.59	135	---	e60	52	35	4.9									
21	17	201	18	140	164	62	50	28	3.8									
22	25	---	e9.0	123	141	47	52	---	e5.9									
23	19	74	4.5	122	112	37	48	57	7.4									
24	15	19	.75	124	112	37	54	99	17									
25	17	15	.72	161	1740	783	60	88	15									
26	16	15	.66	150	741	306	52	36	5.1									
27	16	---	e1.0	146	342	149	51	37	5.0									
28	e60	---	e1100	148	470	190	51	30	4.2									
29	e758	---	e23100	142	283	108	50	---	e4.2									
30	e813	---	e11000	135	---	e86	49	32	4.2									
31	---	---	---	130	227	79	---	---	---									
TOTAL	1953.1	---	35246.37	5055	---	9027	1987	---	548.1									



07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	49	32	4.2	54	1350	191	54	23	3.3
2	47	38	4.8	57	258	40	52	15	2.1
3	43	30	3.5	56	115	17	50	7	.95
4	41	---	e2.5	105	1370	1740	49	7	.95
5	40	23	2.5	150	1330	756	47	8	1.0
6	39	28	2.9	112	---	e124	45	8	.97
7	39	---	e9.4	100	385	104	43	---	e.93
8	53	142	20	126	---	e142	43	9	1.0
9	49	---	e6.5	129	---	e246	42	9	1.0
10	44	26	3.1	120	257	82	40	8	.81
11	44	21	2.5	130	---	e69	45	9	1.1
12	41	22	2.4	123	173	57	46	---	e1.6
13	37	---	e2.1	117	118	37	45	17	2.0
14	36	20	2.0	111	71	21	48	72	11
15	41	36	4.2	107	108	33	56	30	4.7
16	47	83	11	92	85	21	50	14	1.9
17	46	56	7.1	89	69	17	46	---	e3.2
18	46	53	6.6	85	---	e12	42	13	1.5
19	45	---	e4.7	129	1700	2120	42	11	1.2
20	42	27	3.1	87	212	52	46	10	1.3
21	40	21	2.2	77	97	20	43	11	1.2
22	38	22	2.3	74	72	14	40	---	e.93
23	39	23	2.5	69	47	8.9	39	7	.72
24	36	---	e2.3	67	32	5.8	36	---	e.66
25	36	25	2.5	65	31	5.5	35	---	e.62
26	38	25	2.6	69	37	6.8	33	---	e.59
27	39	20	2.1	62	25	4.2	34	---	e.59
28	40	27	2.9	64	---	e3.1	35	---	e.60
29	52	214	33	62	17	2.9	36	---	e.61
30	82	4000	1940	59	19	3.0	35	---	e.57
31	85	6210	1920	57	19	2.8	---	---	---
TOTAL	1394	---	4017.5	2804	---	5958.0	1297	---	49.60

e Estimated

ARKANSAS RIVER BASIN

07103703 CAMP CREEK AT GARDEN OF THE GODS, CO

LOCATION (REVISED).--Lat 38°52'37", long 104°52'20", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.34, T.13 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank, 80 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 mi<sup>2</sup>.

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 330 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.07	.00	.00	.00	.00	.06	e152	e15	e1.2	.74	.10
2	.00	.00	.00	.00	.00	.00	.10	e98	e14	e.75	.33	.01
3	.00	.02	.00	.00	.00	.00	.07	e60	e14	.40	.40	.00
4	.00	.00	.00	.00	.00	.00	.01	e50	e14	.14	2.7	.00
5	.00	.00	.00	.00	.00	.00	.12	42	e13	.01	33	.00
6	.00	.00	.00	.00	.00	.00	.00	38	e13	.00	23	.00
7	.00	.00	.00	.00	.00	.00	.00	35	e13	.00	19	.00
8	.00	.00	.00	.00	.00	.00	.00	41	e13	.00	15	.00
9	.00	.01	.00	.00	.00	.00	.00	52	e12	.00	11	.00
10	.00	.00	.00	.00	.00	.00	.00	54	e13	.00	9.4	.00
11	.00	.00	.00	.00	.00	.00	.00	49	e13	.00	8.2	.00
12	.00	.00	.00	.00	.00	.01	.00	42	e13	.00	6.9	.00
13	.00	.00	.00	.00	.00	.00	.00	40	e13	.00	6.5	.00
14	.00	.00	.00	.00	.00	.00	.00	46	e13	.00	5.6	.00
15	.00	.00	.00	.00	.00	.00	.01	52	e15	.00	5.0	.01
16	.00	.00	.00	.00	.00	.00	.00	53	16	.00	4.2	.00
17	.00	.00	.00	.00	.00	.00	.00	53	15	.00	3.6	.00
18	.00	.00	.00	.00	.00	.00	.00	49	12	.00	2.3	.00
19	.00	.00	.00	.00	.00	.00	.00	43	11	.00	3.0	.00
20	.00	.00	.00	.00	.00	.00	.00	37	9.9	.00	2.8	.01
21	.00	.00	.00	.00	.00	.00	e.40	36	8.0	.00	2.3	.00
22	.00	.00	.00	.00	.00	.00	e.50	33	6.2	.00	1.9	.00
23	.00	.00	.00	.00	.00	.00	e.30	29	5.0	.00	1.6	.00
24	.00	.00	.00	.00	.00	.00	e.10	24	4.3	.00	2.2	.00
25	.00	.00	.00	.00	.00	.00	.04	34	4.2	.00	1.4	.00
26	.00	.00	.00	.00	.00	.00	.00	37	3.5	.00	1.0	.00
27	.06	.00	.00	.00	.00	.00	.00	34	3.0	.00	.90	.00
28	.00	.00	.00	.00	.00	.00	.01	31	2.5	.00	.73	.00
29	.00	.00	.00	.00	---	.00	e240	26	1.8	.00	.36	.00
30	.00	.00	.00	.00	---	.00	e230	21	e1.5	.90	.14	.00
31	.02	---	.00	.00	---	.00	---	18	---	1.2	.13	---
TOTAL	0.08	0.10	0.00	0.00	0.00	0.01	471.72	1409	304.9	4.60	175.33	0.13
MEAN	.003	.003	.000	.000	.000	.000	15.7	45.5	10.2	.15	5.66	.004
MAX	.06	.07	.00	.00	.00	.01	240	152	16	1.2	33	.10
MIN	.00	.00	.00	.00	.00	.00	.00	18	1.5	.00	.13	.00
AC-FT	.2	.2	.00	.00	.00	.02	936	2790	605	9.1	348	.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	.018	.001	.000	.002	.000	.10	3.20	13.6
MAX	.12	.003	.001	.015	.000	.38	15.7	45.5
(WY)	1995	1999	1993	1995	1998	1996	1999	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.014
(WY)	1993	1993	1994	1993	1993	1994	1994	1996

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1992 - 1999

ANNUAL TOTAL	317.31	2365.87	
ANNUAL MEAN	.87	6.48	2.47
HIGHEST ANNUAL MEAN			6.48
LOWEST ANNUAL MEAN			.044
HIGHEST DAILY MEAN	12 Jul 30	240 Apr 29	240 Apr 29
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	a.00 Aug 15
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Aug 15
INSTANTANEOUS PEAK FLOW		b430 Apr 29	b430 Apr 29
INSTANTANEOUS PEAK STAGE		c5.40 Apr 29	c5.40 Apr 29
ANNUAL RUNOFF (AC-FT)	629	4690	1790
10 PERCENT EXCEEDS	3.1	17	3.4
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated  
a No flow most of the time most years.  
b From rating curve extended above 330 ft<sup>3</sup>/s.  
c From floodmark.

ARKANSAS RIVER BASIN

07103707 FOUNTAIN CREEK AT 8th STREET, AT COLORADO SPRINGS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°49'46", long 104°50'21", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.13, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, 270 ft downstream from 8th Street and 0.4 mi upstream from Monument Creek.

PERIOD OF RECORD.--Febuary 1981 to September 1982. March 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	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) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
MAR 31...	1110	27	390	7.8	5.0	10.2	<1.0	E27	150	130	38	
APR 21...	1115	28	379	8.2	6.5	9.8	<1.0	65	35	130	36	
JUN 24...	1200	18	459	8.3	15.0	--	2.3	330	K560	150	41	
AUG 18...	1215	38	269	8.0	18.0	7.4	<1.0	580	550	95	27	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SULFATE SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)
MAR 31...	9.7	--	2.8	1.00	.040	840	6.2	<1	<1	45.0	40	
APR 21...	9.6	51	2.9	1.00	--	370	6.9	<1	<1	43.0	37.0	
JUN 24...	12	71	2.9	1.00	--	3200	10	3	<1	56.0	50	
AUG 18...	6.8	45	2.8	.600	.040	1400	14	6	<1	30	30	
DATE		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)	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)
MAR 31...	<.100	<.070	<1.00	<1.0	--	<.600	790	<12.0	2	<.15	91.0	
APR 21...	<.100	<.070	1	<1.0	1.67	<.600	537	<12.0	1	<.15	88.0	
JUN 24...	--	<.1	--	<1.0	--	.76	4100	<12	19	<.15	310	
AUG 18...	.259	<.1	2	<1.0	--	.66	1900	<12	55	<.15	100	
DATE		MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
MAR 31...	50	<.100	<.100	5	2.1	3	3	<.200	<.200	16.0	7.00	
APR 21...	50	<.100	<.100	3	2.9	3	3	<.200	<.200	16.0	9.00	
JUN 24...	68	<.10	<.100	5	5.1	4	4	<.200	<.2	--	9.0	
AUG 18...	36	--	<.1	3	<1.5	2	<.500	<.200	<.20	30	4.0	

K Based on non-ideal colony count.

ARKANSAS RIVER BASIN

07103707 FOUNTAIN CREEK AT 8th STREET, AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	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)
OCT 19...	1345	20	337	8.4	8.5	9.3	<1.0	230	200	120	33	8.7
DEC 08...	1330	19	409	7.9	.000	9.0	1.1	64	K190	160	42	12
FEB 24...	1030	6.5	572	8.6	4.5	11.8	<1.0	K770	62	220	60	17
APR 22...	0830	34	--	8.1	5.0	9.9	2.1	300	K1200	140	36	13
JUN 23...	1530	52	338	8.1	16.0	8.1	<1.0	70	130	130	36	9.4
AUG 18...	0915	88	243	8.0	12.5	8.6	<1.0	180	220	84	24	6.2

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	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)	CYANIDE TOTAL (MG/L AS CN) (00720)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)
OCT 19...	49	2.8	.700	<.020	.100	.020	<.020	100	9.3	<1	<1	39
DEC 08...	--	2.9	.800	.030	.050	.030	<.020	380	8.7	<1	<1	57
FEB 24...	--	2.7	1.50	<.020	.020	<.010	<.020	60	3.9	1	1	78
APR 22...	72	1.5	.900	.120	.300	.050	<.020	1300	6.0	2	<1	39
JUN 23...	52	2.8	1.00	<.020	.040	.020	<.010	520	23	<1	<1	43
AUG 18...	54	2.8	.700	<.020	.050	.020	<.010	614	23	<1	<1	27

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	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)	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)
OCT 19...	50	<.100	<.1	<1.0	<1.0	1	.67	115	<12	<1	<.15	60
DEC 08...	50	.109	<.1	<1	<1.0	1	.68	580	12	2	<.15	94
FEB 24...	80	<.100	<.1	1	1.3	.969	.74	80	<12	<1	<.15	120
APR 22...	50	.185	<.1	1	1.3	3	1.8	1700	12	7	<.15	140
JUN 23...	40	<.100	.1	<1	<1.0	1	<.60	740	<12	2	<.15	89
AUG 18...	30	.132	<.1	2	1.3	1	<.60	990	<12	3	<.15	98

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 19...	53	<.100	<.10	5	3.8	2	3	<.200	<.20	8.00	7.0
DEC 08...	52	--	--	4	4.5	3	3	<.200	<.20	20	8.0
FEB 24...	117	--	--	4	4.8	6	6	<.200	<.20	20	16
APR 22...	42	--	--	3	2.0	4.52	3.42	<.200	<.20	40	13
JUN 23...	54	<.10	<.10	<2	1.7	2	3	<.200	<.20	22	11
AUG 18...	29	<.10	<.10	4	<1.5	3	1	<.200	<.20	25	6.0

K Based on non-ideal colony count.

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 39°01'52", long 104°50'52", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder with satellite telemetry. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	5.1	7.4	4.7	e5.0	5.2	7.2	e670	125	e40	28	12
2	3.3	4.8	7.9	5.5	e5.2	4.9	7.4	e395	112	36	35	14
3	3.1	4.4	8.9	e6.0	4.8	3.7	7.7	e295	97	31	38	14
4	3.1	5.2	9.2	e6.6	5.0	3.8	7.3	e215	e82	29	29	13
5	3.1	6.4	6.8	4.4	e4.8	5.1	11	e200	e68	28	86	13
6	3.0	10	6.6	4.4	5.1	5.8	11	e190	e57	29	66	13
7	6.2	11	e6.0	4.1	5.1	5.8	12	e175	e49	28	68	11
8	2.7	11	e5.4	4.5	5.6	5.8	15	e182	e47	29	65	9.2
9	3.0	12	e4.8	4.2	5.0	5.5	6.9	e209	65	25	82	10
10	2.4	14	e5.2	4.3	6.1	5.6	12	e228	96	23	58	11
11	2.3	9.7	e5.4	4.3	6.9	5.7	7.7	e215	100	23	57	11
12	2.6	8.6	e5.7	4.1	e6.9	6.5	7.8	e174	126	23	49	11
13	3.1	6.6	e6.0	4.2	e5.6	5.7	9.0	e160	124	22	48	12
14	3.2	6.9	e6.0	e4.0	e6.4	5.7	16	e175	111	22	46	11
15	3.0	7.8	6.1	e4.0	7.1	5.6	15	e200	88	21	43	11
16	3.7	6.5	6.1	4.0	e7.2	5.3	13	e203	74	23	30	11
17	3.3	6.5	6.3	4.0	7.7	3.6	12	e175	73	26	19	11
18	3.4	9.5	6.2	3.9	e8.0	4.4	14	e148	68	23	20	11
19	3.4	5.4	e6.0	3.7	8.2	5.4	16	141	66	25	34	11
20	3.3	6.1	e5.4	4.4	9.0	5.7	20	133	66	23	28	12
21	3.1	7.7	e5.0	6.0	9.0	5.8	25	125	66	29	22	11
22	3.3	8.2	e4.8	6.2	9.1	4.6	45	119	64	24	22	9.7
23	6.0	6.6	e4.8	e6.5	e10	2.8	44	110	53	22	20	9.2
24	13	10	e5.0	5.9	8.8	3.3	39	107	102	22	20	10
25	12	8.2	e5.0	9.0	8.2	4.4	38	290	82	22	18	9.8
26	8.9	8.2	e5.0	11	5.6	4.6	33	243	62	20	20	8.5
27	4.6	7.4	e5.0	5.8	6.1	5.8	39	293	59	22	19	9.2
28	5.8	8.3	5.0	4.4	5.3	5.1	45	277	e56	22	20	14
29	5.4	7.9	4.6	e6.0	---	4.9	e480	173	e50	23	18	14
30	4.5	8.1	4.7	4.5	---	6.1	e1250	154	e45	47	15	11
31	4.7	---	4.7	4.7	---	8.1	---	139	---	30	15	---
TOTAL	135.7	238.1	181.0	159.3	186.8	160.3	2266.0	6513	2333	812	1138	338.6
MEAN	4.38	7.94	5.84	5.14	6.67	5.17	75.5	210	77.8	26.2	36.7	11.3
MAX	13	14	9.2	11	10	8.1	1250	670	126	47	86	14
MIN	2.3	4.4	4.6	3.7	4.8	2.8	6.9	107	45	20	15	8.5
AC-FT	269	472	359	316	371	318	4490	12920	4630	1610	2260	672

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1999, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	5.10	6.19	5.13	4.61	5.04	8.41	27.9	54.8	26.7	10.1	9.41	5.64			
MAX	10.6	13.0	9.73	9.51	9.20	21.1	75.5	210	77.8	30.6	36.7	15.7			
(WY)	1998	1998	1998	1986	1998	1998	1999	1999	1999	1995	1999	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1985 - 1999
ANNUAL TOTAL	7514.4	14461.8	
ANNUAL MEAN	20.6	39.6	13.7
HIGHEST ANNUAL MEAN			39.6
LOWEST ANNUAL MEAN			3.82
HIGHEST DAILY MEAN	131	May 6	e1250
LOWEST DAILY MEAN	2.3	Oct 11	2.3
ANNUAL SEVEN-DAY MINIMUM	2.7	Sep 23	2.8
INSTANTANEOUS PEAK FLOW			a1790
INSTANTANEOUS PEAK STAGE			b9.01
ANNUAL RUNOFF (AC-FT)	14900	28680	9900
10 PERCENT EXCEEDS	66	110	31
50 PERCENT EXCEEDS	8.6	9.5	5.9
90 PERCENT EXCEEDS	3.3	4.3	1.9

e Estimated  
a From slope-area measurement of peak flow.  
b From floodmarks.

ARKANSAS RIVER BASIN

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.

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 WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
MAR 30...	1055	57	153	8.2	4.5	10.1	2.0	50	30	52	16	
APR 20...	1000	76	179	7.9	6.0	9.9	1.0	K12	33	63	20	
JUN 22...	1345	9.1	240	8.4	23.5	--	1.4	K85	K37	78	25	
AUG 17...	1015	3.2	281	8.4	18.0	7.9	1.5	140	K40	91	29	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)
MAR 30...	2.6	--	--	.300	.030	651	3.4	<1	<1	22.0	20	
APR 20...	3.3	<30	1.3	.200	.100	1300	3.2	<1	<1	22.0	21.0	
JUN 22...	3.9	<30	1.5	.300	.080	460	5.9	<1	<1	55	50	
AUG 17...	4.7	30	1.5	1.50	.100	140	2.9	1	<1	77	80	
DATE		CADMIUM WATER UNFLTRD (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)	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)
MAR 30...	.146	<.070	<1.00	<1.0	3.18	1.42	1950	60.0	3	<.15	131	
APR 20...	.139	<.070	1	<1.0	2.77	.756	2120	21.0	3	<.15	115	
JUN 22...	--	<.1	--	<1.0	--	--	740	37	1	<.15	77	
AUG 17...	<.100	<.1	<1	<1.0	2	2.0	500	61	<1	.29	52	
DATE		MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
MAR 30...	40	<.100	<.100	3	<1.0	.954	.9	<.200	<.200	13.0	<3.00	
APR 20...	40	<.100	<.100	3	2.2	1	1	<.200	<.200	14.0	<3.00	
JUN 22...	35	<.10	<.100	3	3.1	.748	.979	<.200	<.2	9.00	7.0	
AUG 17...	38	<.10	<.1	5	3.2	1	.545	<.200	<.20	10	10	

K Based on non-ideal colony count.

ARKANSAS RIVER BASIN

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD, AT U.S. AIR FORCE ACADEMY, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS./100 ML) (31673)	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)
OCT 20...	1245	2.9	406	8.6	7.0	10.4	<1.0	K16	60	110	34	5.6
DEC 09...	1145	8.7	280	8.2	.000	10.8	1.1	K33	15	93	29	4.9
FEB 25...	0745	8.3	267	7.7	2.0	10.6	1.3	K11	24	87	28	4.5
APR 21...	0815	21	250	8.0	6.5	9.7	1.9	34	77	80	25	4.1
JUN 23...	1115	53	255	8.0	19.5	7.3	<1.0	K26	66	89	28	4.6
AUG 17...	1330	21	242	8.0	23.5	6.7	<1.0	E52	120	89	28	4.7

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	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)	CYANIDE TOTAL (MG/L AS CN) (00720)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
OCT 20...	40	1.3	2.20	.020	.700	.500	<.020	60	3.1	1	1
DEC 09...	--	1.6	1.50	.040	.800	.800	<.020	80	4.1	<1	<1
FEB 25...	<30	1.4	1.10	.06	.600	.600	<.020	80	3.5	<1	<1
APR 21...	12	1.6	.300	.070	.400	.300	<.020	240	4.0	<1	<1
JUN 23...	--	1.3	.300	.080	.100	.100	<.010	570	--	<1	<1
AUG 17...	--	1.5	.300	<.020	.200	.100	<.010	350	3.8	1	<1

DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)
OCT 20...	174	190	<.100	<.1	6	<1.0	4	3.6	440	110	<1
DEC 09...	109	110	<.100	<.1	<1	<1.0	--	2.5	370	61	<1
FEB 25...	95	100	<.100	<.1	<1	<1.0	5	4.1	300	67	<1
APR 21...	42	50	<.100	<.1	<1	<1.0	1	1.1	760	51	1
JUN 23...	30	30	<.100	<.1	<1	<1.0	.949	<.60	1200	56	1
AUG 17...	43	40	<.100	<.1	<1	--	1	.75	890	16	1

DATE	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)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 20...	.78	57	52	7	5.6	2	2	<.200	<.20	20	19
DEC 09...	.26	55	44	4	4.2	2	2	<.200	<.20	10	8.0
FEB 25...	.61	77	69	4	4.2	1	2	<.200	<.20	20	14
APR 21...	.29	140	74	2	1.4	<.500	1	<.200	<.20	10	9.0
JUN 23...	<.15	130	70	<2	1.7	<.500	.965	<.200	<.20	8	<3.0
AUG 17...	<.15	92	58	4	<1.5	2	<.500	<.200	<.20	9	5.0

E Estimated.  
K Based on non-ideal colony count.

## ARKANSAS RIVER BASIN

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD, AT U.S. AIR FORCE ACADEMY, CO--Continued

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					MAY				
06...	0850	2.8	338	5.5	03...	1135	281	174	9.5
NOV					11...	1255	223	139	7.5
04...	1510	5.1	378	7.5	JUL				
DEC					02...	1025	36	256	19.5
16...	1140	5.8	316	1.5	AUG				
JAN					04...	1255	22	264	20.0
04...	1435	6.6	362	1.0	31...	1335	16	253	24.0
FEB					SEP				
09...	1705	5.2	365	7.0	21...	1410	11	293	19.5
APR									
01...	1400	5.3	275	10.0					



07103797 WEST MONUMENT CREEK BELOW RAMPART RESERVOIR, CO

LOCATION.--Lat 38°58'30", long 104°57'18", in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--No estimated daily discharges. Records good. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.9	4.0	3.6	3.8	4.0	4.4	5.2	5.7	5.8	7.6	4.0
2	3.4	3.9	4.0	3.6	3.8	4.0	4.4	4.8	5.4	6.2	7.4	4.2
3	3.4	3.8	4.0	3.6	3.9	4.1	4.4	5.1	5.1	6.3	7.3	4.1
4	3.4	3.9	4.0	3.6	3.9	4.1	4.3	4.9	4.9	5.9	7.8	4.9
5	3.4	3.8	3.9	3.6	3.9	4.1	4.5	4.5	4.6	6.0	9.2	7.0
6	3.4	3.8	4.0	3.6	3.9	3.9	4.6	4.3	4.4	6.2	9.3	7.6
7	3.4	3.8	3.9	3.6	4.0	3.9	4.8	4.9	4.1	6.2	9.3	7.7
8	3.4	3.8	3.9	3.6	4.0	3.9	4.7	6.1	3.8	6.2	8.3	7.9
9	3.4	3.9	3.9	3.6	4.0	3.9	4.6	7.5	4.3	6.6	7.4	7.9
10	3.4	3.8	3.9	3.6	4.0	3.9	4.5	8.0	4.5	6.4	7.5	7.9
11	3.4	3.8	3.9	3.7	3.8	3.9	4.1	7.7	4.2	6.4	6.1	7.9
12	3.4	3.8	3.9	3.6	3.8	3.9	3.8	7.9	4.2	6.4	5.4	7.3
13	3.4	3.8	3.9	3.6	3.8	3.9	3.8	8.4	4.4	6.3	5.1	6.2
14	3.4	3.9	3.9	3.6	4.0	4.0	3.9	8.4	4.6	6.3	4.9	6.1
15	3.5	3.9	3.9	3.6	3.9	4.2	3.8	8.4	4.7	6.4	4.8	6.2
16	3.5	3.9	3.9	3.6	3.9	4.2	3.8	7.9	4.5	6.4	4.6	5.6
17	3.5	3.9	3.9	3.6	3.9	4.2	3.9	7.5	4.2	6.4	4.4	5.3
18	3.5	3.8	3.9	3.7	4.0	4.2	4.0	7.2	4.1	6.3	4.4	5.3
19	3.6	3.8	3.9	3.7	4.0	4.2	4.0	7.0	4.1	6.3	4.3	5.3
20	3.6	3.8	3.8	3.7	4.0	4.2	4.0	6.2	4.3	6.3	4.3	5.3
21	3.7	3.8	3.8	3.8	4.0	4.3	4.1	6.0	4.4	6.2	4.2	5.3
22	3.7	3.8	3.8	3.8	3.9	4.4	4.2	5.7	4.3	6.2	4.2	5.2
23	3.7	3.8	3.8	3.9	3.8	4.5	4.1	5.3	4.4	6.1	4.1	5.2
24	3.7	3.8	3.8	3.8	3.9	4.5	4.4	5.3	4.5	6.0	4.0	5.1
25	3.7	3.9	3.8	3.8	3.9	4.5	4.8	8.2	4.6	6.0	3.9	5.4
26	3.7	4.0	3.6	3.8	3.9	4.5	4.8	6.6	4.4	6.1	3.8	6.3
27	3.8	4.0	3.6	3.8	3.9	4.5	5.3	7.1	4.4	6.3	3.6	6.5
28	3.9	4.0	3.7	3.8	3.9	4.4	5.9	7.1	4.7	6.5	3.6	6.6
29	3.8	4.0	3.6	3.8	---	4.6	8.0	7.0	4.9	7.8	3.6	6.5
30	3.8	4.0	3.7	3.8	---	4.5	6.5	6.5	5.7	6.6	3.7	6.5
31	3.8	---	3.7	3.8	---	4.4	---	6.0	---	9.1	3.6	---
TOTAL	110.1	115.9	119.3	114.3	109.5	129.8	136.5	202.7	136.4	198.2	171.7	182.3
MEAN	3.55	3.86	3.85	3.69	3.91	4.19	4.55	6.54	4.55	6.39	5.54	6.08
MAX	3.9	4.0	4.0	3.9	4.0	4.6	8.0	8.4	5.7	9.1	9.3	7.9
MIN	3.4	3.8	3.6	3.6	3.8	3.9	3.8	4.3	3.8	5.8	3.6	4.0
AC-FT	218	230	237	227	217	257	271	402	271	393	341	362

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999
MEAN	5.13	5.80	6.51	6.15	6.29	6.41
MAX	10.1	10.6	9.68	9.36	8.75	10.7
(WY)	1995	1995	1994	1996	1996	1994
MIN	3.55	3.48	3.82	3.69	3.91	4.19
(WY)	1999	1998	1998	1999	1999	1999

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1994 - 1999
ANNUAL TOTAL	1509.2	1726.7	
ANNUAL MEAN	4.13	4.73	6.42
HIGHEST ANNUAL MEAN			10.0
LOWEST ANNUAL MEAN			4.13
HIGHEST DAILY MEAN	11 Aug 25	9.3 Aug 6	29 Jul 10 1994
LOWEST DAILY MEAN	3.0 May 16	3.4 Oct 1	1.4 Jan 14 1997
ANNUAL SEVEN-DAY MINIMUM	3.1 May 14	3.4 Oct 1	3.0 Dec 8 1996
INSTANTANEOUS PEAK FLOW		a31 Jul 31	a46 Jun 6 1997
INSTANTANEOUS PEAK STAGE		5.25 Jul 31	5.54 Jun 6 1997
ANNUAL RUNOFF (AC-FT)	2990	3420	4650
10 PERCENT EXCEEDS	4.7	6.8	12
50 PERCENT EXCEEDS	3.9	4.1	5.8
90 PERCENT EXCEEDS	3.4	3.6	3.7

a From rating curve extended above 30 ft<sup>3</sup>/s.

ARKANSAS RIVER BASIN

07103800 WEST MONUMENT CREEK AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 38°58'14", long 104°54'08", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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, 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.

REVISIONS.--The maximum discharge for the 1997 water year has been revised to 118 ft<sup>3</sup>/s on June 10, 1997, gage height 3.24 ft. The maximum daily discharge for the 1997 water year has been revised to 108 ft<sup>3</sup>/s on June 10, 1997.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.5	2.8	3.3	3.6	3.8	.72	51	32	2.0	6.7	2.4
2	1.2	2.5	2.8	3.4	4.4	2.6	.76	43	26	1.9	9.5	2.3
3	1.2	3.0	2.8	e3.4	4.4	2.6	.76	39	22	1.8	9.6	2.2
4	1.5	3.9	2.8	e3.5	4.3	2.0	.76	38	19	1.8	8.8	2.2
5	2.6	3.8	2.8	3.5	4.3	1.1	2.4	35	17	1.8	15	2.1
6	2.6	3.8	2.6	3.5	4.3	1.1	2.6	31	16	1.8	15	2.0
7	2.6	3.8	e2.6	3.4	4.2	e1.1	2.7	29	14	1.8	28	1.9
8	2.6	3.8	e2.5	3.4	4.2	1.0	2.7	33	13	1.8	33	1.8
9	3.6	3.8	e2.5	3.4	4.2	e1.0	2.6	39	6.1	1.8	30	1.8
10	4.3	3.7	e2.6	3.4	4.2	1.0	2.5	42	5.7	1.6	21	1.8
11	4.3	3.7	2.6	3.3	4.2	.67	2.4	40	5.2	1.6	20	1.8
12	4.4	3.6	2.7	3.3	4.4	.64	2.4	40	4.9	1.5	19	1.8
13	4.4	3.7	2.6	3.3	4.2	e.64	2.3	40	4.4	1.5	18	1.8
14	4.3	3.7	2.6	3.3	4.2	.64	1.1	42	4.4	1.5	13	1.8
15	4.3	3.7	2.6	3.4	4.2	.63	1.0	56	4.2	1.5	8.8	1.8
16	4.4	3.7	2.6	3.4	4.2	.63	.93	64	4.1	1.5	8.3	1.8
17	4.4	3.7	2.7	3.4	4.2	.62	1.4	52	3.9	1.5	13	1.8
18	4.3	3.6	2.7	3.4	4.2	.63	1.1	44	3.5	1.5	9.6	1.7
19	4.3	3.6	2.6	3.4	4.2	.68	1.1	42	3.1	1.4	7.9	1.7
20	4.0	3.6	e2.4	3.4	4.2	.67	1.1	42	3.1	1.4	6.9	1.7
21	2.6	3.6	e2.4	3.4	4.2	.69	1.2	41	2.9	1.4	5.0	1.6
22	2.6	3.6	e2.4	3.4	4.2	.69	1.4	39	2.7	1.3	4.5	1.5
23	2.6	3.6	e2.6	3.3	4.2	.69	1.3	37	2.5	1.3	4.1	1.5
24	2.6	3.6	3.0	3.3	4.2	.71	1.3	36	2.5	1.2	3.9	1.5
25	2.6	3.6	2.9	3.3	4.2	.72	1.5	42	2.5	1.2	3.8	1.5
26	2.6	3.6	2.9	3.3	4.2	.72	2.3	44	2.3	1.2	3.7	1.5
27	2.8	3.6	2.9	3.3	4.2	.72	3.7	44	2.2	1.3	3.1	1.5
28	2.6	3.6	3.0	3.3	4.2	.69	6.0	40	2.1	1.3	3.0	1.5
29	2.5	3.6	3.1	3.3	---	.66	e62	38	2.1	2.6	2.9	1.5
30	2.5	3.1	3.2	3.3	---	.68	e116	37	2.1	1.7	2.7	1.4
31	2.5	---	3.2	3.3	---	.69	---	36	---	2.6	2.5	---
TOTAL	95.0	106.7	84.5	104.3	117.9	31.41	230.03	1276	235.5	50.1	340.3	53.2
MEAN	3.06	3.56	2.73	3.36	4.21	1.01	7.67	41.2	7.85	1.62	11.0	1.77
MAX	4.4	3.9	3.2	3.5	4.4	3.8	116	64	32	2.6	33	2.4
MIN	1.2	2.5	2.4	3.3	3.6	.62	.72	29	2.1	1.2	2.5	1.4
AC-FT	188	212	168	207	234	62	456	2530	467	99	675	106

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, 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	1999	
MEAN	1.87	1.27	.96	.71	.48	.52	2.13	7.50	4.88	2.44	2.85	1.81																			
MAX	11.7	7.74	8.62	8.78	4.21	2.46	12.4	41.2	32.1	23.3	23.8	20.3																			
(WY)	1972	1971	1971	1971	1999	1971	1971	1999	1997	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 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1970 - 1999	
ANNUAL TOTAL	1027.37		2724.94			
ANNUAL MEAN	2.81		7.47		2.04	
HIGHEST ANNUAL MEAN					13.4	
LOWEST ANNUAL MEAN					.10	
HIGHEST DAILY MEAN	15	May 10	e116	Apr 30	e116	Apr 30 1999
LOWEST DAILY MEAN	.54	Jul 21	.62	Mar 17	a.00	Jan 29 1976
ANNUAL SEVEN-DAY MINIMUM	.61	Jul 16	.63	Mar 12	.00	Jan 29 1976
INSTANTANEOUS PEAK FLOW			b132	Apr 30	b132	Apr 30 1999
INSTANTANEOUS PEAK STAGE			c3.41	Apr 30	d3.41	Apr 30 1999
ANNUAL RUNOFF (AC-FT)	2040		5400		1480	
10 PERCENT EXCEEDS	4.6		28		5.3	
50 PERCENT EXCEEDS	2.5		3.1		.52	
90 PERCENT EXCEEDS	.72		1.1		.06	

e Estimated  
a No flow many days during 1976, 1991-92.  
b From rating curve extended above 105 ft<sup>3</sup>/s.  
c From floodmarks.  
d From floodmarks, 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 SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 6,270 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those above 800 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	20	20	19	e16	19	15	e1250	232	79	79	37
2	11	17	20	e19	e16	18	20	e761	207	75	76	33
3	11	18	20	e19	17	17	19	607	181	67	90	33
4	11	21	20	e18	e16	16	16	521	163	63	115	32
5	11	18	19	e18	17	16	21	406	149	58	395	32
6	11	19	20	19	17	15	19	319	132	61	151	32
7	13	18	e19	e19	17	15	19	267	123	58	171	30
8	12	18	e17	20	17	15	22	268	118	91	179	28
9	11	19	e16	e19	17	15	16	327	127	62	224	27
10	13	20	e17	19	17	14	19	399	166	53	150	27
11	12	18	e19	19	e16	14	17	382	261	53	134	28
12	12	18	e19	18	e15	15	18	327	240	52	116	29
13	12	17	e18	e18	e15	14	20	309	190	52	106	29
14	13	17	e18	e18	e16	14	23	316	164	53	96	31
15	12	18	18	18	e16	14	24	346	141	52	85	33
16	11	18	19	18	e17	13	23	354	138	89	75	29
17	11	18	e19	17	e18	13	22	325	132	70	62	29
18	11	20	19	e18	e19	12	23	270	120	80	60	29
19	11	19	18	17	20	13	24	250	113	60	87	28
20	11	18	e17	17	20	13	26	233	106	52	79	34
21	11	19	e17	18	21	13	41	224	100	52	67	32
22	12	19	e18	19	20	13	71	211	103	55	64	28
23	11	19	e19	e18	e20	12	58	193	103	49	54	27
24	17	20	e19	19	21	11	44	285	308	48	52	25
25	16	21	e20	19	21	12	49	566	243	58	51	23
26	17	20	e21	e19	20	12	40	391	124	47	53	23
27	16	20	e19	e19	19	12	42	377	108	56	48	26
28	22	20	e18	18	19	12	46	502	98	52	51	30
29	14	20	e17	e18	---	12	e930	354	92	56	58	28
30	14	21	e18	18	---	12	e2000	292	83	124	45	27
31	15	---	19	17	---	14	---	255	---	169	42	---
TOTAL	396	568	577	569	500	430	3727	11887	4565	2046	3115	879
MEAN	12.8	18.9	18.6	18.4	17.9	13.9	124	383	152	66.0	100	29.3
MAX	22	21	21	20	21	19	2000	1250	308	169	395	37
MIN	11	17	16	17	15	11	15	193	83	47	42	23
AC-FT	785	1130	1140	1130	992	853	7390	23580	9050	4060	6180	1740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	20.6	21.0	15.0	15.0	16.4	20.6	81.2	185	106	38.6	58.7	23.1
MAX	27.7	30.1	18.6	18.4	19.9	35.5	124	383	152	66.0	100	29.3
(WY)	1998	1998	1999	1999	1998	1998	1999	1999	1999	1999	1999	1999
MIN	12.8	13.9	12.1	13.2	11.4	12.3	27.7	65.4	30.4	23.3	20.9	10.9
(WY)	1999	1997	1997	1998	1997	1997	1997	1997	1998	1998	1998	1998

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1997 - 1999
ANNUAL TOTAL	12289.8	29259	
ANNUAL MEAN	33.7	80.2	50.3
HIGHEST ANNUAL MEAN			80.2
LOWEST ANNUAL MEAN			35.2
HIGHEST DAILY MEAN	162	2000	2000
LOWEST DAILY MEAN	8.7	11	8.7
ANNUAL SEVEN-DAY MINIMUM	9.0	11	9.0
INSTANTANEOUS PEAK FLOW		a3580	a3580
INSTANTANEOUS PEAK STAGE		b10.98	b10.98
ANNUAL RUNOFF (AC-FT)	24380	58040	36440
10 PERCENT EXCEEDS	89	227	103
50 PERCENT EXCEEDS	19	20	20
90 PERCENT EXCEEDS	12	13	12

e Estimated  
a From rating curve extended above 640 ft<sup>3</sup>/s.  
b From floodmark.

ARKANSAS RIVER BASIN

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY SEASONAL RECORD.--Suspended-sediment discharge May to September 1997 (peak flows only), April 1998 to current year.

INSTRUMENTATION.--Pumping sediment sampler since May 1997.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF DAILY SEASONAL RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,580 mg/L, Aug. 19, 1998; minimum daily mean, 45 mg/L, Oct. 22-23, 1998.  
 SEDIMENT LOADS: Maximum daily, 49,100 tons (estimated), Apr. 30, 1999; minimum daily, 0.11 ton, Oct. 22-23, 1999.

EXTREMES FOR CURRENT SEASON.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,340 mg/L, May 25; minimum daily mean, 4 mg/L, Oct. 23.  
 SEDIMENT LOAD: Maximum daily, 49,100 tons (estimated), Apr. 30; minimum daily, 0.11 ton, Oct. 22-23.

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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
MAR 30...	1350	86	185	8.0	6.0	11.2	2.0	27	48	21	3.6
APR 20...	1145	95	209	8.0	6.5	9.8	1.0	K110	28	22	3.9
JUN 22...	1200	23	312	8.2	18.5	--	1.6	--	--	36	5.2
JUL 29...	1805	45	210	8.1	21.0	6.8	6.0	K4000	K5200	24	3.3
AUG 17...	1415	16	346	8.5	24.0	6.5	<1.0	K87	180	42	6.2

DATE	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
MAR 30...	--	1.4	.500	.050	4400	4.5	1	<1	20	27.0	.226
APR 20...	<30	1.3	.400	--	2900	6.3	1	<1	20.0	23.0	.236
JUN 22...	31	1.1	.800	--	2100	6.6	1	<1	40	46	--
JUL 29...	--	.60	.600	.090	--	1.8	3	<1	30	25	.932
AUG 17...	41	1.2	1.20	--	520	5.66	2	1	40	48	.182

DATE	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)	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)
MAR 30...	<.070	1.38	<1.0	4.02	--	3800	36	7	<.150	177	30
APR 20...	<.070	2	<1.0	--	<.600	4320	13.0	8	<.15	178	20
JUN 22...	<.1	--	<1.0	--	--	2000	<12	5	<.15	84	24
JUL 29...	<.1	6	<1.0	23	1.26	26000	<12	51	<.15	650	15
AUG 17...	<.1	<1	<1.0	--	--	630	<12	<1	<.15	32	12

K Based on non-ideal colony count.



ARKANSAS RIVER BASIN

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

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

DATE	N-NITRO-SODI-N-PROPYL-AMINE TOTAL (UG/L) (34428)	N-NITRO-METHYL-AMINE TOTAL (UG/L) (34438)	N-NITRO-PHENYL-AMINE TOTAL (UG/L) (34433)	NAPHTH-ALENE TOTAL (UG/L) (34696)	BENZENE-NITRO-WATER UNFLTRD RECOVER (UG/L) (34447)	PHENAN-THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	BIS(2-CHLORO-ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS(2-CHLORO-ETHYL) ETHER UNFLTRD RECOVER (UG/L) (34273)	BIS(2-CHLORO-ETHYL) ISO-PROPYL) ETHER TOTAL (UG/L) (34283)
MAR 30...	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	--	--	--	--	--	--	--	--
JUN 22...	--	--	--	--	--	--	--	--	--	--
JUL 29...	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
AUG 17...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE (DEG C) (00010)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U (UG/L) (82660)	ACETO-CHLOR, WAT FLT 0.7 U (UG/L) (49260)	ALA-CHLOR, DISS, REC (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN- PHOS WAT FLT 0.7 U (UG/L) (82686)	BEN-FLUR-ALIN WAT FLT 0.7 U (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	
JUL 29...	1805	45	21.0	<.003	<.002	<.002	.0099	<.001	<.002	<.002	
DATE		CAR-BARYL WATER FLTRD 0.7 U (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U (UG/L) (82677)	EPTC WATER FLTRD 0.7 U (UG/L) (82668)
JUL 29...	E.741	<.003	.0055	<.004	E.0024	<.002	.136	<.001	<.017	<.002	
DATE		ETHAL-FLUR-ALIN WAT FLT 0.7 U (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN WATER FLTRD 0.7 U (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U (UG/L) (82684)
JUL 29...		<.004	<.003	<.003	<.004	<.002	.0651	<.002	<.004	<.004	<.003
DATE		PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U (UG/L) (82685)	PRON-AMIDE WATER FLTRD 0.7 U (UG/L) (82676)
JUL 29...		<.004	<.006	<.004	.0142	<.002	E.0143	<.007	<.004	<.013	<.003
DATE		SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U (UG/L) (82661)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	PER-METHRIN CIS WAT FLT 0.7 U (UG/L) (82687)	P,P' DDE DISSOLV (UG/L) (34653)
JUL 29...		<.005	<.010	<.007	<.013	<.002	<.001	.0064	<.002	<.005	<.006

E Estimated.

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS./100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)
OCT 20...	1030	11	417	8.4	7.0	9.9	1.1	K32	72	47	6.8	48
DEC 09...	1400	23	284	8.2	.000	10.2	<1.0	K4	60	36	5.7	34
FEB 25...	0900	21	275	8.0	2.5	11.2	<1.0	K330	K22	33	5.0	31
APR 21...	0945	29	288	8.1	9.5	9.1	1.3	95	120	32	5.1	26
JUN 23...	1300	95	288	8.0	21.5	7.0	<1.0	K25	110	35	5.7	34
JUL 30...	2215	729	197	8.0	18.5	7.5	6.2	K13000	K27000	24	3.5	--
AUG 05...	1350	185	246	8.0	18.6	--	1.2	1900	5300	30	4.8	32
AUG 17...	1200	64	278	8.1	21.0	7.2	<1.0	K20	110	32	5.5	--

DATE	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L) AS AL (01105)	ALUM-INUM, DIS-SOLVED (UG/L) AS AL (01106)	ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS-SOLVED (UG/L) AS AS (01000)	BORON, TOTAL RECOV-ERABLE (UG/L) AS B (01022)	BORON, DIS-SOLVED (UG/L) AS B (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS CD (01027)
OCT 20...	1.2	2.10	<.020	.200	.070	90	3.6	2	1	80	75	<.100
DEC 09...	1.4	1.30	.040	.200	.200	320	4.6	1	1	60	61	<.100
FEB 25...	1.3	1.30	.03	.300	.300	180	6.0	<1	<1	60	58	.108
APR 21...	1.5	.600	.030	.400	.200	275	6.3	<1	<1	50	48	<.100
JUN 23...	1.0	.600	.020	.200	.070	1000	16.6	<1	1	40	35	<.100
JUL 30...	.71	.800	.100	3.20	.070	--	2.3	9	<1	30	25	1
AUG 05...	1.1	.400	<.020	.300	.090	3700	9.6	3	<1	30	32	.202
AUG 17...	1.4	.800	<.020	.200	.060	930	12	2	<1	30	32	.105

DATE	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)	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)
OCT 20...	<.1	4	<1.0	2	1.5	300	31	<1	.22	46	42
DEC 09...	<.1	<1	2.7	3	1.1	700	27	<1	<.15	68	34
FEB 25...	.1	1	<1.0	2	1.9	390	39	<1	.26	48	38
APR 21...	<.1	<1	<1.0	2	.89	930	31	2	.20	96	32
JUN 23...	.14	<1	<1.0	2	.84	1800	26	3	<.15	120	53
JUL 30...	<.1	10	1.5	36	.86	34000	<12	97	<.15	2300	3.0
AUG 05...	<.1	2	1.9	6	1.0	6200	93	18	<.15	280	21
AUG 17...	<.1	<1	<1.0	2	1.2	1600	<12	3	<.15	90	31

K Based on non-ideal colony count.





07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	1,2,5,6 -DIBENZ -ANTHRA -CENE TOTAL (UG/L) (34556)	DIETHYL PHTHAL- ATE TOTAL (UG/L) (34336)	DI- METHYL PHTHAL- ATE TOTAL (UG/L) (34341)	FLUOR- ANTHENE TOTAL (UG/L) (34376)	FLUOR- ENE TOTAL (UG/L) (34381)	HEXA- CHLORO- BENZENE TOTAL (UG/L) (39700)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L) (39702)	CYCLOPE NTADIEN HEXA- CHLORO- UNFLTRD RECOVER (UG/L) (34386)	ETHANE HEXA- CHLORO- WATER UNFLTRD RECOVER (UG/L) (34396)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L) (34403)	ISO- PHORONE TOTAL (UG/L) (34408)
OCT 20...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
FEB 25...	--	--	--	--	--	--	--	--	--	--	--
APR 21...	--	--	--	--	--	--	--	--	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5
AUG 17...	--	--	--	--	--	--	--	--	--	--	--

DATE	N- NITRO- SODI-N- PROPYL- AMINE TOTAL (UG/L) (34428)	N-NITRO -SODI- METHYL- AMINE TOTAL (UG/L) (34438)	N-NITRO -SODI- PHENYL- AMINE TOTAL (UG/L) (34433)	NAPHTH- ALENE TOTAL (UG/L) (34696)	BENZENE NITRO- WATER UNFLTRD RECOVER (UG/L) (34447)	BENZENE NITROD5 SURROGT SED, <2MM WS, REC PERCENT (49280)	PHENAN- THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	BIS(2- CHLORO- ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS(2- CHLORO- ETHYL) ETHER UNFLTRD RECOVER (UG/L) (34273)	BIS(2- CHLORO- ISO- PROPYL) ETHER TOTAL (UG/L) (34283)
OCT 20...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
FEB 25...	--	--	--	--	--	--	--	--	--	--	--
APR 21...	--	--	--	--	--	--	--	--	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	<5	<5	<5	<5	<5	103	<5	<5	<5	<5	<5
AUG 17...	--	--	--	--	--	--	--	--	--	--	--

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 01...	1005	9.0	404	12.0	MAY 03...	1205	612	216	9.5
OCT 26...	1425	17	318	13.0	MAY 05...	1120	456	204	6.0
NOV 03...	1440	16	351	7.5	MAY 10...	1430	398	174	9.0
DEC 16...	1015	23	303	.5	MAY 28...	1500	487	178	17.0
DEC 22...	1430	18	315	.000	JUN 09...	1330	106	248	19.0
JAN 05...	1245	18	320	.5	JUN 15...	1215	134	251	14.0
FEB 09...	1330	17	304	6.5	JUN 25...	1030	188	261	16.0
MAR 29...	1200	12	339	7.5	JUL 08...	1300	54	320	23.0
APR 02...	1145	35	482	3.0	JUL 14...	1030	52	319	18.5
APR 04...	1530	16	371	7.5	JUL 21...	1830	47	328	20.5
APR 29...	1000	636	178	6.0	AUG 04...	0945	82	288	16.5
MAY 02...	1500	696	215	10.0	AUG 05...	0845	352	214	16.0
					AUG 11...	1515	129	238	23.5
					AUG 31...	1700	40	315	23.5
					SEP 01...	1300	39	334	22.5
					SEP 08...	1145	28	355	17.5

ARKANSAS RIVER BASIN

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
01...	1000	9.0	12.0	7	.17
26...	1423	17	13.0	5	.23
DEC					
16...	1015	23	.5	26	1.6
JAN					
05...	1245	18	.5	256	12
FEB					
09...	1330	17	6.5	16	.73
MAR					
29...	1200	12	7.5	13	.43
APR					
02...	1145	35	3.0	1930	182
04...	1530	16	7.5	82	3.5
16...	0950	22	--	55	3.3
17...	1445	23	--	52	3.2
29...	1015	418	6.0	3720	4200
30...	1405	2790	--	11000	82900
MAY					
02...	1500	696	10.0	2140	4020
03...	1345	602	9.5	1780	2890
05...	1115	422	6.0	1110	1260
10...	1430	398	9.0	785	844
28...	1500	487	17.0	1300	1710
JUN					
09...	1330	106	19.0	275	79
15...	1215	134	14.0	307	111
25...	1030	188	16.0	844	428
JUL					
08...	1300	54	23.0	185	27
14...	1030	52	18.5	140	20
21...	1830	47	20.5	168	21
AUG					
04...	0945	82	16.5	305	68
05...	0845	352	16.0	1420	1350
11...	1515	129	23.5	165	57
SEP					
01...	1300	39	22.5	74	7.8
08...	1145	28	17.5	58	4.4

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-AZIN-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)
JUL										
30...	2215	729	18.5	<.003	<.002	<.002	<.006	<.001	<.002	<.002
AUG										
05...	1350	185	18.6	<.003	<.002	<.002	<.001	<.001	<.002	<.002
CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)										
CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)										
CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)										
CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)										
DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)										
DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)										
DI-AZINON, DIS-SOLVED (UG/L) (39572)										
DI-ELDRIN DIS-SOLVED (UG/L) (39381)										
DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)										
EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)										
JUL										
30...	E.0606	<.003	<.004	<.004	E.0016	<.002	.0655	<.001	<.017	<.002
AUG										
05...	E.0097	<.003	<.004	<.004	<.002	<.002	.0109	<.001	<.017	<.002
ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)										
ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)										
FONO-FOS WATER DISS REC (UG/L) (04095)										
LINDANE DIS-SOLVED (UG/L) (39341)										
LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)										
MALA-THION, DIS-SOLVED (UG/L) (39532)										
METO-LACHLOR WATER DISSOLV (UG/L) (39415)										
METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)										
MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)										
NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)										
JUL										
30...	<.004	<.003	<.003	<.004	<.002	.0722	<.002	<.004	<.004	<.003
AUG										
05...	<.004	<.003	<.003	<.004	<.002	<.005	<.002	<.004	<.004	<.003

E Estimated.

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	METHYL PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82667)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)
	JUL 30...	<.004	<.006	<.004	<.004	E.0060	<.007	<.004	<.013
AUG 05...	<.004	<.006	<.004	<.004	E.0037	<.007	<.004	<.013	<.003

DATE	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	P,P' DDE DISSOLV (UG/L) (34653)
	JUL 30...	<.005	<.010	<.007	<.013	<.002	<.001	.0045	<.002	<.005
AUG 05...	<.005	<.010	<.007	<.013	<.002	<.001	.0100	<.002	<.005	<.006

E Estimated.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
	OCTOBER			NOVEMBER			DECEMBER		
1	11	493	25	20	---	---	20	---	---
2	11	250	7.8	17	---	---	20	---	---
3	11	17	.48	18	---	---	20	---	---
4	11	11	.33	21	---	---	20	---	---
5	11	22	.65	18	---	---	19	---	---
6	11	---	e.82	19	---	---	20	---	---
7	13	---	e1.4	18	---	---	e19	---	---
8	12	25	.85	18	---	---	e17	---	---
9	11	16	.50	19	---	---	e16	---	---
10	13	10	.34	20	---	---	e17	---	---
11	12	---	e.28	18	---	---	e19	---	---
12	12	9	.30	18	---	---	e19	---	---
13	12	8	.26	17	---	---	e18	---	---
14	13	6	.21	17	---	---	e18	---	---
15	12	6	.20	18	---	---	18	---	---
16	11	---	e.17	18	---	---	19	---	---
17	11	6	.18	18	---	---	e19	---	---
18	11	---	e.20	20	---	---	19	---	---
19	11	7	.20	19	---	---	18	---	---
20	11	5	.14	18	---	---	e17	---	---
21	11	---	e.12	19	---	---	e17	---	---
22	12	4	.11	19	---	---	e18	---	---
23	11	4	.11	19	---	---	e19	---	---
24	17	6	.28	20	---	---	e19	---	---
25	16	7	.31	21	---	---	e20	---	---
26	17	5	.24	20	---	---	e21	---	---
27	16	489	39	20	---	---	e19	---	---
28	22	373	34	20	---	---	e18	---	---
29	14	15	.57	20	---	---	e17	---	---
30	14	8	.32	21	---	---	e18	---	---
31	15	---	e.54	---	---	---	19	---	---
TOTAL	396	---	115.91	568	---	---	577	---	---

## ARKANSAS RIVER BASIN

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	19	---	---	e16	---	---	19	---	---
2	e19	---	---	e16	---	---	18	---	---
3	e19	---	---	17	---	---	17	---	---
4	e18	---	---	e16	---	---	16	---	---
5	e18	---	---	17	---	---	16	---	---
6	19	---	---	17	---	---	15	---	---
7	e19	---	---	17	---	---	15	---	---
8	20	---	---	17	---	---	15	---	---
9	e19	---	---	17	---	---	15	---	---
10	19	---	---	17	---	---	14	---	---
11	19	---	---	e16	---	---	14	---	---
12	18	---	---	e15	---	---	15	---	---
13	e18	---	---	e15	---	---	14	---	---
14	e18	---	---	e16	---	---	14	---	---
15	18	---	---	e16	---	---	14	---	---
16	18	---	---	e17	---	---	13	---	---
17	17	---	---	e18	---	---	13	---	---
18	e18	---	---	e19	---	---	12	---	---
19	17	---	---	20	---	---	13	---	---
20	17	---	---	20	---	---	13	---	---
21	18	---	---	21	---	---	13	---	---
22	19	---	---	20	---	---	13	---	---
23	e18	---	---	e20	---	---	12	---	---
24	19	---	---	21	---	---	11	---	---
25	19	---	---	21	---	---	12	---	---
26	e19	---	---	20	---	---	12	---	---
27	e19	---	---	19	---	---	12	---	---
28	18	---	---	19	---	---	12	---	---
29	e18	---	---	---	---	---	12	13	.45
30	18	---	---	---	---	---	12	---	e.50
31	17	---	---	---	---	---	14	---	e.63
TOTAL	569	---	---	500	---	---	430	---	---
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	15	---	e2.1	e1250	---	e18200	232	549	344
2	20	658	44	e761	---	e5200	207	437	245
3	19	---	e58	607	1800	2960	181	414	202
4	16	186	7.9	521	---	e2000	163	---	e172
5	21	---	e12	406	1070	1180	149	348	140
6	19	---	e4.6	319	---	e648	132	338	120
7	19	---	e4.4	267	---	e513	123	336	112
8	22	---	e14	268	---	e488	118	332	106
9	16	---	e4.3	327	---	e565	127	713	341
10	19	---	e4.8	399	703	759	166	1100	515
11	17	---	e4.2	382	589	610	261	1620	2250
12	18	---	e4.3	327	557	492	240	2430	1740
13	20	284	20	309	---	e462	190	2070	1150
14	23	276	17	316	516	440	164	1160	597
15	24	---	e5.9	346	475	444	141	391	150
16	23	57	3.5	354	546	521	138	263	98
17	22	52	3.0	325	513	449	132	223	80
18	23	44	2.7	270	---	e330	120	205	66
19	24	43	2.7	250	394	266	113	---	e57
20	26	---	e3.0	233	353	222	106	175	50
21	41	607	122	224	376	227	100	172	47
22	71	2620	502	211	357	204	103	153	42
23	58	1340	216	193	---	e177	103	257	87
24	44	662	79	285	1260	1880	308	1790	4360
25	49	---	e44	566	3340	6010	243	2050	2050
26	40	218	23	391	1410	1490	124	454	155
27	42	---	e22	377	---	e1560	108	243	71
28	46	192	24	502	2350	3180	98	177	47
29	e930	---	e11400	354	890	841	92	---	e37
30	e2000	---	e49100	292	---	e586	83	141	32
31	---	---	---	255	688	474	---	---	---
TOTAL	3727	---	61754.4	11887	---	53378	4565	---	15463

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	79	138	29	79	1060	241	37	64	6.4
2	75	141	28	76	487	99	33	---	e5.1
3	67	131	24	90	497	131	33	---	e5.7
4	63	---	e22	115	574	365	32	68	6.0
5	58	---	e20	395	1860	3130	32	62	5.3
6	61	---	e23	151	547	244	32	---	e5.1
7	58	---	e31	171	704	460	30	---	e4.8
8	91	638	249	179	696	368	28	59	4.4
9	62	314	56	224	850	586	27	63	4.7
10	53	---	e23	150	223	90	27	49	3.6
11	53	118	17	134	176	64	28	49	3.6
12	52	100	14	116	119	37	29	---	e4.4
13	52	92	13	106	---	e27	29	60	4.8
14	53	121	17	96	93	24	31	156	16
15	52	100	14	85	84	19	33	86	8.2
16	89	427	252	75	87	18	29	62	4.9
17	70	573	117	62	73	12	29	---	e4.2
18	80	614	243	60	---	e10	29	47	3.6
19	60	410	67	87	---	e190	28	44	3.3
20	52	226	32	79	273	67	34	61	5.6
21	52	212	33	67	243	53	32	45	3.9
22	55	236	37	64	---	e33	28	---	e3.2
23	49	174	23	54	---	e14	27	39	2.8
24	48	---	e22	52	---	e11	25	---	e2.5
25	58	366	96	51	70	9.7	23	---	e2.3
26	47	145	19	53	80	12	23	---	e2.1
27	56	343	73	48	81	10	26	---	e2.3
28	52	---	e42	51	---	e11	30	95	7.9
29	56	---	e30	58	303	71	28	---	e7.0
30	124	1090	1090	45	---	e19	27	---	e6.6
31	169	1780	927	42	60	6.7	---	---	---
TOTAL	2046	---	3683	3115	---	6432.4	879	---	150.3

e Estimated

## ARKANSAS RIVER BASIN

07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°57'04", long 104°42'47", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1998 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. 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, 230 ft<sup>3</sup>/s, June 23, 1999, from rating curve extended above 40 ft<sup>3</sup>/s, on basis of velocity-area study; gage height, 6.25 ft from floodmarks; minimum daily, 0.03 ft<sup>3</sup>/s, on many days in 1998 water year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 230 ft<sup>3</sup>/s, June 23, on basis of velocity-area study; gage height, 6.25 ft from floodmarks; minimum daily, 0.04 ft<sup>3</sup>/s, on Mar. 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.14	---	---	---	---	.06	e32	4.4	e2.5	1.5	1.2
2	.05	.09	---	---	---	---	.12	e28	3.7	e3.0	.87	1.3
3	.05	---	---	---	---	---	.16	e16	3.0	e2.5	.79	e1.3
4	.05	---	---	---	---	---	.32	e12	e2.8	e2.3	1.6	e1.2
5	.05	---	---	---	---	---	.11	e9.0	e2.6	e1.8	8.5	e1.0
6	.05	---	---	---	---	---	.10	7.2	e2.4	e1.6	4.4	e.90
7	.06	---	---	---	---	---	.08	e6.5	e2.2	e1.4	4.9	e.90
8	.05	---	---	---	---	---	.07	e6.0	e2.1	e5.0	6.1	e.80
9	.06	---	---	---	---	---	.08	e5.5	e6.0	2.1	4.3	e.80
10	.06	---	---	---	---	---	.10	e5.0	e2.0	1.7	3.5	e.80
11	.06	---	---	---	---	---	.09	e5.0	e10	1.5	3.3	e.90
12	.06	---	---	---	---	---	.07	e5.0	e7.0	1.3	2.9	e1.0
13	.05	---	---	---	---	---	.07	e4.2	e5.0	1.2	2.6	e.90
14	.07	---	---	---	---	---	.10	e4.2	e3.5	e1.1	2.5	.86
15	.07	---	---	---	---	---	.13	e3.8	e2.5	e1.3	2.6	e1.2
16	.08	---	---	---	---	---	.11	e3.4	e3.0	3.5	2.5	e1.0
17	.07	---	---	---	---	---	.18	e3.4	e2.8	2.2	2.6	e.80
18	.08	---	---	---	---	---	.07	e3.1	e2.6	e3.0	2.0	.70
19	.08	---	---	---	---	---	.06	e2.5	e2.4	e2.5	1.6	.64
20	.08	---	---	---	---	---	.07	e2.2	e2.2	e2.2	1.5	e.80
21	.08	---	---	---	---	---	.14	e2.4	e2.0	2.0	4.0	e.70
22	.08	---	---	---	---	---	.41	e2.0	1.9	e1.8	3.0	e.60
23	.08	---	---	---	---	---	.46	e2.0	e8.0	e1.7	1.9	e.60
24	.07	---	---	---	---	---	.34	e5.0	e6.5	1.7	1.9	e.70
25	.07	---	---	---	---	---	.34	38	e6.0	e2.5	1.9	e.60
26	.08	---	---	---	---	---	.27	e15	e3.8	e2.0	2.0	e.60
27	.07	---	---	---	---	---	.15	e25	e3.4	e1.9	1.4	e.60
28	.09	---	---	---	---	---	e.20	e20	e2.8	1.9	1.5	e.80
29	.06	---	---	---	---	---	6.0	e12	e2.5	.98	2.1	e.70
30	.07	---	---	---	---	---	e70	7.4	e3.0	e5.0	1.7	.63
31	.07	---	---	---	---	.04	---	6.0	---	e10	1.2	---
TOTAL	2.06	---	---	---	---	---	80.46	298.8	112.1	75.18	83.16	25.53
MEAN	.066	---	---	---	---	---	2.68	9.64	3.74	2.43	2.68	.85
MAX	.09	---	---	---	---	---	70	38	10	10	8.5	1.3
MIN	.05	---	---	---	---	---	.06	2.0	1.9	.98	.79	.60
AC-FT	4.1	---	---	---	---	---	160	593	222	149	165	51

e Estimated

07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF SEASONAL RECORD.--April 1998 to current year.

PERIOD OF SEASONAL DAILY RECORD.--April 1998 to current year.

INSTRUMENTATION.--Pumping sediment sampler since April 1998.

REMARKS.--Records of daily sediment during period of seasonal operation are poor.

EXTREMES FOR PERIOD OF SEASONAL DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean 6,760 mg/L, May 25, 1999; minimum daily mean, 74 mg/L, Sept. 14, 1998.

SEDIMENT LOADS: Maximum daily, 2,510 tons (estimated), Apr. 30, 1999; minimum daily mean, 0.01 ton (estimated), many days during 1998.

EXTREMES FOR CURRENT SEASON.--

SEDIMENT CONCENTRATION: Maximum daily mean, 6,760 mg/L, May 25; minimum daily mean, 88 mg/L, Sept. 14.

SEDIMENT LOAD: Maximum daily, 2,510 tons (estimated), Apr. 30; minimum daily, 0.02 tons, Mar. 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (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)
OCT 19...	0845	.07	413	8.4	2.0	11.7	120	97	<.05	<.02	.14	<.01
DEC 10...	1215	.07	433	7.6	.000	11.1	K10	47	.05	.03	.05	.01
APR 22...	1515	.34	583	7.7	10.5	8.4	K10	K2400	.22	.05	.5	.02
JUN 23...	0815	2.6	281	8.1	12.0	8.3	140	200	<.05	<.02	.16	.01
AUG 18...	1230	2.0	286	8.2	24.0	6.7	190	140	<.05	<.02	.09	<.01

K Based on non-ideal colony count.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 01...	0810	.05	434	9.5	JUN 09...	0830	2.1	270	13.0
JAN 29...	1030	.04	413	.000	JUN 23...	0815	2.6	281	12.0
FEB 25...	1220	.11	436	11.5	JUN 25...	1600	6.2	256	24.0
MAR 30...	1530	.02	455	15.5	JUN 29...	1400	2.7	275	26.5
APR 06...	1045	.17	495	12.0	JUL 06...	1240	1.6	298	24.5
MAY 03...	1510	26	179	11.5	JUL 12...	1510	1.4	301	28.5
MAY 05...	1015	9.9	202	8.5	JUL 15...	1330	1.2	310	20.0
MAY 21...	0840	2.5	283	13.5	JUL 27...	1230	1.9	291	28.0
MAY 28...	0950	33	220	15.0	AUG 06...	1315	4.9	269	20.0
					AUG 11...	0830	3.5	290	16.5
					SEP 14...	0845	1.0	327	9.0
					SEP 23...	1100	.61	332	16.5
					SEP 29...	0800	.64	336	2.5

## ARKANSAS RIVER BASIN

07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT					
01...	0809	.06	9.5	204	.03
26...	1250	.07	17.0	308	.06
NOV					
03...	1315	.07	6.5	663	.13
DEC					
10...	1225	.07	.000	168	.03
JAN					
29...	1030	.04	.000	583	.06
FEB					
25...	1220	.11	11.5	1920	.57
MAR					
30...	1530	.02	15.5	233	.01
APR					
06...	1045	.17	12.0	710	.33
22...	1500	.49	10.5	2560	3.4
MAY					
03...	1505	26	11.5	1630	115
05...	1015	9.9	8.5	2020	54
06...	1230	7.9	13.5	1930	41
10...	0800	5.3	--	1530	22
12...	0945	e5.0	--	925	13
21...	0845	2.5	13.5	580	3.8
28...	0945	33	15.0	2140	192
JUN					
04...	1145	e2.8	20.5	770	5.8
09...	0830	2.1	13.0	452	2.6
15...	1145	e2.5	15.5	1240	8.4
23...	0815	2.6	12.0	483	3.4
25...	1545	6.2	24.0	1090	18
JUL					
06...	1230	1.6	24.5	505	2.2
12...	1515	1.3	28.5	448	1.6
15...	1330	1.2	20.0	400	1.3
27...	1230	1.9	28.0	519	2.7
AUG					
06...	1315	4.9	20.0	1260	17
11...	0830	3.5	16.5	160	1.5
18...	1245	2.2	24.0	1010	6.0
25...	1100	1.9	29.0	230	1.2
SEP					
14...	0845	1.0	9.0	88	.24
23...	1100	.61	16.5	33	.05
29...	0800	.64	2.5	26	.05

e Estimated.





## ARKANSAS RIVER BASIN

07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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			MAY			JUNE		
1	.06	---	e.04	e32	---	e717	4.4	---	e15
2	.12	---	e.13	e28	---	e295	3.7	---	e10
3	.16	---	e.38	e16	---	e83	3.0	---	e7.3
4	.32	---	e1.6	e12	---	e59	e2.8	---	e5.8
5	.11	---	e.35	e9.0	---	e48	e2.6	---	e4.8
6	.10	747	.21	7.2	1930	38	e2.4	---	e4.0
7	.08	---	e.15	e6.5	---	e32	e2.2	---	e3.3
8	.07	---	e.13	e6.0	---	e28	e2.1	---	e2.8
9	.08	---	e.16	e5.5	---	e24	e6.0	---	e20
10	.10	---	e.19	e5.0	---	e20	e2.0	---	e2.6
11	.09	---	e.18	e5.0	---	e16	e10	---	e85
12	.07	---	e.13	e5.0	---	e13	e7.0	---	e66
13	.07	---	e.14	e4.2	---	e9.9	e5.0	---	e36
14	.10	---	e.19	e4.2	---	e9.4	e3.5	---	e17
15	.13	---	e.30	e3.8	---	e8.1	e2.5	---	e8.6
16	.11	---	e.25	e3.4	---	e6.8	e3.0	---	e8.9
17	.18	---	e.40	e3.4	---	e6.5	e2.8	---	e7.4
18	.07	---	e.13	e3.1	---	e5.6	e2.6	---	e6.1
19	.06	---	e.11	e2.5	---	e4.3	e2.4	---	e5.0
20	.07	---	e.13	e2.2	---	e3.6	e2.2	---	e4.0
21	.14	---	e.30	e2.4	---	e3.7	e2.0	---	e3.2
22	.41	1990	2.3	e2.0	---	e3.0	1.9	---	e2.8
23	.46	---	e2.6	e2.0	---	e2.8	e8.0	---	e66
24	.34	---	e1.6	e5.0	---	e38	e6.5	---	e44
25	.34	---	e1.3	38	6760	982	e6.0	---	e20
26	.27	---	e.84	e15	---	e79	e3.8	---	e10
27	.15	---	e.38	e25	---	e176	e3.4	---	e8.8
28	e.20	---	e.46	e20	---	e153	e2.8	---	e6.7
29	6.0	5020	172	e12	---	e66	e2.5	---	e5.6
30	e70	---	e2510	7.4	---	e34	e3.0	---	e6.3
31	---	---	---	6.0	---	e24	---	---	---
TOTAL	80.46	---	2697.08	298.8	---	2988.7	112.1	---	493.0
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)
	JULY			AUGUST			SEPTEMBER		
1	e2.5	---	e4.9	1.5	---	e3.0	1.2	---	e.63
2	e3.0	---	e5.4	.87	---	e1.2	1.3	---	e.65
3	e2.5	---	e4.2	.79	---	e1.3	e1.3	---	e.60
4	e2.3	---	e3.6	1.6	---	e16	e1.2	---	e.52
5	e1.8	---	e2.6	8.5	---	e165	e1.0	---	e.41
6	e1.6	---	e2.2	4.4	1400	17	e.90	---	e.35
7	e1.4	---	e1.9	4.9	---	e11	e.90	---	e.33
8	e5.0	---	e33	6.1	---	e9.2	e.80	---	e.28
9	2.1	---	e3.9	4.3	---	e4.1	e.80	---	e.26
10	1.7	---	e2.6	3.5	---	e2.2	e.80	---	e.25
11	1.5	---	e2.0	3.3	174	1.5	e.90	---	e.26
12	1.3	455	1.6	2.9	---	e1.7	e1.0	---	e.28
13	1.2	---	e1.4	2.6	---	e2.0	e.90	---	e.23
14	e1.1	---	e1.2	2.5	---	e2.4	.86	88	.20
15	e1.3	---	e1.4	2.6	---	e3.3	e1.2	---	e.31
16	3.5	---	e28	2.5	---	e4.1	e1.0	---	e.23
17	2.2	---	e9.2	2.6	---	e5.4	e.80	---	e.16
18	e3.0	---	e5.8	2.0	975	5.2	.70	---	e.12
19	e2.5	---	e3.4	1.6	---	e4.2	.64	---	e.10
20	e2.2	---	e3.0	1.5	---	e4.1	e.80	---	e.11
21	2.0	---	e2.8	4.0	3290	117	e.70	---	e.08
22	e1.8	---	e2.5	3.0	---	e5.0	e.60	---	e.06
23	e1.7	---	e2.3	1.9	---	e1.5	e.60	---	e.05
24	1.7	---	e2.3	1.9	---	e1.3	e.70	---	e.06
25	e2.5	---	e3.5	1.9	231	1.2	e.60	---	e.05
26	e2.0	---	e2.8	2.0	---	e1.2	e.60	---	e.05
27	e1.9	---	e2.6	1.4	---	e.81	e.60	---	e.04
28	1.9	---	e2.6	1.5	---	e.84	e.80	---	e.06
29	.98	---	e1.3	2.1	---	e4.2	e.70	---	e.05
30	e5.0	---	e23	1.7	---	e1.4	.63	---	e.04
31	e10	---	e90	1.2	---	e.71	---	---	---
TOTAL	75.18	---	257.0	83.16	---	399.06	25.53	---	6.82

e Estimated

07103980 COTTONWOOD CREEK AT WOODMEN ROAD NEAR COLORADO SPRINGS, CO

LOCATION (REVISED).--Lat 38°56'22", long 104°44'26", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.11, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank, 250 ft downstream from Woodmen Road, 4.0 mi east of Interstate 25, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--10.3 mi<sup>2</sup>.

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. Elevation of gage is 6,680 ft above sea level, from topographic map. Prior to Apr. 13, 1999 at site 150 ft upstream at datum 10 ft higher, with artificial control and crest-stage gage.

REMARKS.--Records fair except for estimated daily discharges, and discharges above 40 ft<sup>3</sup>/s, which are poor.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	3.3	.71	.52	.56	.30	.72	36	9.6	3.0	3.3	2.3
2	1.2	1.6	.71	e.50	.64	.32	1.5	31	9.6	4.1	2.5	1.9
3	1.3	1.8	.73	e.50	.71	.34	1.9	19	5.6	4.8	4.3	2.1
4	1.2	2.7	.73	e.45	e.65	.35	1.0	15	5.6	5.5	12	1.9
5	.96	1.2	.58	e.45	.60	.34	1.3	11	4.7	5.4	18	1.8
6	.76	1.2	.77	e.50	.55	e.34	.70	10	4.5	5.0	6.2	1.5
7	.74	.92	.73	e.50	.59	e.34	.44	9.9	3.8	4.7	6.8	1.5
8	.80	.84	e.66	.57	.54	e.35	e.45	8.2	3.4	9.5	8.9	1.2
9	.74	.84	.51	.58	.54	e.36	e.47	6.8	e10	4.6	14	1.2
10	.74	.80	.81	.54	.52	e.36	e.50	7.1	2.9	3.8	8.2	1.2
11	.66	.78	.59	.58	e.50	.42	e.54	6.9	14	3.2	6.8	1.5
12	.75	.72	.58	.47	e.46	.63	1.0	6.9	10	2.9	6.2	1.9
13	.79	.72	.53	.37	.42	.85	.53	6.2	7.3	2.7	6.2	1.7
14	.73	.71	.54	.45	.39	.64	.79	6.8	4.6	2.2	5.8	1.7
15	.74	.70	.56	.75	.36	.58	1.3	6.3	3.8	2.3	6.1	2.8
16	.69	.70	.49	.73	e.50	.58	1.3	5.9	4.5	8.7	5.6	2.7
17	.62	.77	.52	.63	e.50	.56	2.4	6.0	4.1	5.6	5.3	2.3
18	.62	.72	.51	.58	e.50	.61	1.3	7.0	3.8	7.6	4.9	2.2
19	.61	.70	e.48	.56	e.50	.63	1.0	5.9	3.3	4.5	6.2	2.0
20	.66	.64	e.45	.54	e.60	.54	.59	5.4	3.1	3.8	6.2	2.6
21	.70	.70	.43	.47	e.60	e.50	4.8	3.6	2.8	3.6	8.2	2.3
22	.73	.70	.48	.78	.73	e.48	15	3.3	2.9	2.8	7.7	1.9
23	.74	.68	.57	.68	.74	e.48	9.6	3.3	12	2.7	5.5	1.9
24	.73	.72	e.48	.63	.40	e.50	5.2	10	7.1	2.8	3.3	2.3
25	.80	.72	.40	.52	.36	e.52	6.1	e70	6.4	5.4	3.9	1.8
26	.87	.74	.56	.53	.31	.56	2.6	e20	4.2	5.1	3.9	1.7
27	2.2	.74	.60	.57	.78	.68	1.4	31	3.7	5.1	2.7	2.0
28	6.7	.73	.60	.61	.35	.66	2.1	25	3.0	4.0	4.3	3.0
29	1.3	.70	.54	e.60	---	.59	26	17	2.7	2.9	6.6	2.4
30	1.3	.66	.56	.54	---	.63	e100	12	3.3	10	4.7	1.8
31	1.4	---	.54	.59	---	.62	---	9.8	---	19	3.0	---
TOTAL	34.78	29.45	17.95	17.29	14.90	15.66	192.53	422.3	166.3	157.3	197.3	59.1
MEAN	1.12	.98	.58	.56	.53	.51	6.42	13.6	5.54	5.07	6.36	1.97
MAX	6.7	3.3	.81	.78	.78	.85	100	70	14	19	18	3.0
MIN	.61	.64	.40	.37	.31	.30	.44	3.3	2.7	2.2	2.5	1.2
AC-FT	69	58	36	34	30	31	382	838	330	312	391	117

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

MEAN	1.21	1.11	.69	.65	.71	1.16	2.21	3.99	3.53	2.46	2.80	1.43
MAX	2.59	3.20	1.50	1.36	1.26	3.34	6.42	13.6	8.85	5.07	6.36	2.82
(WY)	1995	1998	1998	1998	1998	1998	1999	1999	1995	1999	1999	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1992 - 1999
ANNUAL TOTAL	559.55	1324.86	
ANNUAL MEAN	1.53	3.63	1.90
HIGHEST ANNUAL MEAN			3.63 1999
LOWEST ANNUAL MEAN			.65 1993
HIGHEST DAILY MEAN	17 Jul 30	e100 Apr 30	e,a100 Apr 30 1999
LOWEST DAILY MEAN	.40 Jul 18	.30 Mar 1	.15 Jan 23 1995
ANNUAL SEVEN-DAY MINIMUM	.47 Dec 19	.33 Mar 1	.17 Jan 21 1995
INSTANTANEOUS PEAK FLOW		b700 May 25	c1090 Jul 19 1993
INSTANTANEOUS PEAK STAGE		d7.84 May 25	f5.57 Jul 19 1993
ANNUAL RUNOFF (AC-FT)	1110	2630	1380
10 PERCENT EXCEEDS	2.5	7.9	3.8
50 PERCENT EXCEEDS	1.1	1.2	.73
90 PERCENT EXCEEDS	.53	.49	.33

e Estimated

a Also occurred Jan 23, Feb 3, 1996.

b From rating curve extended above 40 ft<sup>3</sup>/s, on basis of velocity-area study.

c From rating curve extended above 1.1 ft<sup>3</sup>/s on basis of slope area measurement of peak flow at site and datum then in use.

d From floodmarks at current site and datum.

f From floodmarks. Site and datum then in use. Maximum gage height 7.84 ft, May 25, 1999.

## ARKANSAS RIVER BASIN

07103980 COTTONWOOD CREEK AT WOODMEN ROAD NEAR COLORADO SPRINGS, CO--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1998 to current year (seasonal records only).

## MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					APR				
01...	1010	1.2	566	11.0	13...	1430	.44	676	16.5
DEC					28...	1345	.92	632	17.0
04...	1250	.97	696	10.5	MAY				
18...	1100	.75	747	4.0	06...	1300	11	330	17.5
22...	0940	.50	678	.000	28...	1215	36	--	19.5
JAN					28...	1220	36	262	19.5
14...	1115	.63	749	2.5	JUL				
FEB					15...	1425	2.4	536	21.5
10...	0825	.44	685	2.0	AUG				
MAR					11...	0715	6.2	446	14.5
10...	1450	.35	655	13.0	27...	1145	3.1	506	24.0
					SEP				
					16...	1105	2.6	540	15.5

## SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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				
28...	1215	36	2190	212

07103985 COTTONWOOD CREEK TRIBUTARY ABOVE RANGEWOOD DRIVE AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°55'45", long 104°44'48", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1998 to current year (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.--Records fair except for estimated daily discharges and those above 50 ft<sup>3</sup>/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, 199 ft<sup>3</sup>/s, June 23, 1999, gage height, 7.32 ft, from rating curve extended above 50 ft<sup>3</sup>/s; minimum daily 0.18 ft<sup>3</sup>/s, April 18, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 199 ft<sup>3</sup>/s, June 23, gage height, 7.32 ft, from rating curve extended above 50 ft<sup>3</sup>/s; minimum daily 0.18 ft<sup>3</sup>/s, April 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	2.4	---	---	---	---	.46	6.9	.88	.81	1.1	.96
2	.52	1.1	---	---	---	---	1.3	5.0	.84	.84	.97	.92
3	.47	---	---	---	---	---	1.2	1.9	.83	.91	4.2	.91
4	.45	---	---	---	---	---	.71	1.8	.83	.97	11	.92
5	.43	---	---	---	---	---	.76	1.4	.83	1.1	10	.94
6	.43	---	---	---	---	---	.38	1.3	.88	1.2	6.9	.94
7	.43	---	---	---	---	---	.23	1.2	.94	1.2	2.2	.93
8	.45	---	---	---	---	---	.28	1.2	.91	3.0	2.0	.94
9	.42	---	---	---	---	---	.27	1.2	2.1	.91	6.6	.99
10	.43	---	---	---	---	---	.25	1.1	.73	.88	1.6	1.0
11	.40	---	---	---	---	---	.25	1.0	8.8	.84	1.1	1.0
12	.42	---	---	---	---	---	.24	1.2	2.2	.91	1.0	1.0
13	.43	---	---	---	---	---	.32	1.3	1.1	.92	1.0	1.1
14	.42	---	---	---	---	---	.35	1.3	3.2	.91	1.1	1.3
15	.44	---	---	---	---	---	.28	e1.2	.84	.93	1.1	1.4
16	.48	---	---	---	---	---	.21	e1.1	1.1	2.6	1.1	1.2
17	.46	---	---	---	---	---	.35	1.0	.77	1.5	1.2	1.1
18	.46	---	---	---	---	---	.18	.93	.72	2.9	1.2	1.1
19	.49	---	---	---	---	---	.19	.91	.69	.74	3.5	1.1
20	.51	---	---	---	---	---	.20	.90	.68	.73	1.3	1.1
21	.53	---	---	---	---	---	2.3	.82	.76	.72	1.3	.99
22	.55	---	---	---	---	---	4.8	.79	.83	.74	1.3	.96
23	.57	---	---	---	---	---	2.3	.81	7.1	.64	1.3	.97
24	.55	---	---	---	---	---	.75	5.8	2.6	.73	1.2	.94
25	.57	---	---	---	---	---	1.7	20	1.0	1.8	1.2	.95
26	.57	---	---	---	---	---	.34	1.5	.83	.78	1.2	.90
27	1.4	---	---	---	---	---	.32	3.8	.82	.79	1.1	.89
28	2.3	---	---	---	---	---	1.3	1.2	.79	1.0	1.2	.98
29	.71	---	---	---	---	---	21	1.2	.80	.81	2.0	.76
30	.79	---	---	---	---	.32	28	.90	.81	3.1	.92	.71
31	.86	---	---	---	---	.33	---	.89	---	11	.91	---
TOTAL	18.94	---	---	---	---	---	71.22	71.55	46.21	46.91	73.80	29.90
MEAN	.61	---	---	---	---	---	2.37	2.31	1.54	1.51	2.38	1.00
MAX	2.3	---	---	---	---	---	28	20	8.8	11	11	1.4
MIN	.40	---	---	---	---	---	.18	.79	.68	.64	.91	.71
AC-FT	38	---	---	---	---	---	141	142	92	93	146	59

e Estimated

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1998 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: April 1998 to current year (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since April 1998.

REMARKS.--Records of daily sediment during period of seasonal operation are fair.

EXTREMES FOR PERIOD OF SEASONAL DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,990 mg/L, Apr. 30, 1999; minimum daily mean, 2 mg/L, Apr. 12, 1999.

SEDIMENT LOADS: Maximum daily, 900 tons, Apr. 30, 1999; minimum daily, 0.00 ton, several days during 1999 (some estimated).

EXTREMES FOR CURRENT SEASON.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,990 mg/L, Apr. 30; minimum daily mean, 2 mg/L, Apr. 12.

SEDIMENT LOAD: Maximum daily, 900 tons, Apr. 30; minimum daily, 0.00 ton, Apr. 9-11, 16, 20 (some estimated).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, 0.7 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 DIS-SOLVED (MG/L AS P) (00671)
OCT 19...	0945	.49	1150	8.3	9.0	10.4	K18	75	6.7	.02	.02	<.01
DEC 10...	1345	.36	1210	8.5	4.5	9.6	--	83	6.8	.03	.01	.03
APR 22...	1330	3.8	304	8.0	10.5	8.6	660	2700	1.2	.28	1.3	.18
JUN 23...	0900	.92	1190	8.2	16.5	7.9	420	720	6.9	<.02	.21	.04
AUG 18...	1130	1.2	1170	8.3	21.0	7.5	250	630	5.7	<.02	.23	.01

K Based on non-ideal colony count.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 01...	1100	.50	1110	11.0	JUN 09...	1145	.92	1170	20.0
19...	0945	.49	1150	9.0	23...	0900	.92	1190	16.5
DEC 10...	1345	.36	1210	4.5	JUL 06...	1115	1.4	1100	17.0
APR 06...	1415	.46	823	16.5	15...	1230	.88	1140	18.5
07...	0945	.24	1200	9.5	AUG 06...	1400	42	140	16.5
22...	1330	3.8	304	10.5	10...	1245	1.4	1160	24.5
28...	1145	.32	1200	16.0	18...	1130	1.2	1170	21.0
MAY 05...	1445	1.3	1220	12.0	SEP 14...	1000	1.1	1130	13.5
21...	1040	.87	1190	18.0					

07103985 COTTONWOOD CREEK TRIBUTARY ABOVE RANGEWOOD DRIVE AT COLORADO SPRINGS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
01...	1050	.52	11.0	131	.18
26...	1205	.58	16.5	16	.02
NOV					
03...	1215	.58	9.5	261	.41
DEC					
10...	1345	.36	4.5	63	.06
JAN					
29...	1005	.44	.000	118	.14
FEB					
25...	1150	.25	9.5	2	.00
MAR					
30...	1145	.32	13.5	3	.00
APR					
06...	1415	.46	16.5	34	.04
07...	0945	.24	9.5	2	.00
22...	1345	3.5	10.5	1350	13
28...	1145	.32	16.0	63	.05
29...	1415	9.6	7.0	1820	47
MAY					
05...	1345	1.3	12.0	351	1.2
21...	1030	.88	18.0	159	.38
JUN					
09...	1145	.92	20.0	949	2.4
15...	1015	.79	12.5	122	.26
23...	0915	.88	16.5	166	.39
JUL					
06...	1130	1.2	17.0	84	.27
15...	1230	.88	18.5	5	.01
AUG					
02...	1330	.96	21.0	170	.44
05...	1645	1.8	21.0	768	3.7
06...	1400	42	16.5	3130	355
10...	1245	1.4	24.5	173	.65
25...	0930	1.2	17.0	79	.26
SEP					
14...	1000	1.1	13.5	11	.03
29...	0900	.76	7.5	13	.03

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
	OCTOBER			NOVEMBER			DECEMBER		
1	1.0	209	1.2	2.4	786	14	---	---	---
2	.52	---	e.27	1.1	---	e3.3	---	---	---
3	.47	---	e.22	---	---	---	---	---	---
4	.45	---	e.19	---	---	---	---	---	---
5	.43	---	e.16	---	---	---	---	---	---
6	.43	---	e.14	---	---	---	---	---	---
7	.43	---	e.13	---	---	---	---	---	---
8	.45	---	e.12	---	---	---	---	---	---
9	.42	---	e.11	---	---	---	---	---	---
10	.43	---	e.10	---	---	---	---	---	---
11	.40	---	e.08	---	---	---	---	---	---
12	.42	---	e.08	---	---	---	---	---	---
13	.43	---	e.07	---	---	---	---	---	---
14	.42	---	e.06	---	---	---	---	---	---
15	.44	---	e.06	---	---	---	---	---	---
16	.48	---	e.06	---	---	---	---	---	---
17	.46	---	e.05	---	---	---	---	---	---
18	.46	---	e.05	---	---	---	---	---	---
19	.49	---	e.04	---	---	---	---	---	---
20	.51	---	e.04	---	---	---	---	---	---
21	.53	---	e.04	---	---	---	---	---	---
22	.55	---	e.04	---	---	---	---	---	---
23	.57	---	e.03	---	---	---	---	---	---
24	.55	---	e.03	---	---	---	---	---	---
25	.57	---	e.03	---	---	---	---	---	---
26	.57	16	.03	---	---	---	---	---	---
27	1.4	703	9.2	---	---	---	---	---	---
28	2.3	981	30	---	---	---	---	---	---
29	.71	---	e.17	---	---	---	---	---	---
30	.79	---	e.45	---	---	---	---	---	---
31	.86	189	.71	---	---	---	---	---	---
TOTAL	18.94	---	43.96	---	---	---	---	---	---

ARKANSAS RIVER BASIN

07103985 COTTONWOOD CREEK TRIBUTARY ABOVE RANGEWOOD DRIVE AT COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	---	---	---	---	---	---	.32	4	.00
31	---	---	---	---	---	---	.33	---	e.01
TOTAL	---	---	---	---	---	---	---	---	---

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			MAY			JUNE		
1	.46	48	.12	6.9	---	e75	.88	---	e1.4
2	1.3	651	3.9	5.0	---	e20	.84	608	1.4
3	1.2	---	e5.1	1.9	---	e3.4	.83	---	e1.5
4	.71	---	e.54	1.8	---	e3.4	.83	---	e1.6
5	.76	---	e.71	1.4	384	1.4	.83	---	e1.7
6	.38	62	.07	1.3	---	e1.3	.88	800	1.9
7	.23	3	.00	1.2	---	e1.2	.94	---	e2.2
8	.28	4	.00	1.2	374	1.2	.91	---	e2.2
9	.27	---	e.00	1.2	---	e1.1	2.1	1520	22
10	.25	---	e.00	1.1	305	.90	.73	---	e2.3
11	.25	---	e.00	1.0	---	e.68	8.8	2640	230
12	.24	2	.00	1.2	182	.60	2.2	---	e14
13	.32	---	e.05	1.3	---	e.59	1.1	1070	3.1
14	.35	27	.06	1.3	---	e.57	3.2	1770	62
15	.28	---	e.06	e1.2	---	e.52	.84	181	.47
16	.21	---	e.00	e1.1	---	e.46	1.1	---	e1.3
17	.35	---	e.03	1.0	151	.41	.77	---	e.78
18	.18	8	.00	.93	150	.38	.72	---	e.66
19	.19	6	.00	.91	156	.38	.69	---	e.57
20	.20	---	e.00	.90	---	e.39	.68	---	e.51
21	2.3	1050	27	.82	157	.35	.76	319	.70
22	4.8	1630	30	.79	150	.32	.83	197	.44
23	2.3	1280	9.9	.81	---	e.33	7.1	1390	257
24	.75	468	1.1	5.8	2460	143	2.6	---	e20
25	1.7	909	5.4	20	3210	477	1.0	---	e1.0
26	.34	---	e.16	1.5	---	e1.7	.83	---	e.32
27	.32	124	.10	3.8	1060	32	.82	---	e.22
28	1.3	165	2.5	1.2	---	e1.8	.79	---	e.21
29	21	6150	550	1.2	611	2.3	.80	---	e.21
30	28	8990	900	.90	---	e1.5	.81	---	e.21
31	---	---	---	.89	---	e1.4	---	---	---
TOTAL	71.22	---	1536.80	71.55	---	775.58	46.21	---	631.90



07103985 COTTONWOOD CREEK TRIBUTARY ABOVE RANGEWOOD DRIVE AT COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	.81	---	e.20	1.1	---	e.82	.96	---	e.21
2	.84	---	e.20	.97	174	.45	.92	---	e.17
3	.91	---	e.22	4.2	1450	59	.91	---	e.14
4	.97	---	e.23	11	2220	248	.92	---	e.13
5	1.1	---	e.24	10	2000	213	.94	---	e.11
6	1.2	86	.27	6.9	1020	49	.94	---	e.09
7	1.2	---	e.26	2.2	---	e3.3	.93	---	e.08
8	3.0	562	16	2.0	---	e2.1	.94	---	e.07
9	.91	---	e.20	6.6	1600	124	.99	---	e.06
10	.88	---	e.12	1.6	361	1.8	1.0	---	e.05
11	.84	---	e.07	1.1	---	e.46	1.0	---	e.05
12	.91	---	e.05	1.0	---	e.28	1.0	---	e.04
13	.92	---	e.03	1.0	---	e.28	1.1	---	e.04
14	.91	---	e.02	1.1	---	e.29	1.3	42	.32
15	.93	6	.01	1.1	---	e.30	1.4	---	e.32
16	2.6	528	24	1.1	---	e.31	1.2	---	e.06
17	1.5	542	4.3	1.2	---	e.32	1.1	---	e.06
18	2.9	939	35	1.2	---	e.34	1.1	---	e.05
19	.74	---	e.93	3.5	687	29	1.1	---	e.05
20	.73	---	e.78	1.3	---	e.43	1.1	---	e.05
21	.72	---	e.66	1.3	---	e.69	.99	---	e.04
22	.74	---	e.58	1.3	---	e.34	.96	---	e.04
23	.64	---	e.43	1.3	---	e.31	.97	---	e.04
24	.73	---	e.61	1.2	---	e.28	.94	---	e.04
25	1.8	624	11	1.2	82	.27	.95	---	e.04
26	.78	---	e.64	1.2	89	.28	.90	---	e.03
27	.79	---	e.42	1.1	---	e.28	.89	---	e.03
28	1.0	303	2.4	1.2	164	.58	.98	---	e.20
29	.81	---	e.44	2.0	---	e7.0	.76	14	.03
30	3.1	1240	30	.92	---	e.36	.71	---	e.03
31	11	---	e179	.91	---	e.23	---	---	---
TOTAL	46.91	---	309.31	73.80	---	744.10	29.90	---	2.67

e Estimated

ARKANSAS RIVER BASIN

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO

LOCATION.--Lat 38°55'41", long 104°38'35", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.8, T.13 S, R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 20 ft upstream from Vincent Drive bridge, 0.3 mi south of Woodmen Road, and 0.3 mi upstream from mouth.

DRAINAGE AREA.--18.7 mi<sup>2</sup>.

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 900 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	14	3.1	5.5	2.7	e3.0	3.9	162	15	8.9	13	20
2	3.2	5.2	3.5	5.0	e3.0	e2.0	11	115	17	8.6	7.9	20
3	3.5	9.0	3.5	e4.0	e2.5	e2.0	11	64	14	8.0	39	18
4	3.9	6.4	3.3	e3.0	e3.0	2.0	4.1	44	11	7.9	77	16
5	4.0	6.1	2.9	e4.0	e3.0	e1.9	6.5	29	11	7.7	140	17
6	4.1	5.8	4.4	5.0	e3.5	e2.0	3.7	22	11	9.3	81	16
7	3.5	5.9	3.7	4.8	3.7	2.5	3.4	21	11	7.9	29	16
8	3.6	5.6	e3.0	4.0	e4.0	2.3	3.9	17	9.9	44	33	15
9	3.7	5.9	e3.0	5.7	e5.0	2.6	3.4	16	28	11	75	15
10	4.3	e5.2	e4.0	6.8	e4.0	2.7	3.5	17	13	12	23	14
11	4.2	e4.7	e5.0	6.1	e3.0	2.8	4.7	14	90	11	17	14
12	4.2	4.5	e4.0	5.4	e4.0	3.4	4.5	15	67	8.6	14	13
13	3.5	4.5	e3.0	3.2	e3.0	2.2	5.6	16	43	7.2	13	14
14	4.6	3.9	3.7	4.2	2.7	2.8	5.0	14	53	7.5	14	18
15	5.1	3.7	4.8	4.6	e4.0	2.6	5.8	13	29	7.7	15	23
16	6.0	3.5	4.2	3.8	e4.0	2.5	5.0	13	30	39	13	13
17	5.2	4.0	4.4	4.0	2.9	2.5	6.1	14	26	14	12	12
18	5.0	3.9	5.1	3.4	e4.0	3.4	5.1	13	23	43	10	16
19	5.9	3.9	5.6	e4.0	e5.0	3.3	5.6	13	20	11	46	19
20	6.4	3.4	4.3	4.3	e4.0	3.3	6.6	15	20	12	14	18
21	5.6	4.0	4.5	4.8	e3.0	2.6	22	17	19	9.7	20	11
22	5.6	4.2	5.2	4.1	e3.0	2.5	38	21	20	7.9	13	9.5
23	5.9	4.2	e4.0	5.2	e3.0	2.5	20	23	72	7.5	10	9.9
24	5.2	4.3	e5.0	3.5	e4.0	2.4	7.2	86	71	9.1	9.7	11
25	5.5	3.1	e6.0	4.2	e5.0	3.3	13	221	18	29	11	10
26	5.7	3.3	e4.0	3.1	e4.0	2.2	6.2	41	10	8.0	10	8.0
27	10	4.9	e3.0	4.2	e3.0	2.2	5.1	71	8.0	12	10	7.2
28	15	3.3	e3.0	4.4	e3.0	2.4	10	68	9.2	9.2	15	9.5
29	4.9	2.7	e3.0	3.2	---	2.5	e270	36	9.4	9.3	32	6.9
30	5.5	2.6	e4.0	3.0	---	2.6	e500	16	9.9	e93	19	5.9
31	9.6	---	5.5	3.2	---	2.8	---	14	---	e158	22	---
TOTAL	169.3	145.7	125.7	133.7	99.0	79.8	999.9	1261	788.4	639.0	857.6	415.9
MEAN	5.46	4.86	4.05	4.31	3.54	2.57	33.3	40.7	26.3	20.6	27.7	13.9
MAX	15	14	6.0	6.8	5.0	3.4	500	221	90	158	140	23
MIN	3.2	2.6	2.9	3.0	2.5	1.9	3.4	13	8.0	7.2	7.9	5.9
AC-FT	336	289	249	265	196	158	1980	2500	1560	1270	1700	825

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1999, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	5.43	4.95	4.14	3.98	4.25	5.27	7.18	9.50	9.79	8.69	9.09	6.12		
MAX	9.59	9.18	7.90	5.30	6.57	11.1	33.3	40.7	26.4	20.6	27.7	13.9		
(WY)	1995	1998	1998	1994	1997	1992	1999	1999	1995	1999	1999	1999		
MIN	1.93	2.90	1.92	2.30	2.28	2.57	3.31	2.71	3.05	2.34	5.41	2.67		
(WY)	1987	1987	1992	1987	1990	1999	1989	1986	1990	1992	1993	1986		

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1986 - 1999
ANNUAL TOTAL	2212.5	5715.0	
ANNUAL MEAN	6.06	15.7	6.72
HIGHEST ANNUAL MEAN			15.7
LOWEST ANNUAL MEAN			4.01
HIGHEST DAILY MEAN	53	Jul 30	500
LOWEST DAILY MEAN	2.6	Nov 30	e1.9
ANNUAL SEVEN-DAY MINIMUM	3.1	Nov 29	2.1
INSTANTANEOUS PEAK FLOW			a1450
INSTANTANEOUS PEAK STAGE			7.11
ANNUAL RUNOFF (AC-FT)	4390	11340	4870
10 PERCENT EXCEEDS	8.7	29	9.8
50 PERCENT EXCEEDS	5.1	5.9	4.4
90 PERCENT EXCEEDS	3.7	3.0	2.4

e Estimated

a From rating curve extended above 900 ft<sup>3</sup>/s.

b From rating curve extended above 60 ft<sup>3</sup>/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 1998 to current year (seasonal records only).

PERIOD OF DAILY RECORD.--April 1998 to current year (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since April 1998.

REMARKS.--Records of daily sediment during period of seasonal operation are fair.

EXTREMES FOR PERIOD OF SEASONAL DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily, 7,870 mg/L, May 25, 1999; minimum daily mean, 180 mg/L, Mar. 30, 1999.  
 SEDIMENT LOADS: Maximum daily, 13,500 tons (estimated), Apr. 30, 1999; minimum daily mean, 1.2 tons (estimated), Mar. 31, 1999.

EXTREMES FOR CURRENT SEASON.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,870 mg/L, May 25; minimum daily mean, 180 mg/L, Mar. 30.  
 SEDIMENT LOADS: Maximum daily, 13,500 tons (estimated), Apr. 30; minimum daily, 1.2 tons (estimated), Mar. 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 TOTAL (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT 19...	1115	5.7	683	8.6	10.0	9.9	93	130	5.6	<.02	.11	.01
DEC 10...	1515	6.5	763	8.4	.5	11.4	K18	150	5.7	.03	.15	.03
APR 22...	1215	45	242	8.2	8.0	9.4	480	1600	.93	.15	1.8	.05
JUN 23...	1000	15	665	8.4	21.5	6.8	450	650	4.2	<.02	.32	.03
AUG 18...	1030	14	712	8.4	20.5	7.3	K340	500	4.7	<.02	.19	.02

K Based on non-ideal colony count.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 01...	1245	4.7	684	11.5	MAY 06...	1430	22	579	19.5
26...	1115	5.0	674	15.5	14...	1200	14	660	21.0
DEC 18...	1305	4.6	712	5.5	JUN 04...	0930	10	660	16.0
22...	1105	3.4	755	.5	10...	1200	13	641	18.0
JAN 14...	1005	2.7	721	.5	23...	1000	15	665	21.5
29...	0905	1.8	741	.000	JUL 12...	1345	9.8	678	28.0
MAR 10...	1340	3.0	667	15.0	29...	1105	8.8	662	24.5
APR 07...	1330	3.4	655	20.5	AUG 18...	1030	14	712	20.5
30...	1715	900	170	6.5	27...	1015	12	710	20.5
					SEP 16...	0900	13	702	13.0

ARKANSAS RIVER BASIN

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
01...	1310	4.6	11.5	310	3.9
26...	1110	5.6	15.5	239	3.6
NOV					
03...	1130	6.1	9.5	304	5.0
DEC					
10...	1530	6.5	.5	405	7.1
JAN					
29...	0900	1.8	.000	120	.58
FEB					
25...	1115	1.7	9.0	467	2.1
MAR					
29...	1315	2.5	17.5	194	1.3
APR					
07...	1330	3.4	20.5	310	2.8
22...	1230	37	8.0	4610	461
30...	1615	900	6.5	16100	39100
MAY					
06...	1430	22	19.5	1500	89
14...	1115	14	21.0	1090	41
24...	1145	21	21.0	682	39
JUN					
04...	0930	10	16.0	923	25
10...	1145	14	18.0	1320	50
15...	1330	20	16.0	1100	59
23...	1000	15	21.5	814	33
25...	0900	24	--	2690	174
JUL					
12...	1345	9.8	28.0	642	17
15...	1100	9.8	22.5	400	11
29...	1100	8.7	24.5	619	15
AUG					
02...	1215	8.1	20.5	707	15
06...	1130	20	24.0	1160	63
10...	1030	22	21.5	1090	65
25...	0830	13	15.5	488	17
SEP					
16...	0900	13	13.0	605	21
29...	0945	5.2	6.5	349	4.9

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
	OCTOBER			NOVEMBER			DECEMBER		
1	6.9	528	22	14	---	---	3.1	---	---
2	3.2	---	e3.3	5.2	---	---	3.5	---	---
3	3.5	---	e3.3	9.0	---	---	3.5	---	---
4	3.9	---	e3.2	6.4	---	---	3.3	---	---
5	4.0	---	e3.0	6.1	---	---	2.9	---	---
6	4.1	260	2.9	5.8	---	---	4.4	---	---
7	3.5	---	e2.6	5.9	---	---	3.7	---	---
8	3.6	---	e2.9	5.6	---	---	e3.0	---	---
9	3.7	---	e3.3	5.9	---	---	e3.0	---	---
10	4.3	---	e4.2	e5.2	---	---	e4.0	---	---
11	4.2	---	e4.3	e4.7	---	---	e5.0	---	---
12	4.2	---	e4.7	4.5	---	---	e4.0	---	---
13	3.5	---	e4.3	4.5	---	---	e3.0	---	---
14	4.6	---	e6.1	3.9	---	---	3.7	---	---
15	5.1	---	e7.3	3.7	---	---	4.8	---	---
16	6.0	558	9.0	3.5	---	---	4.2	---	---
17	5.2	---	e7.4	4.0	---	---	4.4	---	---
18	5.0	---	e6.4	3.9	---	---	5.1	---	---
19	5.9	---	e7.0	3.9	---	---	5.6	---	---
20	6.4	---	e6.9	3.4	---	---	4.3	---	---
21	5.6	---	e5.6	4.0	---	---	4.5	---	---
22	5.6	---	e5.1	4.2	---	---	5.2	---	---
23	5.9	---	e4.9	4.2	---	---	e4.0	---	---
24	5.2	---	e4.0	4.3	---	---	e5.0	---	---
25	5.5	---	e3.8	3.1	---	---	e6.0	---	---
26	5.7	241	3.7	3.3	---	---	e4.0	---	---
27	10	822	48	4.9	---	---	e3.0	---	---
28	15	1870	286	3.3	---	---	e3.0	---	---
29	4.9	---	e3.5	2.7	---	---	e3.0	---	---
30	5.5	235	3.5	2.6	---	---	e4.0	---	---
31	9.6	231	6.0	---	---	---	5.5	---	---
TOTAL	169.3	---	488.2	145.7	---	---	125.7	---	---

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	5.5	---	---	2.7	---	---	e3.0	---	---
2	5.0	---	---	e3.0	---	---	e2.0	---	---
3	e4.0	---	---	e2.5	---	---	e2.0	---	---
4	e3.0	---	---	e3.0	---	---	2.0	---	---
5	e4.0	---	---	e3.0	---	---	e1.9	---	---
6	5.0	---	---	e3.5	---	---	e2.0	---	---
7	4.8	---	---	3.7	---	---	2.5	---	---
8	4.0	---	---	e4.0	---	---	2.3	---	---
9	5.7	---	---	e5.0	---	---	2.6	---	---
10	6.8	---	---	e4.0	---	---	2.7	---	---
11	6.1	---	---	e3.0	---	---	2.8	---	---
12	5.4	---	---	e4.0	---	---	3.4	---	---
13	3.2	---	---	e3.0	---	---	2.2	---	---
14	4.2	---	---	2.7	---	---	2.8	---	---
15	4.6	---	---	e4.0	---	---	2.6	---	---
16	3.8	---	---	e4.0	---	---	2.5	---	---
17	4.0	---	---	2.9	---	---	2.5	---	---
18	3.4	---	---	e4.0	---	---	3.4	---	---
19	e4.0	---	---	e5.0	---	---	3.3	---	---
20	4.3	---	---	e4.0	---	---	3.3	---	---
21	4.8	---	---	e3.0	---	---	2.6	---	---
22	4.1	---	---	e3.0	---	---	2.5	---	---
23	5.2	---	---	e3.0	---	---	2.5	---	---
24	3.5	---	---	e4.0	---	---	2.4	---	---
25	4.2	---	---	e5.0	---	---	3.3	---	---
26	3.1	---	---	e4.0	---	---	2.2	---	---
27	4.2	---	---	e3.0	---	---	2.2	---	---
28	4.4	---	---	e3.0	---	---	2.4	---	---
29	3.2	---	---	---	---	---	2.5	199	1.3
30	3.0	---	---	---	---	---	2.6	180	1.3
31	3.2	---	---	---	---	---	2.8	---	e1.2
TOTAL	133.7	---	---	99.0	---	---	79.8	---	---

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	3.9	324	4.7	162	---	e3200	15	---	e39
2	11	---	e33	115	---	e1880	17	---	e44
3	11	---	e37	64	---	e394	14	---	e35
4	4.1	---	e4.0	44	---	e128	11	924	28
5	6.5	---	e9.6	29	---	e100	11	---	e28
6	3.7	---	e4.3	22	1450	87	11	---	e28
7	3.4	326	3.0	21	---	e81	11	---	e26
8	3.9	---	e3.4	17	---	e65	9.9	---	e24
9	3.4	---	e3.2	16	---	e57	28	---	e300
10	3.5	---	e3.4	17	---	e58	13	1680	64
11	4.7	---	e5.0	14	---	e46	90	---	e2370
12	4.5	---	e6.1	15	---	e47	67	6190	1190
13	5.6	---	e7.3	16	---	e49	43	---	e270
14	5.0	---	e7.1	14	1090	40	53	---	e862
15	5.8	---	e9.4	13	---	e38	29	1940	162
16	5.0	---	e4.5	13	---	e36	30	---	e140
17	6.1	---	e7.0	14	---	e37	26	---	e107
18	5.1	---	e5.5	13	---	e32	23	---	e69
19	5.6	---	e4.5	13	---	e32	20	---	e54
20	6.6	---	e5.3	15	---	e34	20	---	e50
21	22	---	e283	17	---	e36	19	---	e47
22	38	3830	436	21	---	e44	20	---	e45
23	20	---	e159	23	---	e44	72	2340	2250
24	7.2	---	e16	86	3550	2480	71	6090	1620
25	13	---	e41	221	7870	7280	18	2640	158
26	6.2	---	e7.3	41	3010	384	10	---	e27
27	5.1	---	e4.1	71	---	e1070	8.0	---	e20
28	10	---	e41	68	---	e585	9.2	---	e23
29	e270	---	e4370	36	---	e236	9.4	---	e22
30	e500	---	e13500	16	---	e77	9.9	---	e22
31	---	---	---	14	---	e38	---	---	---
TOTAL	999.9	---	19024.7	1261	---	18715	788.4	---	10124

## ARKANSAS RIVER BASIN

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	8.9	812	19	13	---	e43	20	---	e43
2	8.6	---	e18	7.9	765	16	20	630	34
3	8.0	---	e17	39	---	e457	18	---	e25
4	7.9	---	e16	77	---	e910	16	---	e19
5	7.7	---	e16	140	4360	3630	17	383	18
6	9.3	---	e18	81	2340	566	16	---	e15
7	7.9	---	e15	29	---	e170	16	319	14
8	44	---	e769	33	---	e203	15	295	12
9	11	---	e38	75	---	e1130	15	285	12
10	12	---	e33	23	1200	78	14	232	8.9
11	11	---	e25	17	---	e33	14	---	e13
12	8.6	674	16	14	---	e21	13	526	18
13	7.2	---	e11	13	---	e18	14	---	e22
14	7.5	---	e9.8	14	459	17	18	793	54
15	7.7	396	8.2	15	472	19	23	900	65
16	39	2000	911	13	524	18	13	587	21
17	14	1780	83	12	---	e18	12	---	e14
18	43	---	e598	10	578	16	16	317	14
19	11	---	e52	46	1580	653	19	256	13
20	12	---	e37	14	---	e35	18	274	13
21	9.7	---	e24	20	---	e82	11	---	e7.7
22	7.9	---	e17	13	---	e23	9.5	---	e5.6
23	7.5	---	e14	10	---	e16	9.9	---	e5.3
24	9.1	---	e25	9.7	---	e14	11	428	13
25	29	---	e297	11	569	19	10	---	e6.7
26	8.0	---	e16	10	---	e19	8.0	---	e4.2
27	12	---	e38	10	---	e18	7.2	194	3.8
28	9.2	---	e18	15	837	39	9.5	450	14
29	9.3	630	16	32	1600	330	6.9	508	9.9
30	e93	---	e1860	19	2350	126	5.9	249	3.9
31	e158	---	e3440	22	1210	74	---	---	---
TOTAL	639.0	---	8475.0	857.6	---	8811	415.9	---	522.0

e Estimated

07104000 MONUMENT CREEK AT PIKEVIEW, CO

LOCATION.--Lat 38°55'04", long 104°49'05", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.18, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.1 mi west of Interstate 25, 0.9 mi downstream from Cottonwood Creek, and 1.3 mi downstream from Woodmen Valley Road.

DRAINAGE AREA.--204 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to September 1949, January 1976 to current year. Water-quality data available April 1975 to September 1998.

REVISED RECORDS.--WDR CO-90-1: 1989 (M).

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Datum of gage is 6,203.26 ft above sea level. Oct. 1938 to Sept. 1949, nonrecording gage at present site at datum 0.10 ft lower. Jan. 1976 to June 6, 1994 at present site, at datum 2.00 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, municipal use and return flow from irrigation, and sewage-effluent discharge.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30, 1935, reached a stage of about 14 ft, datum then in use, discharge unknown.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	42	22	e22	18	20	21	1380	285	101	122	55
2	16	28	23	24	19	19	46	972	257	92	118	50
3	13	33	23	e22	17	19	52	538	245	85	151	51
4	14	40	24	e20	18	19	41	429	217	79	217	49
5	15	26	23	e20	19	18	49	379	199	78	500	48
6	15	29	24	e20	20	19	45	338	183	80	253	46
7	15	29	23	e20	19	22	34	278	166	78	216	43
8	16	24	e20	22	21	23	33	282	155	148	211	37
9	14	26	e19	20	22	22	27	323	184	97	291	33
10	16	27	21	20	21	20	33	366	199	82	188	35
11	15	26	24	20	18	18	28	354	346	74	172	37
12	15	23	23	19	22	23	25	318	242	69	155	36
13	15	21	21	20	20	22	29	308	189	66	149	37
14	15	20	24	23	20	21	29	312	195	63	140	45
15	16	21	23	22	20	19	36	337	150	65	127	53
16	15	21	23	23	21	18	33	337	168	134	122	50
17	16	20	22	22	24	15	28	321	143	113	106	52
18	16	21	20	22	24	14	28	278	135	143	102	50
19	15	22	21	21	25	17	29	258	134	94	165	46
20	16	22	20	21	24	16	34	250	127	74	142	52
21	16	23	e20	e20	22	17	79	239	119	74	123	43
22	15	23	e22	e21	20	16	189	227	123	77	115	39
23	15	25	e22	23	20	14	140	207	190	68	97	41
24	21	23	e24	25	25	e13	83	386	348	66	87	38
25	22	25	27	23	24	13	104	813	292	98	81	36
26	25	26	e24	25	23	14	65	334	172	71	81	37
27	29	24	e22	24	22	14	64	373	144	75	73	39
28	50	22	e21	24	21	14	80	467	134	66	83	45
29	19	22	e20	22	---	14	1330	355	134	71	98	41
30	19	23	e20	21	---	13	2950	316	110	202	72	38
31	22	---	e21	19	---	17	---	296	---	344	60	---
TOTAL	562	757	686	670	589	543	5764	12371	5685	3027	4617	1302
MEAN	18.1	25.2	22.1	21.6	21.0	17.5	192	399	190	97.6	149	43.4
MAX	50	42	27	25	25	23	2950	1380	348	344	500	55
MIN	13	20	19	19	17	13	21	207	110	63	60	33
AC-FT	1110	1500	1360	1330	1170	1080	11430	24540	11280	6000	9160	2580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

MEAN	18.8	18.0	14.8	13.6	14.7	21.5	51.2	98.5	50.3	27.8	31.9	16.8
MAX	82.8	55.3	30.2	26.8	28.7	52.4	259	399	190	97.6	149	46.7
(WY)	1985	1985	1996	1986	1991	1998	1942	1999	1999	1999	1999	1985
MIN	1.90	4.27	3.95	4.40	4.06	6.67	10.2	12.7	5.20	2.01	1.11	1.74
(WY)	1940	1979	1979	1979	1940	1944	1978	1946	1976	1939	1940	1939

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1939 - 1999
ANNUAL TOTAL	15996	36573	
ANNUAL MEAN	43.8	100	32.2
HIGHEST ANNUAL MEAN			100
LOWEST ANNUAL MEAN			8.21
HIGHEST DAILY MEAN	233	Jul 30	2950
LOWEST DAILY MEAN	11	Sep 11	13
ANNUAL SEVEN-DAY MINIMUM	14	Sep 5	14
INSTANTANEOUS PEAK FLOW			4890
INSTANTANEOUS PEAK STAGE			11.10
ANNUAL RUNOFF (AC-FT)	31730	72540	23300
10 PERCENT EXCEEDS	106	257	65
50 PERCENT EXCEEDS	26	29	17
90 PERCENT EXCEEDS	16	17	4.9

e Estimated

ARKANSAS RIVER BASIN

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during selected peak flows, 4,710 mg/L, July 27,1996; minimum daily, 203 mg/L, Aug. 14, 1996.

SEDIMENT LOADS: Maximum daily during selected peak flows, 3,420 tons, June 10, 1997; minimum daily mean, 38 tons, May 24, 1996.

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 WATER WHOLE FIELD (STAND-ARD WATER UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
MAR 30...	1500	94	223	8.0	6.5	9.6	2.0	K12	74	26	4.2
APR 20...	1330	107	231	8.1	7.5	9.4	<1.0	55	K57	26	4.2
JUN 22...	1000	32	393	8.2	15.0	--	1.1	--	--	48	6.0
AUG 17...	1245	26	450	8.4	25.5	6.2	<1.0	240	280	58	7.6

DATE	SULFATE DIS-SOLVED (MG/L AS SO4 AS F) (00945)	FLUO-RIDE DIS-SOLVED (MG/L AS F) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
MAR 30...	--	1.4	.800	.030	4300	6.0	1	<1	--	22.0	.257
APR 20...	30	1.3	.600	--	2600	6.6	1	<1	20.0	20.0	.296
JUN 22...	48	.90	1.50	--	--	3.0	2	<1	40	42	--
AUG 17...	63	1.0	2.10	--	2300	3.0	2	1	40	40	.366

DATE	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)	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)
MAR 30...	<.070	1.66	<1.0	5.24	4100	<12.0	7	<.15	171	20
APR 20...	<.070	2	<1.0	--	3620	<12.0	7	<.15	148	20
JUN 22...	<.1	--	<1.0	--	--	<12	--	<.15	--	14
AUG 17...	<.1	2	<1.0	--	2200	<12	4	<.15	60	5.0

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
MAR 30...	<.100	<.100	5.7	2.4	2	2	<.200	<.2	27.0	<3.00
APR 20...	<.100	<.100	5	2.1	2	2	<.200	<.200	24.0	<3.00
JUN 22...	<.10	<.100	--	6.1	4	2	<.200	<.2	--	5.0
AUG 17...	<.10	<.1	8	2.9	4	<.500	<.200	<.20	10	<3.0

K Based on non-ideal colony count.



07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)
OCT 20...	0900	15	534	8.4	6.5	9.8	<1.0	K56	80	69	8.7	79
DEC 09...	1545	31	387	8.2	.000	10.6	<1.0	K10	190	53	7.4	53
FEB 24...	1430	24	363	8.3	10.0	9.3	<1.0	<1	K7	46	6.2	37
APR 21...	1230	30	347	8.2	12.5	8.5	1.1	K25	50	41	5.9	--
JUN 23...	1400	122	336	8.2	22.5	6.9	<1.0	54	94	42	6.3	42
AUG 17...	1100	103	365	8.2	19.0	7.5	<1.0	E210	280	44	6.5	60

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	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)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 20...	1.0	3.10	<.020	.200	.050	3.1	1	1	60	50	.340
DEC 09...	1.3	1.80	.030	.200	.200	3.1	1	1	50	53	.339
FEB 24...	1.1	1.90	<.020	.200	.200	4.1	<1	<1	50	48	.197
APR 21...	1.4	.900	<.020	.300	.200	5.1	<1	<1	40	41	<.100
JUN 23...	1.1	1.00	.020	.200	.080	19.2	<1	<1	30	36	<.100
AUG 17...	1.2	1.40	<.020	.200	.060	10.2	2	<1	40	29	.113

DATE	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)	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)
OCT 20...	<.1	5	<1.0	4	1.6	1300	<12	2	.17	53	22
DEC 09...	<.1	1	<1.0	1	1.2	1500	<12	2	<.15	75	20
FEB 24...	<.1	<1	<1.0	3	1.7	990	<12	2	.21	49	20
APR 21...	<.1	<1	<1.0	2	.90	1300	19	2	.16	80	14
JUN 23...	<.1	<1	<1.0	2	.98	2400	14	4	<.15	110	32
AUG 17...	<.1	<1	<1.0	3	1.2	2500	<12	5	<.15	99	17

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)
OCT 20...	--	--	11	7.7	5	5	<.200	<.20	10	4.0	<.020
DEC 09...	--	--	5	6.2	3	3	<.200	<.20	10	5.0	<.020
FEB 24...	<.10	.2	4	4.6	3	3	<.200	<.20	10	6.0	<.020
APR 21...	--	--	2	2.0	.993	2	<.200	<.20	10	8.0	<.020
JUN 23...	--	--	<2	2.5	<.500	--	<.200	<.20	16	6.0	<.010
AUG 17...	--	--	7	1.7	4	1	<.200	<.20	18	4.0	<.010

E Estimated.

K Based on non-ideal colony count.

## ARKANSAS RIVER BASIN

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					APR				
01...	1535	18	546	12.0	28...	1000	67	306	8.5
DEC					29...	1250	1220	156	7.0
04...	1135	25	414	6.0	30...	1540	4890	130	5.5
22...	1310	22	424	.000	MAY				
JAN					03...	1350	523	250	11.0
14...	1245	33	407	.000	JUN				
FEB					04...	0800	196	270	10.0
09...	1435	22	401	8.0	AUG				
APR					27...	0840	73	400	16.0
02...	0925	48	373	2.5	SEP				
					16...	0825	53	452	12.0

07104050 NORTH ROCKRIMMON CREEK ABOVE DELMONICO DRIVE AT COLORADO SPRINGS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°54'56"(revised), long 104°49'35", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1998 to current year (seasonal records only).

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 1998 TO SEPTEMBER 1999

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 29...	1315	64	11200	1940

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 29...	1315	64	226	7.5

ARKANSAS RIVER BASIN

07104905 MONUMENT CREEK AT BIJOU STREET, AT COLORADO SPRINGS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°50'14", long 104°49'44", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
MAR 30...	1630	103	306	8.2	6.0	9.9	1.0	K10	58	34	6.2
APR 20...	1500	115	307	8.2	10.0	9.1	1.0	40	K60	33	6.0
JUN 24...	0930	20	669	8.2	14.0	--	<1.0	K35	880	79	13
AUG 18...	1400	30	579	8.4	25.0	6.3	<1.0	K440	K300	72	13

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
MAR 30...	--	1.4	1.10	.040	5400	6.1	2	<1	30	30.0	.340
APR 20...	43	1.3	.900	--	5500	6.5	2	<1	26.0	28.0	.354
JUN 24...	120	1.2	2.80	--	2900	2.8	2	1	60	62	--
AUG 18...	120	1.0	2.40	--	1500	3.95	2	1	60	53	.254

DATE	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)	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)
MAR 30...	<.070	3	2.8	7.74	--	5300	<12.0	9	<.15	182	3.00
APR 20...	<.070	8	<1.0	--	--	8700	<12.0	13	<.15	273	3.00
JUN 24...	<.1	--	1.4	--	1.6	2700	<12	5	<.15	61	3.0
AUG 18...	<.1	2	1.1	3	--	1500	<12	2	<.15	30	2.0

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
MAR 30...	<.100	<.100	8	--	4	4	<.200	<.200	32.0	<3.00
APR 20...	<.100	<.100	11	3.4	4	3	<.200	<.200	52.0	<3.00
JUN 24...	<.10	<.100	8	--	9	9	<.200	<.2	20	3.0
AUG 18...	<.10	<.1	9	3.3	8	1	<.200	<.20	9.00	<3.0

K Based on non-ideal colony count.

07104905 MONUMENT CREEK AT BIJOU STREET, AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT 22...	1545	38	704	8.6	15.0	8.3	1.0	110	160	88	16
DEC 08...	1200	10	855	8.1	1.5	11.0	<1.0	44	49	95	21
FEB 24...	1215	26	557	8.5	9.0	9.5	<1.0	<1	26	70	12
APR 21...	1430	32	497	8.4	13.5	8.5	1.1	220	100	58	10
JUN 24...	0945	148	401	8.3	16.0	8.5	1.6	700	K2200	52	8.2
AUG 17...	0930	112	493	8.2	17.0	7.9	<1.0	K450	490	57	11

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)
OCT 22...	160	1.3	3.70	<.020	.200	.030	810	2.7	2	1	70
DEC 08...	180	1.4	3.10	.030	.200	.100	1210	3.2	2	2	80
FEB 24...	100	1.2	3.20	<.020	.300	.100	1690	2.5	1	1	60
APR 21...	71	1.4	1.60	<.020	.300	.200	1240	5.3	1	1	60
JUN 24...	62	1.1	1.30	.030	.700	.060	--	--	2	1	50
AUG 17...	94	1.4	2.10	.030	.200	.050	2200	--	2	<1	50

DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	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)	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)
OCT 22...	67	.267	<.1	6	<1.0	5	1.4	1000	<12	1	.17
DEC 08...	80	.241	<.1	3	<1.0	3	1.5	1500	<12	2	<.15
FEB 24...	66	.234	<.1	2	1.1	4	1.8	2500	<12	4	.22
APR 21...	53	.103	<.1	<1	1.2	3	1.2	2200	<12	3	.17
JUN 24...	39	.365	<.1	2	<1.0	--	--	--	<12	--	.22
AUG 17...	47	.132	<.1	1	<1.0	4	1.3	3200	<12	5	<.15

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)
OCT 22...	30	5.0	12	9.7	--	--	<.200	<.20	8.00	<3.0	<.020
DEC 08...	44	7.4	11	13	--	--	<.200	<.20	10	4.0	<.020
FEB 24...	78	4.0	6	6.4	7	--	<.200	<.20	20	--	<.020
APR 21...	85	2.0	3	3.0	7.21	5.94	<.200	<.20	20	7.0	<.020
JUN 24...	--	8.0	4	3.4	7.33	3.65	<.200	<.20	--	<3.0	<.010
AUG 17...	100	3.0	6	3.5	7	4	<.200	<.20	21	<3.0	<.010

K Based on non-ideal colony count.

## ARKANSAS RIVER BASIN

07105000 BEAR CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°49'21", long 104°53'17", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.6	2.0	1.8	1.5	1.3	1.4	77	16	6.0	5.0	4.3
2	2.6	2.4	2.0	1.8	1.5	e1.3	.97	55	15	5.8	4.6	4.1
3	2.6	2.4	2.0	1.7	1.5	1.2	1.2	42	15	5.6	4.1	4.0
4	2.7	2.4	2.0	1.8	1.5	1.2	1.5	29	13	5.4	5.9	4.0
5	2.7	2.3	1.9	1.8	1.5	1.2	1.6	24	12	5.2	13	4.1
6	2.7	2.3	1.9	1.8	1.5	1.2	1.7	21	12	5.2	11	3.8
7	2.7	2.4	1.6	1.8	1.5	1.2	1.7	17	11	4.7	11	3.3
8	2.7	2.3	1.5	1.8	1.5	1.2	1.8	19	11	4.8	10	3.3
9	2.6	2.3	2.1	1.8	1.5	1.2	1.7	18	10	4.7	9.4	3.2
10	2.5	2.1	2.0	1.8	1.5	1.3	1.6	21	10	4.5	9.2	3.2
11	2.4	2.3	2.0	1.8	1.2	1.4	1.7	19	9.9	4.5	8.6	3.2
12	2.4	2.3	1.9	1.8	1.4	1.4	1.7	17	9.8	4.4	7.8	3.2
13	2.4	2.3	1.9	1.8	1.7	1.4	1.7	17	9.5	4.1	7.4	3.2
14	2.3	2.3	1.9	1.8	1.7	1.4	1.7	17	9.2	3.9	6.7	3.8
15	2.3	2.3	1.9	1.8	1.6	1.4	1.6	18	9.0	3.9	6.6	3.8
16	2.3	2.3	1.9	1.8	1.6	1.4	1.8	18	8.8	4.0	6.4	3.6
17	2.4	2.3	1.9	1.8	1.6	1.4	1.9	18	8.6	4.1	6.9	3.4
18	2.5	2.2	1.9	1.8	1.6	1.3	2.0	18	8.2	4.0	6.8	3.2
19	2.5	2.2	1.8	2.0	1.6	1.3	2.0	17	7.9	4.0	7.0	3.1
20	2.5	2.1	1.8	1.9	1.6	1.3	2.0	16	8.0	3.9	6.1	3.2
21	2.5	2.2	1.8	1.8	1.6	1.3	2.1	16	7.8	3.7	5.8	3.2
22	2.5	2.1	1.8	1.8	1.5	1.4	2.5	16	7.5	4.1	5.6	3.0
23	2.4	2.0	1.7	1.7	1.5	1.5	2.2	16	7.3	4.1	5.4	3.0
24	2.5	2.0	1.7	1.8	e1.4	1.5	2.3	15	7.0	3.8	5.3	3.0
25	2.4	2.0	1.7	1.8	1.3	1.5	2.4	18	6.5	3.8	5.2	2.9
26	2.4	2.0	1.7	1.8	1.3	1.5	2.5	18	6.2	3.7	5.2	2.9
27	2.5	2.0	1.7	1.6	1.3	1.5	2.9	18	6.1	3.8	5.0	2.8
28	2.5	2.0	1.7	1.6	1.3	1.5	4.6	17	6.0	3.8	4.9	3.0
29	2.3	2.0	1.8	1.6	---	1.4	40	17	6.0	3.7	4.8	3.0
30	2.2	2.0	1.8	1.6	---	1.4	89	17	6.2	3.9	4.7	2.9
31	2.4	---	1.8	1.5	---	1.4	---	17	---	4.9	4.5	---
TOTAL	77.0	66.4	57.1	54.8	41.8	41.9	183.77	683	280.5	136.0	209.9	100.7
MEAN	2.48	2.21	1.84	1.77	1.49	1.35	6.13	22.0	9.35	4.39	6.77	3.36
MAX	2.7	2.6	2.1	2.0	1.7	1.5	89	77	16	6.0	13	4.3
MIN	2.2	2.0	1.5	1.5	1.2	1.2	.97	15	6.0	3.7	4.1	2.8
AC-FT	153	132	113	109	83	83	365	1350	556	270	416	200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	1.96	1.67	1.45	1.30	1.25	1.40	2.79	9.96	6.68	3.46	3.62	2.44				
MAX	2.76	2.38	1.94	1.77	1.79	1.99	6.13	22.0	17.0	7.55	6.77	4.39				
(WY)	1995	1996	1996	1999	1996	1998	1999	1999	1997	1995	1999	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 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1992 - 1999	
ANNUAL TOTAL	1160.7		1932.87			
ANNUAL MEAN	3.18		5.30		3.33	
HIGHEST ANNUAL MEAN					5.30	
LOWEST ANNUAL MEAN					.41	
HIGHEST DAILY MEAN	7.9	Jul 30	89	Apr 30	89	Apr 30 1999
LOWEST DAILY MEAN	1.2	Mar 16	.97	Apr 2	.02	Sep 18 1992
ANNUAL SEVEN-DAY MINIMUM	1.3	Mar 11	1.2	Mar 3	.05	Nov 7 1992
INSTANTANEOUS PEAK FLOW			a185	Apr 30	a185	Apr 30 1999
INSTANTANEOUS PEAK STAGE			b2.80	Apr 30	b2.80	Apr 30 1999
ANNUAL RUNOFF (AC-FT)	2300		3830		2410	
10 PERCENT EXCEEDS	6.3		14		6.7	
50 PERCENT EXCEEDS	2.6		2.4		1.8	
90 PERCENT EXCEEDS	1.5		1.5		.38	

e Estimated

a From rating curve extended above 130 ft<sup>3</sup>/s.

b From floodmarks.

07105490 CHEYENNE CREEK AT EVANS AVENUE AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°47'26", Long 104°51'49", SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	6.0	3.5	2.9	3.0	2.7	1.0	287	74	14	17	9.6
2	5.6	5.6	3.6	2.8	3.1	2.5	1.4	158	65	13	16	8.7
3	5.2	6.0	3.6	2.8	2.8	2.5	2.4	124	61	12	16	10
4	5.2	5.2	3.5	2.9	2.8	2.1	4.6	114	59	10	33	10
5	5.3	4.6	3.9	3.0	2.8	2.3	4.2	100	53	8.6	129	8.7
6	5.3	4.7	4.4	2.9	2.8	2.6	4.0	84	49	9.3	101	8.2
7	5.3	4.7	3.3	2.7	2.8	2.7	5.4	72	45	9.6	103	7.3
8	5.1	4.8	2.9	2.6	2.8	2.7	5.8	68	43	8.5	91	7.0
9	4.8	4.7	3.7	2.7	2.7	2.4	5.4	74	42	7.8	80	6.6
10	4.8	4.2	3.4	2.5	2.7	2.6	4.2	74	40	7.0	71	5.1
11	4.8	5.1	3.5	2.5	2.4	3.6	4.2	72	38	6.6	65	5.0
12	4.8	5.4	3.4	3.1	2.7	4.1	4.1	64	35	6.9	53	4.9
13	4.8	4.8	3.2	3.6	2.9	4.0	4.0	54	34	6.3	48	4.8
14	4.7	4.7	3.1	3.3	2.7	4.1	4.2	53	35	5.7	42	4.9
15	4.8	4.5	e3.0	3.3	2.7	4.0	3.4	59	34	6.3	35	5.2
16	4.8	4.5	e2.6	3.2	2.7	3.7	3.0	63	30	5.2	36	6.1
17	4.8	4.5	e2.6	3.4	2.6	3.7	3.2	64	25	5.7	33	5.3
18	5.0	4.5	e2.7	3.5	2.6	2.7	3.4	58	24	4.8	28	4.6
19	4.9	4.3	e2.8	3.6	2.7	1.3	3.2	50	22	5.2	27	4.7
20	5.0	4.0	e2.9	3.7	2.7	1.6	3.2	54	24	5.3	25	6.7
21	5.0	4.2	e2.9	3.6	2.9	1.6	3.8	54	24	5.7	24	7.5
22	5.0	4.2	e3.0	3.5	2.5	1.6	7.0	56	21	5.2	22	5.4
23	4.9	4.0	e3.0	e3.4	2.6	1.5	7.6	61	20	4.6	20	4.0
24	4.8	4.1	e3.0	e3.3	2.1	1.2	7.5	65	16	3.9	18	3.3
25	4.8	4.5	e3.0	e3.2	1.9	1.2	9.8	81	19	4.1	17	3.4
26	4.8	4.5	e3.0	3.1	1.9	1.2	11	92	21	3.7	17	3.3
27	5.9	3.7	e3.0	3.0	2.2	1.1	11	90	17	3.7	14	3.6
28	6.7	2.6	e3.0	3.0	2.6	1.1	17	83	16	3.7	14	3.9
29	5.0	3.5	e3.0	3.0	---	.95	163	83	16	3.8	15	3.2
30	4.7	3.6	e3.0	3.2	---	.81	453	83	15	3.5	12	3.7
31	4.9	---	3.0	3.2	---	.81	---	80	---	16	10	---
TOTAL	156.8	135.7	98.5	96.5	73.7	70.97	765.0	2574	1017	215.7	1232	174.7
MEAN	5.06	4.52	3.18	3.11	2.63	2.29	25.5	83.0	33.9	6.96	39.7	5.82
MAX	6.7	6.0	4.4	3.7	3.1	4.1	453	287	74	16	129	10
MIN	4.7	2.6	2.6	2.5	1.9	.81	1.0	50	15	3.5	10	3.2
AC-FT	311	269	195	191	146	141	1520	5110	2020	428	2440	347

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	4.83	4.06	3.10	3.04	2.97	3.54	11.9	44.7
MAX	7.31	5.56	5.15	4.54	5.20	7.34	25.5	86.4
(WY)	1997	1998	1998	1996	1998	1998	1999	1994
MIN	.73	.84	.46	.91	1.53	.53	.88	2.63
(WY)	1993	1993	1993	1993	1993	1993	1993	1996

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1992 - 1999

ANNUAL TOTAL	3885.1	6610.57	
ANNUAL MEAN	10.6	18.1	13.0
HIGHEST ANNUAL MEAN			21.8
LOWEST ANNUAL MEAN			1.40
HIGHEST DAILY MEAN	45	May 21	453
LOWEST DAILY MEAN	2.0	Mar 10	.81
ANNUAL SEVEN-DAY MINIMUM	2.1	Mar 4	1.0
INSTANTANEOUS PEAK FLOW			a565
INSTANTANEOUS PEAK STAGE			c3.35
ANNUAL RUNOFF (AC-FT)	7710	13110	9440
10 PERCENT EXCEEDS	27	59	32
50 PERCENT EXCEEDS	6.3	4.8	4.6
90 PERCENT EXCEEDS	3.5	2.6	1.1

- e Estimated
- a From rating curve extended above 490 ft<sup>3</sup>/s.
- b From rating curve extended above 440 ft<sup>3</sup>/s.
- c From flood mark.

## ARKANSAS RIVER BASIN

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'59", long 104°49'20", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

## 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.

REMARKS.--Records fair except for estimated daily discharges and those above 1000 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	123	56	53	40	35	48	3980	573	205	266	143
2	52	75	56	46	37	34	92	1930	523	194	225	136
3	45	75	e58	e50	39	34	78	1230	464	178	274	135
4	46	99	e59	e53	40	34	53	987	403	172	544	134
5	46	73	e57	56	41	35	81	826	371	165	1080	127
6	49	73	e55	52	39	37	56	688	338	168	788	122
7	49	73	e51	50	39	36	48	602	316	178	490	115
8	49	70	e50	49	41	37	49	608	296	274	506	109
9	46	71	e48	52	38	35	46	704	293	202	569	113
10	47	66	e49	51	38	35	41	805	363	157	454	105
11	48	57	e52	54	34	32	40	764	558	149	414	108
12	45	67	60	49	37	38	39	683	517	140	361	115
13	46	66	59	46	39	33	47	680	385	128	334	117
14	48	65	59	45	38	32	60	735	479	122	306	132
15	48	67	59	48	41	31	60	799	342	121	285	154
16	47	65	61	47	37	32	45	826	339	216	264	134
17	48	66	63	46	39	32	44	796	305	203	248	120
18	48	66	60	46	38	31	46	716	273	252	236	108
19	48	66	e55	46	38	31	45	649	251	150	388	108
20	48	58	e50	45	38	30	47	656	243	128	285	146
21	49	60	46	46	38	29	173	653	233	120	246	121
22	50	64	e50	46	39	33	408	632	233	128	241	108
23	49	62	e55	45	38	30	298	635	248	122	216	101
24	53	60	e65	47	41	27	167	827	509	116	205	96
25	55	63	67	44	38	29	208	1790	410	152	198	97
26	58	60	72	47	34	28	156	932	260	116	211	95
27	89	60	62	44	34	28	134	948	236	128	189	95
28	100	58	56	45	36	30	195	1020	227	127	200	102
29	56	59	53	41	---	32	4260	805	218	139	206	91
30	58	56	56	44	---	31	7510	722	209	420	191	84
31	73	---	54	43	---	32	---	631	---	721	153	---
TOTAL	1650	2043	1753	1476	1069	1003	14574	29259	10415	5791	10573	3471
MEAN	53.2	68.1	56.5	47.6	38.2	32.4	486	944	347	187	341	116
MAX	100	123	72	56	41	38	7510	3980	573	721	1080	154
MIN	45	56	46	41	34	27	39	602	209	116	153	84
AC-FT	3270	4050	3480	2930	2120	1990	28910	58040	20660	11490	20970	6880

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, 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	1999	
MEAN	46.2	40.4	32.3	29.0	27.4	39.3	93.7	212	139	80.7	92.8	49.1													
MAX	212	143	81.3	61.6	56.6	92.6	486	944	555	268	341	116													
(WY)	1985	1985	1985	1985	1985	1998	1999	1999	1997	1995	1999	1999													
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 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1976 - 1999

ANNUAL TOTAL	34926	83077		
ANNUAL MEAN	95.7	228	75.8	
HIGHEST ANNUAL MEAN			228	1999
LOWEST ANNUAL MEAN			23.2	1978
HIGHEST DAILY MEAN	489	Jul 30	7510	Apr 30 1999
LOWEST DAILY MEAN	32	Jul 21	27	Mar 24 1978
ANNUAL SEVEN-DAY MINIMUM	39	Sep 24	29	Mar 21 1979
INSTANTANEOUS PEAK FLOW			9490	Apr 30 1994
INSTANTANEOUS PEAK STAGE			11.73	Apr 30 1994
ANNUAL RUNOFF (AC-FT)	69280	164800	54880	
10 PERCENT EXCEEDS	207	585	159	
50 PERCENT EXCEEDS	61	66	35	
90 PERCENT EXCEEDS	45	37	15	

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 SEASONAL DAILY RECORD.--Suspended-sediment discharge August 1995 to September 1997 (peak flows only), April 1998 to current year.

INSTRUMENTATION.--Pumping sediment sampler since August 1995.

REMARKS.--Records for daily sediment during period of seasonal operation are fair.

EXTREMES FOR PERIOD OF SEASONAL DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,640 mg/L, Apr. 29, 1999; minimum daily mean, 12 mg/L, Sept. 8, 1998.

SEDIMENT LOADS: Maximum daily, 275,000 tons (estimated), Apr. 30, 1999; minimum daily, 3.0 tons, Mar. 30.

EXTREMES FOR CURRENT SEASON.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,640 mg/L, Apr. 29; minimum daily mean, 36 mg/L, Mar. 30.

SEDIMENT LOAD: Maximum daily, 275,000 tons, Apr. 30; minimum daily, 3.0 tons, Mar. 30.

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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-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)	
MAR	31...	1300	165	360	8.0	10.0	9.2	1.0	K11	56	120	36
APR	21...	1245	174	334	8.2	11.5	8.8	<1.0	K22	K26	120	35
JUN	23...	1000	55	444	8.2	12.5	--	1.1	300	450	160	46
JUL	28...	0500	66	422	8.1	16.5	7.7	<1.0	--	--	--	--
	28...	0930	65	407	8.2	17.0	7.7	<1.0	--	--	--	--
	28...	1700	63	437	8.2	20.2	7.4	<1.0	--	--	--	--
	29...	1945	382	224	8.1	20.0	7.1	8.0	>1200	>2000	81	26
AUG	19...	1115	93	362	8.1	18.0	7.7	<1.0	K1200	K2600	140	40

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	NITRO-GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	
MAR	31...	8.0	--	2.0	1.10	.040	5.2	2	<1	38.0	30	.263
APR	21...	7.4	51	1.8	1.00	--	5.0	3	<1	37.0	33.0	.373
JUN	23...	9.9	81	2.6	1.30	--	7.4	1	<1	51	40	--
JUL	28...	--	--	--	1.20	--	--	--	--	--	--	--
	28...	--	--	--	1.20	--	--	--	--	--	--	--
	28...	--	--	--	1.30	--	--	--	--	--	--	--
	29...	3.9	--	.80	.800	.060	3.9	13	1	22	30	2
AUG	19...	8.3	70	2.1	1.00	.040	3.9	8.2	1	37	40	.749

DATE	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)	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)	
MAR	31...	<.070	3	<1.0	6.39	--	4000	<12.0	7	<.15	145	10.0
APR	21...	<.070	7	<1.0	--	<.600	7580	<12.0	11	<.15	210	8.00
JUN	23...	<.1	--	<1.0	--	1.1	1800	<12	4	<.15	58	10
JUL	28...	--	--	--	--	--	--	--	--	--	--	--
	28...	--	--	--	--	--	--	--	--	--	--	--
	28...	--	--	--	--	--	--	--	--	--	--	--
	29...	.1	21	<1.0	61	--	63000	<12	160	<.15	1700	6.0
AUG	19...	<.1	7	<1.0	13	.98	11000	<12	77	<.15	270	8.0

K Based on non-ideal colony count.



07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

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

DATE	N-NITRO-SODI-PROPYLAMINE	N-NITRO-SODI-METHYLAMINE	N-NITRO-SODI-PHENYLAMINE	NAPHTH-ALENE	BENZENE-NITRO-WATER RECOVER	PHENAN-THRENE	PYRENE	BIS(2-CHLORO-ETHOXY)METHANE	BIS(2-CHLORO-ETHYL)ETHER UNFLTRD	BIS(2-CHLORO-ISO-PROPYL)ETHER
	TOTAL (UG/L) (34428)	TOTAL (UG/L) (34438)	TOTAL (UG/L) (34433)	TOTAL (UG/L) (34696)	(UG/L) (34447)	TOTAL (UG/L) (34461)	TOTAL (UG/L) (34469)	TOTAL (UG/L) (34278)	RECOVER (UG/L) (34273)	TOTAL (UG/L) (34283)
MAR 31...	--	--	--	--	--	--	--	--	--	--
APR 21...	--	--	--	--	--	--	--	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--
JUL 28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
29...	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
AUG 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)
		OCT 03...	1230	59			643	19.0	MAY 12...
NOV 18...	1230	101	562	5.5	15...	1400	260	--	16.0
DEC 22...	1300	59	629	3.5	JUN 03...	1215	111	--	18.5
JAN 14...	1440	60	630	5.0	10...	1240	109	477	17.0
FEB 03...	1300	32	736	4.0	JUL 01...	1045	49	660	23.0
MAR 06...	1205	41	490	2.0	10...	1620	584	--	19.0
APR 01...	1300	153	--	11.0	28...	0500	66	422	16.5
17...	1240	158	--	8.5	28...	0930	65	407	17.0
22...	1235	155	422	13.0	28...	1700	63	437	20.2
					29...	2000	326	--	20.0
					AUG 05...	1210	154	336	17.0
					20...	1230	77	--	20.5
					SEP 15...	1530	52	--	--

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)
		APR 01...	1300	153	409
17...	1240	158	307	131	--
MAY 15...	1400	260	423	297	--
JUN 03...	1215	111	92	28	--
JUL 01...	1045	49	69	9.1	--
10...	1620	584	11800	18600	70
29...	2000	326	3920	3450	--
AUG 20...	1230	77	102	21	--
SEP 15...	1530	52	20	2.8	--

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	2,6-DI-ETHYL ANILINE WAT FLT	ACETO-CHLOR, WATER FLTRD	ALA-CHLOR, WATER, DISS, REC	ATRA-ZINE, WATER, DISS, REC	METHYL PHOS, WAT FLT	BEN-FLUR-ALIN, WAT FLT	BUTYL-ATE, WATER, DISS, REC	CAR-BARYL FURAN, WATER FLTRD	CYANA-ZINE, WATER, DISS, REC		
		(UG/L) (82660)	(UG/L) (49260)	(UG/L) (46342)	(UG/L) (39632)	(UG/L) (82686)	(UG/L) (82673)	(UG/L) (04028)	(UG/L) (82680)	(UG/L) (82674)	(UG/L) (38933)	
JUL 29...	1945	<.003	<.002	<.002	.0098	<.001	<.002	<.002	E1.22	<.003	<.004	<.004

E Estimated.

## ARKANSAS RIVER BASIN

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)
JUL 29...	.0042	<.002	.148	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	.0285
DATE	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN WATER FLTRD 0.7 U GF, REC (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)
JUL 29...	<.002	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.002	E.0126	<.007	<.004
DATE	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	P,P' DDE DISSOLV (UG/L) (34653)
JUL 29...	<.013	<.003	<.005	<.010	<.007	<.013	<.002	<.001	.0073	<.002	<.005	<.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 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)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT 22...	0730	49	532	8.2	5.5	9.8	1.2	120	140	200	59	13
DEC 08...	1030	65	713	7.9	.000	9.8	<1.0	48	K220	270	77	20
JAN 26...	0500	43	543	--	.000	11.0	<1.0	--	--	--	--	--
26...	1045	43	549	8.2	1.5	11.4	<1.0	--	--	--	--	--
26...	1700	52	567	8.3	4.5	10.1	1.2	--	--	--	--	--
26...	2400	47	546	8.2	.5	9.4	<1.0	--	--	--	--	--
27...	0530	39	564	8.2	.000	11.0	4.0	--	--	--	--	--
FEB 23...	1230	35	660	8.3	6.5	10.7	1.3	K22	33	260	75	18
APR 20...	1045	46	547	8.5	13.0	10.5	<1.0	32	100	210	61	13
JUN 22...	1345	245	364	8.2	19.5	7.4	<1.0	430	500	140	42	8.3
JUL 20...	0505	139	483	8.4	16.0	7.9	<1.0	--	--	--	--	--
20...	1100	123	492	8.0	19.5	7.6	<1.0	--	--	--	--	--
20...	1700	121	502	8.4	22.5	7.1	<1.0	--	--	--	--	--
21...	0005	121	484	8.3	18.0	7.6	<1.0	--	--	--	--	--
21...	0530	123	490	8.3	16.0	8.0	<1.0	--	--	--	--	--
30...	2015	386	283	8.0	20.4	7.1	6.7	>6000	>10000	110	33	6.3
AUG 05...	1150	757	278	8.1	16.5	--	1.6	3500	8500	110	33	6.0
17...	0800	253	348	7.9	14.5	8.3	<1.0	K20	520	130	37	8.0

E Estimated.

K Based on non-ideal colony count.

ARKANSAS RIVER BASIN

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	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)	CYANIDE TOTAL (MG/L AS CN) (00720)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)
OCT												
22...	100	2.4	2.20	.060	.200	.020	<.02	750	3.9	2	1	62
DEC												
08...	150	2.5	2.00	.040	.100	.040	<.020	690	4.6	2	1	90
JAN												
26...	--	--	2.20	<.020	.100	.080	--	--	--	--	--	--
26...	--	--	2.00	<.020	.200	.100	--	--	--	--	--	--
26...	--	--	2.50	.020	.200	.100	--	--	--	--	--	--
26...	--	--	2.40	.030	.200	.100	--	--	--	--	--	--
27...	--	--	2.20	.020	.100	.100	--	--	--	--	--	--
FEB												
23...	150	1.9	2.60	<.020	.200	.080	<.020	1500	2.1	2	1	88
APR												
20...	91	2.0	1.70	<.020	.200	.100	<.020	960	5.2	2	1	66
JUN												
22...	59	2.1	1.20	.030	.200	.040	<.010	2800	17	1	<1	39
JUL												
20...	--	--	1.80	.060	.300	.040	--	--	--	--	--	--
20...	--	--	1.70	.003	.200	.050	--	--	--	--	--	--
20...	--	--	1.80	.100	.200	.050	--	--	--	--	--	--
21...	--	--	1.70	.003	.200	.050	--	--	--	--	--	--
21...	--	--	2.30	.080	.400	.100	--	--	--	--	--	--
30...	52	.76	1.30	.300	2.20	.060	.010	--	5.6	17	1	33
AUG												
05...	52	1.3	.800	.020	.700	.060	.010	--	4.4	12	1	37
17...	63	2.4	1.20	<.020	.100	.040	<.010	1600	18	2	<1	36

DATE	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	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)	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)
OCT												
22...	60	.210	<.1	4	<1.0	3	.83	860	<12	1	<.15	56
DEC												
08...	90	.124	<.1	3	<1.0	2	1.2	780	<12	1	<.15	70
JAN												
26...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
23...	90	.171	.1	2	2.1	4	1.7	1700	<12	4	<.15	100
APR												
20...	70	<.100	<.1	<1	1.0	2	1.1	1400	<12	2	<.15	69
JUN												
22...	40	.164	.1	<1	<1.0	3	--	6000	<12	11	<.15	180
JUL												
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
30...	40	2	<.1	19	1.4	220	1.7	32000	<12	150	<.15	1500
AUG												
05...	40	.583	<.1	6	1.1	17	1.4	17000	24	72	<.15	720
17...	40	.127	<.1	<1	<1.0	2	.82	2100	<12	4	<.15	86





ARKANSAS RIVER BASIN

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	N-NITRO-SODI-N-PROPYL-AMINE TOTAL (UG/L) (34428)	N-NITRO-SODI-METHYL-AMINE TOTAL (UG/L) (34438)	N-NITRO-SODI-PHENYL-AMINE TOTAL (UG/L) (34433)	NAPHTH-ALENE TOTAL (UG/L) (34696)	BENZENE NITRO-WATER UNFLTRD RECOVER (UG/L) (34447)	BENZENE NITRO5 SURROGT SED, BM WS, <2MM DW, REC PERCENT (49280)	PHENAN-THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	BIS(2-CHLORO-ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS(2-CHLORO-ETHYL) UNFLTRD RECOVER (UG/L) (34273)	BIS(2-CHLORO-ISO-PROPYL) ETHER TOTAL (UG/L) (34283)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	--	--	--	--	--	--	--	--	--
JUN 22...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
30...	<5	<5	<5	<5	<5	37.8	<5	<5	<5	<5	<5
AUG 05...	<5	<5	<5	<5	<5	101	<5	<5	<5	<5	<5
17...	--	--	--	--	--	--	--	--	--	--	--

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 02...	1525	48	640	18.5	MAY 07...	1600	584	--	--
21...	1255	49	607	9.0	18...	1130	707	--	9.0
22...	0725	--	--	--	26...	1320	908	--	13.0
NOV 03...	1045	70	--	7.0	JUN 10...	1615	344	342	18.0
12...	1435	68	593	7.5	29...	1525	218	434	21.5
DEC 01...	1300	57	--	9.0	JUL 06...	1515	171	--	25.0
01...	1330	56	560	9.0	15...	1425	118	530	20.5
JAN 20...	1350	46	632	6.5	20...	0505	139	483	16.0
26...	0500	43	543	.000	20...	1100	123	492	19.5
26...	1045	43	549	1.5	20...	1700	121	502	22.5
26...	1700	52	567	4.5	21...	0005	121	484	18.0
26...	2400	47	546	.5	21...	0530	123	490	16.0
27...	0530	39	564	.000	26...	1100	114	537	19.5
FEB 12...	1440	35	815	6.5	AUG 03...	1045	227	432	17.0
MAR 10...	1230	38	722	12.0	09...	1200	486	312	17.5
23...	1200	30	784	15.0	17...	0715	249	409	14.5
29...	1230	34	--	14.5	SEP 01...	1315	143	501	20.5
APR 07...	1345	47	631	17.0	10...	1330	107	557	19.0
23...	1335	318	418	5.0					



07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
OCT 02...	1525	48	275	36
NOV 03...	1045	70	88	17
DEC 01...	1300	57	84	13
JAN 26...	1700	52	202	28
MAR 29...	1230	34	72	6.6
MAY 07...	1600	584	817	1290
18...	1130	707	562	1070
26...	1320	908	1340	3290
JUN 10...	1615	344	764	710
JUL 06...	1515	171	274	127
AUG 03...	1045	227	314	192
SEP 01...	1315	143	297	115

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO-CHLOR, WATER FLTRD (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD (UG/L) (82680)	CARBO- FURAN WATER FLTRD (UG/L) (82674)	CHLOR- PYRIFOS SOLVED (UG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	
JUL 30...	2015	<.003	<.002	<.002	.0200	<.001	<.002	<.002	E.248	<.003	<.004	<.004	
AUG 05...	1150	<.003	<.002	<.002	<.001	<.001	<.002	<.002	E.0216	<.003	<.004	<.004	
DATE	TIME	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DI- ELDRIN, DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONO FOS WATER DISS REC (UG/L) (04095)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)
JUL 30...	E.0016	<.002	.0669	<.001	<.017	<.002	<.004	<.003	<.003	<.003	<.004	<.002	.0247
AUG 05...	<.002	<.002	.0334	<.001	<.017	<.002	<.004	<.003	<.003	<.003	<.004	<.002	.0052
DATE	TIME	METO- LACHLOR WATER FLTRD 0.7 U GF, REC (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)
JUL 30...	<.002	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.004	<.002	E.0164	<.007	<.004
AUG 05...	<.002	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.004	<.002	E.0050	<.007	<.004
DATE	TIME	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BU FOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	P,P' DDE DISSOLV (UG/L) (34653)
JUL 30...	<.013	<.003	.0192	<.010	<.007	<.013	<.002	<.001	.0044	<.002	<.005	<.005	<.006
AUG 05...	<.013	<.003	.0078	<.010	<.007	<.013	<.002	<.001	E.0034	<.002	<.005	<.005	<.006

E Estimated.

## ARKANSAS RIVER BASIN

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	57	279	50	123	368	132	56	---	---
2	52	321	46	75	---	e31	56	---	---
3	45	131	16	75	---	---	e58	---	---
4	46	---	e10	99	---	---	e59	---	---
5	46	88	11	73	---	---	e57	---	---
6	49	106	14	73	---	---	e55	---	---
7	49	---	e14	73	---	---	e51	---	---
8	49	107	14	70	---	---	e50	---	---
9	46	---	e14	71	---	---	e48	---	---
10	47	127	16	66	---	---	e49	---	---
11	48	139	18	57	---	---	e52	---	---
12	45	146	18	67	---	---	60	---	---
13	46	106	13	66	---	---	59	---	---
14	48	---	e14	65	---	---	59	---	---
15	48	134	18	67	---	---	59	---	---
16	47	111	14	65	---	---	61	---	---
17	48	136	17	66	---	---	63	---	---
18	48	145	19	66	---	---	60	---	---
19	48	---	e19	66	---	---	e55	---	---
20	48	139	18	58	---	---	e50	---	---
21	49	131	17	60	---	---	46	---	---
22	50	127	17	64	---	---	e50	---	---
23	49	90	12	62	---	---	e55	---	---
24	53	---	e14	60	---	---	e65	---	---
25	55	134	20	63	---	---	67	---	---
26	58	144	23	60	---	---	72	---	---
27	89	576	252	60	---	---	62	---	---
28	100	486	169	58	---	---	56	---	---
29	56	---	e33	59	---	---	53	---	---
30	58	220	34	56	---	---	56	---	---
31	73	183	37	---	---	---	54	---	---
TOTAL	1650	---	1001	2043	---	---	1753	---	---
	JANUARY			FEBRUARY			MARCH		
1	53	---	---	40	---	---	35	---	---
2	46	---	---	37	---	---	34	---	---
3	e50	---	---	39	---	---	34	---	---
4	e53	---	---	40	---	---	34	---	---
5	56	---	---	41	---	---	35	---	---
6	52	---	---	39	---	---	37	---	---
7	50	---	---	39	---	---	36	---	---
8	49	---	---	41	---	---	37	---	---
9	52	---	---	38	---	---	35	---	---
10	51	---	---	38	---	---	35	---	---
11	54	---	---	34	---	---	32	---	---
12	49	---	---	37	---	---	38	---	---
13	46	---	---	39	---	---	33	---	---
14	45	---	---	38	---	---	32	---	---
15	48	---	---	41	---	---	31	---	---
16	47	---	---	37	---	---	32	---	---
17	46	---	---	39	---	---	32	---	---
18	46	---	---	38	---	---	31	---	---
19	46	---	---	38	---	---	31	---	---
20	45	---	---	38	---	---	30	---	---
21	46	---	---	38	---	---	29	---	---
22	46	---	---	39	---	---	33	---	---
23	45	---	---	38	---	---	30	---	---
24	47	---	---	41	---	---	27	---	---
25	44	---	---	38	---	---	29	---	---
26	47	---	---	34	---	---	28	---	---
27	44	---	---	34	---	---	28	---	---
28	45	---	---	36	---	---	30	---	---
29	41	---	---	---	---	---	32	60	5.2
30	44	---	---	---	---	---	31	36	3.0
31	43	---	---	---	---	---	32	52	4.5
TOTAL	1476	---	---	1069	---	---	1003	---	---

e Estimated.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	48	134	31	3980	---	e70500	573	844	1300
2	92	364	92	1930	---	e25300	523	---	e1260
3	78	302	74	1230	---	e12300	464	---	e1050
4	53	147	21	987	---	e7510	403	---	e854
5	81	---	e38	826	2080	4680	371	723	725
6	56	157	24	688	1360	2530	338	615	563
7	48	78	10	602	915	1490	316	476	406
8	49	71	9.4	608	---	e1300	296	---	e321
9	46	57	7.2	704	---	e1460	293	---	e417
10	41	---	e6.5	805	---	e1610	363	1220	1260
11	40	55	6.0	764	---	e1470	558	3220	10400
12	39	51	5.3	683	---	e1270	517	2060	3080
13	47	127	24	680	---	e1220	385	---	e1470
14	60	328	55	735	---	e1280	479	2070	4400
15	60	---	e48	799	---	e1340	342	980	904
16	45	273	33	826	---	e1340	339	656	598
17	44	---	e30	796	---	e1250	305	548	451
18	46	---	e35	716	549	1060	273	---	e353
19	45	---	e34	649	---	e807	251	389	264
20	47	---	e30	656	383	677	243	339	222
21	173	565	716	653	---	e621	233	555	348
22	408	1490	1890	632	---	e563	233	473	298
23	298	729	642	635	---	e531	248	1170	2700
24	167	372	168	827	1550	6560	509	4330	10100
25	208	---	e200	1790	4290	26400	410	---	e2320
26	156	283	119	932	1480	3760	260	883	623
27	134	274	99	948	1790	5630	236	---	e475
28	195	646	1120	1020	2870	8480	227	---	e410
29	4260	8640	103000	805	1020	2210	218	---	e353
30	7510	---	e275000	722	---	e1720	209	---	e303
31	---	---	---	631	784	1340	---	---	---
TOTAL	14574	---	383567.4	29259	---	198209	10415	---	48228

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	205	---	e266	266	---	e539	143	287	111
2	194	---	e226	225	---	e224	136	220	81
3	178	---	e186	274	502	549	135	207	76
4	172	---	e160	544	---	e8070	134	251	90
5	165	---	e138	1080	---	e15100	127	---	e104
6	168	282	128	788	3260	13600	122	291	96
7	178	305	147	490	1570	2090	115	210	65
8	274	1620	2160	506	1750	2410	109	160	47
9	202	687	401	569	2370	4550	113	168	51
10	157	193	82	454	---	e1410	105	---	e50
11	149	191	77	414	---	e605	108	204	60
12	140	165	63	361	316	310	115	264	82
13	128	---	e56	334	262	236	117	260	82
14	122	188	62	306	254	209	132	369	148
15	121	211	69	285	289	223	154	---	e235
16	216	1240	1800	264	---	e219	134	442	162
17	203	1510	1010	248	205	137	120	209	68
18	252	1590	1890	236	---	e129	108	147	43
19	150	1130	470	388	1220	2950	108	156	46
20	128	648	227	285	---	e420	146	---	e105
21	120	363	118	246	---	e248	121	326	107
22	128	---	e98	241	---	e226	108	226	66
23	122	264	87	216	---	e188	101	218	59
24	116	423	151	205	289	160	96	243	63
25	152	1240	717	198	299	160	97	---	e65
26	116	427	139	211	---	e174	95	---	e62
27	128	---	e233	189	307	157	95	277	71
28	127	599	213	200	325	175	102	490	136
29	139	501	194	206	281	157	91	---	e104
30	420	2170	5610	191	---	e144	84	---	e69
31	721	3320	9440	153	---	e120	---	---	---
TOTAL	5791	---	26618	10573	---	55889	3471	---	2604

e Estimated

ARKANSAS RIVER BASIN

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO

LOCATION (REVISED).--Lat 38°48'11", long 104°47'43", in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.29, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank at downstream side of bridge on Janitell Road below Colorado Springs.

DRAINAGE AREA.--413 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder with satellite telemetry. 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. July 10, 1990 to May 27, 1999 on right bank at upstream side of bridge on Janitell Road at same datum. May 28, 1999 to present at current site and datum.

REMARKS.--Records fair except for estimated daily discharges and those above 1,000 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	295	105	102	108	84	136	3780	730	268	e550	213
2	89	175	107	97	103	86	228	2230	677	257	e360	215
3	88	165	108	96	105	76	186	1800	615	245	439	216
4	94	214	107	113	106	72	138	1130	548	242	893	213
5	91	156	104	128	109	73	181	843	503	238	1400	208
6	95	160	104	119	111	73	132	770	463	237	1010	202
7	96	156	e99	119	112	73	125	690	450	239	612	196
8	97	153	e96	116	115	72	129	764	435	341	650	188
9	91	157	96	122	112	71	125	874	418	270	707	189
10	97	140	95	121	109	70	117	885	495	227	563	180
11	94	136	96	120	104	70	105	831	e600	216	532	176
12	88	133	98	115	111	75	85	735	e550	203	488	169
13	81	127	98	111	117	71	96	726	e490	188	454	167
14	80	130	98	111	112	70	110	781	e580	178	424	162
15	105	136	96	116	120	91	134	865	e450	177	396	168
16	116	132	97	120	111	97	114	848	e420	307	372	147
17	120	132	101	115	111	101	115	781	397	287	359	130
18	121	130	100	115	112	99	119	682	350	319	355	120
19	128	132	93	112	109	104	113	627	330	220	567	171
20	122	130	88	112	113	102	109	630	552	210	423	278
21	111	139	86	117	113	97	233	617	344	192	366	231
22	99	138	91	115	111	111	513	602	381	194	332	176
23	102	122	93	114	108	104	405	584	e302	184	287	228
24	109	111	97	120	111	97	213	892	743	180	257	221
25	112	112	106	114	105	102	273	e2000	e500	208	247	244
26	116	111	129	118	96	97	197	e1020	368	176	249	236
27	175	108	117	113	101	99	175	e1000	330	e190	235	233
28	244	108	118	115	105	105	241	e1100	306	e210	241	251
29	144	110	115	108	---	103	4580	941	283	e200	265	241
30	141	107	116	116	---	100	10300	858	270	e500	231	234
31	162	---	110	114	---	100	---	783	---	e800	215	---
TOTAL	3511	4255	3164	3544	3060	2745	19727	31669	13880	7903	14479	6003
MEAN	113	142	102	114	109	88.5	658	1022	463	255	467	200
MAX	244	295	129	128	120	111	10300	3780	743	800	1400	278
MIN	80	107	86	96	96	70	85	584	270	176	215	120
AC-FT	6960	8440	6280	7030	6070	5440	39130	62820	27530	15680	28720	11910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
MEAN	102	97.9	76.9	81.3	90.0	103	186	329	270	156	183	120
MAX	179	144	140	122	121	161	658	1022	693	319	467	200
(WY)	1995	1998	1998	1998	1998	1998	1998	1999	1999	1997	1995	1999
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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1990 - 1999
ANNUAL TOTAL	59468	113940	
ANNUAL MEAN	163	312	157
HIGHEST ANNUAL MEAN			312
LOWEST ANNUAL MEAN			76.0
HIGHEST DAILY MEAN	576	Jul 30	10300
LOWEST DAILY MEAN	63	Jul 21	70
ANNUAL SEVEN-DAY MINIMUM	77	Sep 24	71
INSTANTANEOUS PEAK FLOW			13800
INSTANTANEOUS PEAK STAGE			10.55
ANNUAL RUNOFF (AC-FT)	118000	226000	113900
10 PERCENT EXCEEDS	279	661	254
50 PERCENT EXCEEDS	127	136	98
90 PERCENT EXCEEDS	90	96	54

e Estimated

a Maximum gage height, 11.11 ft, Sep.2, 1994.

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.  
 WATER TEMPERATURE: October 1990 to January 1998.  
 pH: October 1990 to January 1998.  
 DISSOLVED OXYGEN: October 1990 to January 1998.

EXTREMES FOR PERIOD OF DAILY 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, 11.3 mg/l, May 5, 1991; minimum, 4.4 mg/l, Mar. 28, 1991.

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 WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	
MAR	31...	1405	260	549	7.8	11.0	8.6	4.0	K9	68	41	14	--
APR	21...	1415	243	514	8.0	13.5	8.2	2.0	K10	K42	42	14	98
JUN	23...	1130	127	677	7.8	20.5	--	3.3	250	250	49	17	140
JUL	28...	0630	102	612	8.0	17.5	7.4	<2.0	--	--	--	--	--
	28...	1200	179	635	7.9	21.0	7.1	<2.0	--	--	--	--	--
	28...	1830	146	644	7.8	20.0	7.4	<2.0	--	--	--	--	--
AUG	19...	1330	227	594	7.7	20.5	7.0	2.2	700	K2100	48	16	130

DATE	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	PHOS-PHORUS TOTAL (MG/L) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L) (01105)	ALUM-INUM, DIS-SOLVED (UG/L) (01106)	ARSENIC TOTAL (UG/L) (01002)	ARSENIC DIS-SOLVED (UG/L) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L) (01022)	BORON, DIS-SOLVED (UG/L) (01020)	
MAR	31...	1.8	2.80	.430	--	1220	6.3	2	1	100	100	
APR	21...	1.7	2.30	.200	--	1680	5.6	2	<1	100	100	
JUN	23...	2.0	2.50	--	.203	.046	1400	12	2	1	170	183
JUL	28...	--	2.30	--	--	--	--	--	--	--	--	
	28...	--	2.40	--	--	--	--	--	--	--	--	
	28...	--	3.90	.600	--	--	--	--	--	--	--	
AUG	19...	2.0	2.60	.200	--	--	--	4	2	120	129	

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L) (01027)	CADMIUM DIS-SOLVED (UG/L) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L) (01030)	COPPER, TOTAL RECOV-ERABLE (UG/L) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L) (01051)	LEAD, DIS-SOLVED (UG/L) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	
MAR	31...	.201	<.070	3	<1.0	6.0	2215	24.0	6	.26	135	30
APR	21...	.228	<.070	3	<1.0	--	2990	<12.0	6	.21	152	30
JUN	23...	--	<.1	4	1.3	6.6	3300	19	8	.43	130	37
JUL	28...	--	--	--	--	--	--	--	--	--	--	
	28...	--	--	--	--	--	--	--	--	--	--	
	28...	--	--	--	--	--	--	--	--	--	--	
AUG	19...	.530	<.1	3	<1.0	--	5000	<12	26	.36	130	18

K Based on non-ideal colony count.

ARKANSAS RIVER BASIN

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD, BELOW COLORADO SPRINGS, CO--Continued

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

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)
MAR 31...	<.100	<.100	3.2	4.8	5	6	<.200	<.200	38.0	20	--
APR 21...	<.100	<.100	4.5	2.87	6	4	<.200	<.200	37.0	20	--
JUN 23...	<.10	<.100	7.1	5.0	5	5	<.2	<.2	60	33	<.010
JUL 28...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	<.10	<.1	--	7.0	7	.750	<.200	<.20	70	30	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 22...	1000	109	670	7.8	14.0	8.3	2.4	K230	81	50	18	160
DEC 08...	0845	88	778	8.1	8.0	9.0	2.1	120	K260	57	21	170
JAN 26...	0615	79	662	--	5.5	9.9	1.6	--	--	--	--	--
JAN 26...	1215	125	651	7.8	10.5	9.4	2.9	--	--	--	--	--
JAN 26...	1830	123	677	7.9	8.5	8.9	4.0	--	--	--	--	--
JAN 27...	0130	107	677	7.9	6.5	8.7	2.2	--	--	--	--	--
JAN 27...	0630	74	685	7.9	5.0	8.7	1.5	--	--	--	--	--
FEB 23...	1045	107	679	7.7	12.0	9.4	3.5	K32	170	48	19	140
APR 20...	1200	137	659	7.9	16.5	9.4	3.0	--	--	52	16	120
JUN 22...	1215	449	534	8.0	18.0	7.7	1.8	660	470	51	14	100
JUL 20...	0640	212	593	8.1	16.0	7.8	1.5	--	--	--	--	--
JUL 20...	1210	212	644	8.1	21.5	7.3	1.4	--	--	--	--	--
JUL 20...	1830	198	634	8.1	21.5	6.9	3.6	--	--	--	--	--
JUL 21...	0130	187	587	8.3	18.0	7.5	1.4	--	--	--	--	--
JUL 21...	0630	181	578	8.1	16.0	8.1	<1.0	--	--	--	--	--
AUG 16...	1445	375	493	7.8	19.0	7.7	<1.0	E300	440	44	13	100

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	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)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 22...	1.9	3.00	.050	.400	.2	536	8.4	2	2	180	183	<.100
DEC 08...	1.9	2.90	.050	.700	.600	220	13	2	2	230	234	<.100
JAN 26...	--	4.70	.070	.400	.300	--	--	--	--	--	--	--
JAN 26...	--	3.20	.030	.200	.080	--	--	--	--	--	--	--
JAN 26...	--	4.30	.350	.300	.100	--	--	--	--	--	--	--
JAN 27...	--	4.60	.100	.300	.200	--	--	--	--	--	--	--
JAN 27...	--	4.00	.040	.200	.100	--	--	--	--	--	--	--
FEB 23...	1.8	3.30	.060	.200	.200	200	23	2	2	260	263	<.100
APR 20...	1.8	2.50	.020	.500	.400	400	19	2	2	210	211	.125
JUN 22...	2.0	1.70	.080	.300	.060	2400	17	1	<1	100	111	.149
JUL 20...	--	2.00	.150	.300	.200	--	--	--	--	--	--	--
JUL 20...	--	2.00	.050	.200	.050	--	--	--	--	--	--	--
JUL 20...	--	2.10	1.00	.200	.100	--	--	--	--	--	--	--
JUL 21...	--	2.00	.120	.200	.100	--	--	--	--	--	--	--
JUL 21...	--	2.00	.050	.200	.080	--	--	--	--	--	--	--
AUG 16...	2.1	2.20	.040	.300	.200	1700	16	2	1	90	86	.137

E Estimated.  
K Based on non-ideal colony count.

ARKANSAS RIVER BASIN

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD, BELOW COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	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)
OCT 22...	<.1	1.8	<1.0	5	2.5	520	21	4	.39	32	15
DEC 08...	<.1	3	1.6	6	3.8	290	28	1	.34	35	24
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	<.1	2	2.3	6	3.9	270	34	1	.63	54	45
APR 20...	<.1	<1	<1.0	5	3.5	570	28	2	.62	56	37
JUN 22...	--	<1.00	<1.0	4	1.9	3700	12	6	.15	140	34
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	--	--	--	--	--	--	--	--	--	--	--
AUG 16...	<.1	1	<1.0	5	1.4	2700	<12	5	<.15	120	31

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)
OCT 22...	<.10	<.1	9	6.3	--	--	<.200	<.20	50	42	<.02
DEC 08...	--	<.1	--	--	--	--	<.200	<.20	50	47	<.020
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	<.10	<.1	--	--	--	--	<.200	<.20	60	54	<.020
APR 20...	--	<.1	5	4.2	6	6	<.200	<.20	50	50	<.020
JUN 22...	<.10	<.1	5	6.5	5	6	<.200	<.20	40	17	<.010
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	--	--	--	--	--	--	--	--	--	--	--
AUG 16...	<.10	<.1	2	2.1	6	3	<.200	<.20	31	16	<.010

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 02...	1445	93	676	20.0	MAY 14...	1425	784	251	13.0
OCT 21...	1140	150	645	14.5	JUN 01...	1350	723	652	16.5
NOV 12...	1330	144	625	11.0	JUN 10...	1455	463	557	17.5
DEC 01...	1430	109	628	13.0	JUN 29...	1430	289	624	20.5
JAN 06...	1440	134	692	10.0	JUL 15...	1300	180	680	20.0
JAN 20...	1250	137	679	10.5	JUL 26...	0930	180	685	18.5
FEB 12...	1335	110	720	11.5	AUG 02...	1650	340	697	20.5
MAR 10...	1135	73	685	14.0	AUG 16...	1530	369	644	20.0
APR 07...	1240	142	642	16.0	SEP 10...	1200	185	772	19.0
APR 23...	1240	446	479	5.0	SEP 22...	1045	224	760	16.5





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.
- WATER TEMPERATURE: October 1990 to January 1998.
- pH: October 1990 to January 1998.
- DISSOLVED OXYGEN: October 1990 to January 1998.
- SUSPENDED SEDIMENT DISCHARGE: April 1998 to current year (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since April 1998.

REMARKS.--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.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--

- SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,570 mg/L, June 30, 1998; minimum daily mean, 51 mg/L, Sept. 29, 1998.
- SEDIMENT LOAD: Maximum daily, 13,700 tons, July 30, 1998; minimum daily, 12 tons (estimated), Sept. 28, 1998.

EXTREMES FOR CURRENT SEASON.--

- SEDIMENT CONCENTRATION: Maximum daily mean, 7,410 mg/L, June 24; minimum daily mean, 43 mg/L, Mar. 29.
- SEDIMENT LOAD: Maximum daily, 400,000 tons (estimated), Apr. 30; minimum daily, 14 tons, Mar. 29.

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

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECCAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCHI KF AGAR PER (MG/L) (31673)	CALCIUM DIS-SOLVED (MG/L) (AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (AS MG) (00925)	
APR												
01...	1345	264	600	8.2	12.5	8.5	7.0	E18	130	46	15	
22...	1315	290	583	8.3	15.0	8.1	6.0	K20	100	46	15	
JUN												
23...	1330	146	712	8.2	23.5	--	2.9	K120	K110	54	17	
JUL												
29...	2100	1070	325	8.0	19.5	6.9	12	>1200	>2000	31	6.8	
AUG												
20...	0945	134	649	8.0	18.0	7.3	<3.0	350	370	54	17	
DATE		SULFATE DIS-SOLVED (MG/L) (AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L) (AS F) (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (AS N) (00608)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L) (AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L) (AS AL) (01106)	ARSENIC TOTAL (UG/L) (AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L) (AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L) (AS B) (01022)	BORON, DIS-SOLVED (UG/L) (AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L) (AS CD) (01027)
APR												
01...	--	1.8	2.80	.800	--	6.9	3	1	110	100	.354	
22...	120	1.8	2.70	--	--	6.6	2	1	110	120	.155	
JUN												
23...	150	2.0	3.10	--	--	8.7	3	1	170	174	--	
JUL												
29...	--	.70	1.40	.200	--	5.2	19	2	60	46	3	
AUG												
20...	170	2.1	2.60	.090	1600	7.1	5	3	130	124	.344	
DATE		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)	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)
APR												
01...	<.070	4	<1.0	9.31	2.75	4400	<12.0	7	.34	150	20	
22...	<.1	3	<1.0	--	--	4400	<12	7	.31	150	16	
JUN												
23...	<.1	--	<1.0	--	--	4600	<12	8	.39	120	6.0	
JUL												
29...	<.1	23	<1.0	65	--	64000	<12	240	<.15	1800	10	
AUG												
20...	<.1	3	<1.0	7	2.4	4000	<12	8.4	.37	110	6.0	

K Based on non-ideal colony count.



07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

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

DATE	N-NITRO-SODI-N-PROPYLAMINE TOTAL (UG/L) (34428)	N-NITRO-SODI-METHYLAMINE TOTAL (UG/L) (34438)	N-NITRO-SODI-PHENYLAMINE TOTAL (UG/L) (34433)	NAPHTH-ALENE TOTAL (UG/L) (34696)	BENZENE-NITRO-WATER UNFLTRD RECOVER (UG/L) (34447)	PHENAN-THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	BIS(2-CHLORO-ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS(2-CHLORO-ETHYL) ETHER UNFLTRD RECOVER (UG/L) (34273)	BIS(2-CHLORO-ISO-PROPYL) ETHER TOTAL (UG/L) (34283)
APR 01...	--	--	--	--	--	--	--	--	--	--
APR 22...	--	--	--	--	--	--	--	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--
JUL 29...	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
AUG 20...	--	--	--	--	--	--	--	--	--	--

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE (DEG C) (00010)	2,6-DI-ETHYL ANILINE WAT FLT GF, REC (82660)	ACETO-CHLOR, WATER, FLTRD REC (49260)	ALA-CHLOR, WATER, REC (46342)	ATRA-ZINE, WATER, DISS, REC (39632)	METHYL-AZIN- PHOS WAT FLT GF, REC (82686)	BEN-FLUR-ALIN WAT FLD GF, REC (82673)	BUTYL-ATE, WATER, DISS, REC (04028)	
JUL 29...	2100	1070	19.5	<.003	<.002	<.002	.0086	<.001	<.002	<.002	
DATE		CAR-BARYL WATER FLTRD 0.7 U GF, REC (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (82674)	CHLOR-PYRIFOS DIS- SOLVED (38933)	CYANA-ZINE, WATER, REC (04041)	DCPA WATER, FLTRD 0.7 U GF, REC (82682)	DEETHYL- ATRA-ZINE, WATER, DISS, REC (04040)	DI-AZINON, DIS- SOLVED (39572)	DI-ELDRIN DIS- SOLVED (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (82677)	EPTC WATER FLTRD 0.7 U GF, REC (82668)
JUL 29...	E1.11	<.003	<.004	<.004	E.0037	<.002	.134	<.001	<.017	<.002	
DATE		ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (82672)	FONOFOFOS WATER DISS SOLVED (04095)	LINDANE DIS- SOLVED (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (82666)	MALA-THION, DIS- SOLVED (39532)	METO-LACHLOR WATER DISSOLV (39415)	METRI-SENCOR WATER DISSOLV (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (82684)
JUL 29...		<.004	<.003	<.003	<.004	<.002	.0221	<.007	<.004	<.013	<.003
DATE		PARA-THION, DIS- SOLVED (39542)	METHYL-PARA-THION WAT FLT 0.7 U GF, REC (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (82683)	PHORATE WATER FLTRD 0.7 U GF, REC (82664)	PRO-METON, WATER, DISS, REC (04037)	PROP-CHLOR, WATER, DISS, REC (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (82685)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (82676)
JUL 29...		<.005	<.010	<.007	<.013	<.002	<.001	.0064	<.002	<.005	<.006
DATE		SI-MAZINE, WATER, DISS, REC (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (82661)	PER-METHRIN CIS BHC DIS- SOLVED (34253)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (82687)	P,P' DDE DISSOLV (34653)
JUL 29...		<.005	<.010	<.007	<.013	<.002	<.001	.0064	<.002	<.005	<.006

E Estimated.

ARKANSAS RIVER BASIN

07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS./100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	
OCT	22...	1145	108	816	8.2	12.5	8.6	1.8	K620	130	66	23	250
DEC	10...	0915	93	729	8.3	2.5	11.2	1.8	K82	92	65	22	160
FEB	23...	0915	72	750	8.3	4.5	11.7	2.9	K22	62	63	20	210
APR	20...	0915	85	760	8.2	11.0	9.5	2.00	48	37	63	19	150
JUN	22...	1015	379	556	8.2	18.0	8.2	1.5	460	420	54	14	110
JUL	30...	1930	1390	376	7.8	20.3	6.8	16	>6000	>10000	39	9.1	71
AUG	05...	1005	E1180	333	8.0	17.4	--	3.0	7000	30000	33	7.7	69
	16...	1300	466	572	8.1	20.5	7.4	<1.0	E180	420	49	15	140

DATE	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L) AS AL (01105)	ALUM-INUM, DIS-SOLVED (UG/L) AS AL (01106)	ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS-SOLVED (UG/L) AS AS (01000)	BORON, TOTAL RECOV-ERABLE (UG/L) AS B (01022)	BORON, DIS-SOLVED (UG/L) AS B (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS CD (01027)	
OCT	22...	1.9	4.20	.100	.500	.200	930	6.3	3	2	160	165	.142
DEC	10...	2.0	3.60	.08	.500	.500	186	6.8	2	2	160	163	.129
FEB	23...	1.6	4.20	.210	.300	.080	430	9.8	2	2	210	210	.106
APR	20...	1.7	3.30	.120	.800	.700	460	12	2	2	190	186	.190
JUN	22...	2.0	1.80	.060	.400	.200	2160	16	2	1	100	104	<.100
JUL	30...	1.2	1.30	.100	6.9	.040	--	7.7	94.3	3	100	63	7
AUG	05...	1.2	.700	.080	2.30	.060	--	7.1	16	1	70	53	1
	16...	2.0	2.00	.070	.300	.100	2600	14	3	1	120	114	.236

DATE	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)	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)	
OCT	22...	<.1	9	<1.0	8	3.1	1200	<12	3	.44	56	8.0
DEC	10...	.10	3	1.3	4.8	3.2	700	15	1	1.2	40	40
FEB	23...	<.1	2	2.0	6	3.5	720	27	1	.47	73	52
APR	20...	<.1	1	1.1	5	3.2	760	23	2	.59	56	30
JUN	22...	<.1	<1	<1.0	2	1.5	3800	<12	<1	.17	113	7.0
JUL	30...	<.1	44	2.1	120	1.4	--	<12	540	<.15	5200	48
AUG	05...	<.1	18	1.1	43	1.3	--	16	110	<.15	1900	3.0
	16...	<.1	2	<1.0	9	2.0	4300	<12	9	<.15	150	6.0

E Estimated.  
K Based on non-ideal colony count.



ARKANSAS RIVER BASIN

07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	1,2,5,6-DIBENZ-ANTHRA-CENE TOTAL (UG/L) (34556)	DIETHYL-PHTHAL-ATE TOTAL (UG/L) (34336)	DI-METHYL-PHTHAL-ATE TOTAL (UG/L) (34341)	FLUOR-ANTHENE TOTAL (UG/L) (34376)	FLUOR-ENE TOTAL (UG/L) (34381)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CYCLOPE-NTADIEN-HEXA-CHLORO-UNFLTRD RECOVER (UG/L) (34386)	ETHANE-HEXA-CHLORO-WATER UNFLTRD RECOVER (UG/L) (34396)	INDENO(1,2,3-CD) TOTAL (UG/L) (34403)	ISO-PHORONE TOTAL (UG/L) (34408)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	--	--	--	--	--	--	--	--	--
JUN 22...	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5
AUG 05...	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5
AUG 16...	--	--	--	--	--	--	--	--	--	--	--

DATE	N-NITRO-SODI-N-PROPYL-AMINE TOTAL (UG/L) (34428)	N-NITRO-METHYL-AMINE TOTAL (UG/L) (34438)	N-NITRO-PHENYL-AMINE TOTAL (UG/L) (34433)	NAPHTH-ALENE TOTAL (UG/L) (34696)	BENZENE-NITRO-WATER UNFLTRD RECOVER (UG/L) (34447)	BENZENE-NITRO5 SURROGT WS, <2MM PERCENT (49280)	PHENAN-THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	BIS(2-CHLORO-ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS(2-CHLORO-ETHYL) ETHER UNFLTRD RECOVER (UG/L) (34273)	BIS(2-CHLORO-ISO-PROPYL) ETHER TOTAL (UG/L) (34283)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	--	--	--	--	--	--	--	--	--
JUN 22...	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	<5	<5	<5	<5	<5	74.8	<5	<5	<5	<5	<5
AUG 05...	<5	<5	<5	<5	<5	99.0	<5	<5	<5	<5	<5
AUG 16...	--	--	--	--	--	--	--	--	--	--	--

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 07...	1545	108	773	18.5	JUN 01...	1235	777	415	15.5
NOV 03...	0945	171	--	9.0	JUN 10...	1235	513	--	15.5
NOV 12...	1230	170	762	10.0	JUN 10...	1245	504	470	15.5
DEC 01...	1155	123	758	11.0	JUN 29...	1305	301	588	22.5
JAN 06...	1545	149	808	9.5	JUL 06...	1315	231	--	22.0
JAN 20...	1500	144	796	10.5	JUL 06...	1330	234	643	22.0
FEB 16...	1335	133	805	9.5	JUL 15...	1140	182	685	23.0
MAR 10...	1350	91	817	15.0	AUG 02...	1500	389	650	20.0
MAR 29...	1100	98	--	13.0	AUG 02...	1515	384	--	20.0
APR 05...	1600	217	755	17.0	AUG 05...	1300	951	--	18.5
APR 05...	1615	216	--	17.0	AUG 09...	1410	701	489	21.0
APR 23...	1040	528	590	5.0	AUG 16...	1245	461	568	20.0
MAY 07...	1430	804	--	13.5	AUG 22...	1230	258	738	17.5
MAY 26...	1200	901	--	12.5	AUG 23...	1420	343	623	22.5
					SEP 10...	1330	223	725	21.5
					SEP 22...	1230	258	738	17.5

07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT 07...	1545	108	18.5	84	24
NOV 03...	0945	171	9.0	104	48
DEC 01...	1130	118	11.0	57	18
JAN 26...	2130	134	4.5	114	41
MAR 29...	1100	98	13.0	39	10
APR 05...	1615	216	17.0	327	191
MAY 07...	1430	804	13.5	1290	2800
26...	1200	901	12.5	1580	3840
JUN 10...	1235	513	15.5	667	924
JUL 06...	1315	231	22.0	374	233
AUG 02...	1515	384	20.0	717	743
05...	1300	951	18.5	2810	7220
SEP 10...	1330	223	21.5	103	62

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (82660)	ACETO-CHLOR, WATER, FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	
JUL 30...	1930	1390	20.3	<.003	<.002	<.002	<.007	<.001	<.002	<.002	
AUG 05...	1005	E1180	17.4	<.003	<.002	<.002	<.001	<.001	<.002	<.002	
DATE	TIME	CAR-BARYL WATER FLTRD 0.7 U GF, REC (82680)	CARBO-FURAN WATER CHLOR-PYRIFOS FLTRD 0.7 U GF, REC (82674)	CYANA-WATER, DISS, REC (UG/L) (04041)	DCPA WATER, FLTRD 0.7 U GF, REC (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DISS, SOLVED (UG/L) (39572)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (82677)	EPTC WATER FLTRD 0.7 U GF, REC (82668)	
JUL 30...	E.385	<.003	<.004	<.004	E.0018	<.002	.119	<.001	<.017	<.002	
AUG 05...	E.0251	<.003	<.004	<.004	<.002	<.002	.0365	<.001	<.017	<.002	
DATE	TIME	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (82663)	ETHO-PROP WATER FONOPOS FLTRD 0.7 U GF, REC (82672)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER, FLTRD 0.7 U GF, REC (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZZIN WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (82684)	
JUL 30...	<.004	<.003	<.003	<.004	<.002	.0219	<.002	<.004	<.004	<.003	
AUG 05...	<.004	<.003	<.003	<.004	<.002	<.005	<.002	<.004	<.004	<.003	
DATE	TIME	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (82683)	PHORATE WATER, FLTRD 0.7 U GF, REC (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (82685)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (82676)
JUL 30...	<.004	<.006	<.004	<.004	<.002	.0326	<.007	<.004	<.013	<.003	
AUG 05...	<.004	<.006	<.004	<.004	<.002	<.018	<.007	<.004	<.013	<.003	

E Estimated.

ARKANSAS RIVER BASIN

07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U DIS-SOLVED (UG/L) (82661)	ALPHA-BHC (UG/L) (34253)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	P,P'-DDE DISSOLV (UG/L) (34653)
JUL 30...	.0156	<.010	<.007	<.013	<.002	<.001	.0054	<.002	<.005	<.006
AUG 05...	<.005	<.010	<.007	<.013	<.002	<.001	<.002	<.002	<.005	<.006

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
	OCTOBER			NOVEMBER			DECEMBER		
1	129	152	53	325	570	653	122	---	---
2	126	---	e56	195	111	59	124	---	---
3	110	---	e55	183	124	63	125	---	---
4	120	180	58	207	---	---	125	---	---
5	113	134	41	166	---	---	122	---	---
6	115	109	34	164	---	---	125	---	---
7	112	94	28	159	---	---	121	---	---
8	110	---	e38	157	---	---	109	---	---
9	102	160	44	156	---	---	113	---	---
10	104	190	54	147	---	---	114	---	---
11	99	196	52	149	---	---	112	---	---
12	94	159	40	148	---	---	120	---	---
13	84	---	e25	150	---	---	116	---	---
14	83	98	22	150	---	---	111	---	---
15	95	158	41	149	---	---	109	---	---
16	103	156	43	146	---	---	109	---	---
17	98	173	46	148	---	---	111	---	---
18	114	---	e61	148	---	---	114	---	---
19	138	185	68	147	---	---	106	---	---
20	137	138	51	148	---	---	103	---	---
21	130	285	99	151	---	---	104	---	---
22	109	344	101	148	---	---	110	---	---
23	114	---	e80	143	---	---	116	---	---
24	116	223	71	133	---	---	122	---	---
25	117	357	113	127	---	---	125	---	---
26	121	279	90	125	---	---	137	---	---
27	181	580	614	121	---	---	135	---	---
28	250	---	e587	122	---	---	130	---	---
29	164	123	55	125	---	---	124	---	---
30	150	172	70	121	---	---	118	---	---
31	161	157	68	---	---	---	114	---	---
TOTAL	3799	---	2858	4658	---	---	3646	---	---



07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	111	---	---	123	---	---	104	---
2	104	---	---	117	---	---	100	---	---									
3	104	---	---	120	---	---	93	---	---									
4	113	---	---	121	---	---	86	---	---									
5	134	---	---	125	---	---	88	---	---									
6	130	---	---	123	---	---	88	---	---									
7	129	---	---	122	---	---	88	---	---									
8	127	---	---	124	---	---	87	---	---									
9	131	---	---	123	---	---	86	---	---									
10	133	---	---	122	---	---	88	---	---									
11	135	---	---	118	---	---	84	---	---									
12	129	---	---	115	---	---	91	---	---									
13	125	---	---	127	---	---	86	---	---									
14	120	---	---	123	---	---	85	---	---									
15	125	---	---	127	---	---	103	---	---									
16	124	---	---	125	---	---	112	---	---									
17	122	---	---	125	---	---	118	---	---									
18	122	---	---	124	---	---	117	---	---									
19	122	---	---	127	---	---	122	---	---									
20	123	---	---	128	---	---	119	---	---									
21	127	---	---	127	---	---	112	---	---									
22	126	---	---	131	---	---	121	---	---									
23	124	---	---	122	---	---	122	---	---									
24	130	---	---	131	---	---	108	---	---									
25	125	---	---	126	---	---	110	---	---									
26	126	---	---	116	---	---	105	---	---									
27	123	---	---	117	---	---	103	---	---									
28	127	---	---	122	---	---	107	---	---									
29	119	---	---	---	---	---	108	43	14									
30	129	---	---	---	---	---	105	57	16									
31	127	---	---	---	---	---	104	95	27									
TOTAL	3846	---	---	3451	---	---	3150	---	---									

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			MAY			JUNE		
										1	121	233	124	e4000	---	e92000	760	848
2	241	963	668	e2790	---	e45000	700	---	e1260									
3	197	---	e397	e2140	---	e23000	658	603	1070									
4	158	---	e213	e965	---	e8000	573	483	746									
5	196	393	209	e884	---	e5100	521	412	579									
6	144	---	e154	e790	---	e3570	485	444	582									
7	129	235	82	e764	---	e2690	473	---	e500									
8	127	242	83	779	1010	2110	452	374	457									
9	127	---	e86	737	976	1940	421	372	425									
10	117	257	81	931	894	2240	533	590	840									
11	112	---	e63	916	761	1890	618	2360	7940									
12	93	164	41	831	685	1540	835	---	e7090									
13	89	193	47	838	667	1520	636	---	e2510									
14	114	---	e61	924	890	2230	573	1720	3850									
15	127	---	e68	996	1130	3030	572	1240	1910									
16	118	---	e64	1020	---	e2690	526	1120	1590									
17	116	---	e63	1000	734	1980	440	---	e988									
18	120	---	e65	920	644	1600	400	544	587									
19	115	200	62	856	573	1320	370	462	461									
20	112	147	45	851	---	e1500	372	491	492									
21	222	977	2590	842	599	1360	367	495	491									
22	818	3660	9850	821	534	1180	376	---	e465									
23	600	1350	2710	796	---	e1090	345	413	385									
24	167	---	e259	e1000	---	e5300	694	7410	17200									
25	263	---	e487	e2100	---	e6500	883	2670	6570									
26	145	---	e291	e1050	---	e2900	e490	---	e1400									
27	120	---	e204	914	2490	7560	e330	---	e485									
28	130	576	253	1150	1450	4740	e298	---	e382									
29	e6000	---	e116000	869	---	e2110	287	424	329									
30	e11000	---	e400000	806	800	1740	278	362	271									
31	---	---	---	784	1130	2400	---	---	---									
TOTAL	22138	---	535320	35064	---	241830	15266	---	63595									

## ARKANSAS RIVER BASIN

07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	287	---	e271	570	---	e2280	224	---	e189
2	290	325	256	392	800	845	221	---	e159
3	262	---	e198	576	1080	3150	221	---	e135
4	249	---	e193	e1070	---	e16200	220	---	e114
5	227	300	184	e1800	---	e11000	223	---	e98
6	217	328	193	e1500	---	e20000	221	---	e86
7	218	---	e152	e700	---	e6000	219	---	e78
8	403	---	e2900	e750	---	e3310	217	---	e71
9	417	---	e1310	e800	---	e4900	224	---	e68
10	335	---	e491	e610	---	e2810	219	98	58
11	279	---	e325	604	990	1610	220	---	e48
12	245	---	e259	530	---	e1070	221	93	56
13	209	---	e214	522	506	714	238	116	75
14	187	---	e185	482	482	628	242	141	97
15	178	354	170	460	416	517	277	410	328
16	365	1120	2590	440	367	436	271	---	e260
17	523	1760	4240	407	---	e320	266	---	e137
18	498	1650	2990	393	226	240	254	113	77
19	326	1280	1160	582	1280	4260	241	102	67
20	239	832	538	614	1230	2080	284	152	117
21	230	---	e323	477	612	788	241	---	e98
22	223	---	e187	383	---	e608	232	107	67
23	214	220	127	320	---	e462	226	119	72
24	204	255	148	293	---	e386	218	91	53
25	235	---	e414	289	---	e347	217	---	e49
26	200	435	239	304	---	e333	210	---	e49
27	201	---	e186	293	---	e292	202	112	62
28	233	---	e599	312	---	e284	224	199	121
29	226	882	596	373	---	e597	220	168	99
30	386	1880	4120	291	---	e425	226	---	e83
31	1760	4650	42300	239	---	e239	---	---	---
TOTAL	10066	---	68058	17376	---	87131	6939	---	3071

e Estimated

07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO

LOCATION.--Lat 38°41'04", long 104°41'17", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/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 ft<sup>3</sup>/s, gage height, unknown.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.5	1.8	1.6	1.5	1.2	1.8	43	3.2	1.1	115	3.0
2	1.3	2.3	1.8	1.5	e1.4	1.3	2.0	19	2.8	.97	16	3.1
3	1.3	2.2	1.8	1.5	1.5	1.3	1.8	10	2.6	.89	7.1	3.2
4	1.3	2.1	1.7	e1.3	1.6	1.2	1.7	7.4	2.5	.88	13	3.0
5	1.4	2.0	1.7	1.5	1.5	1.1	1.8	5.7	2.4	.96	68	2.9
6	1.5	2.0	1.7	1.5	1.5	1.1	2.0	4.2	2.2	3.0	30	2.9
7	1.5	2.0	1.7	1.5	1.5	1.1	2.1	3.5	2.1	2.3	9.4	2.9
8	1.5	2.0	e1.6	1.5	1.4	1.1	2.2	3.4	1.9	4.3	6.2	2.9
9	1.6	2.0	1.7	1.4	1.4	1.1	2.3	3.3	2.0	3.9	5.2	3.0
10	1.6	2.0	1.7	1.4	1.2	1.1	2.3	3.2	2.1	2.9	4.5	2.9
11	1.6	1.9	e1.6	1.4	e1.1	1.1	2.3	3.1	2.1	2.3	3.7	3.2
12	1.7	1.9	1.6	1.4	e.90	1.1	2.3	2.9	17	2.0	3.4	2.8
13	1.7	1.9	1.6	1.4	e1.2	1.1	2.4	e2.5	3.9	1.9	3.2	2.6
14	1.7	1.9	1.6	e1.3	1.3	1.1	2.5	e2.3	3.0	1.8	3.0	2.5
15	1.8	1.9	1.6	1.5	1.3	1.1	2.7	e2.1	2.7	1.8	2.8	2.5
16	1.8	1.9	1.6	1.5	e1.3	1.1	2.8	e1.9	2.3	4.9	2.8	2.5
17	1.8	1.9	1.6	1.5	1.3	1.1	2.9	e2.0	2.2	22	2.7	2.3
18	1.7	1.9	1.5	e1.3	1.3	1.1	3.0	e2.0	1.9	17	2.8	2.2
19	1.7	1.9	1.6	1.5	1.2	1.1	3.2	e2.0	1.8	5.7	2.9	2.5
20	1.8	1.9	1.8	1.4	1.1	1.1	3.3	e2.5	1.7	4.1	3.1	2.8
21	1.9	1.9	e1.4	1.4	e1.2	1.0	3.8	e2.3	1.6	3.3	3.2	2.8
22	1.8	1.8	e1.5	1.4	1.2	1.0	4.0	e2.0	1.7	3.0	3.3	2.5
23	1.8	1.8	e1.4	1.5	e1.2	.97	6.1	e2.0	1.6	2.7	3.7	2.4
24	1.9	1.9	e1.3	1.3	1.3	.96	3.4	e1.8	1.7	2.6	3.8	2.4
25	2.0	1.9	e1.4	1.3	1.3	.80	3.5	16	1.7	2.5	3.7	2.6
26	2.0	1.8	1.4	1.4	1.3	1.4	3.4	6.9	1.4	2.4	3.5	3.2
27	2.0	1.9	1.4	e1.2	1.4	.88	3.5	7.6	1.3	2.4	3.4	3.1
28	2.2	1.9	1.5	1.4	1.3	1.2	3.7	10	1.3	2.3	3.3	2.9
29	2.0	1.9	1.5	e1.2	---	1.4	14	5.3	1.2	2.4	3.3	2.8
30	1.8	1.8	1.5	1.5	---	1.6	187	4.4	1.2	2.4	3.2	2.6
31	2.0	---	1.5	1.5	---	1.7	---	3.5	---	223	3.1	---
TOTAL	53.1	58.7	49.1	44.0	36.70	35.51	279.8	187.8	77.1	333.70	342.3	83.0
MEAN	1.71	1.96	1.58	1.42	1.31	1.15	9.33	6.06	2.57	10.8	11.0	2.77
MAX	2.2	2.5	1.8	1.6	1.6	1.7	187	43	17	223	115	3.2
MIN	1.3	1.8	1.3	1.2	.90	.80	1.7	1.8	1.2	.88	2.7	2.2
AC-FT	105	116	97	87	73	70	555	373	153	662	679	165

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, 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	1999	
MEAN	2.08	2.26	1.77	1.68	1.61	1.73	2.05	2.65	3.77	3.89	4.81	1.85													
MAX	3.55	6.49	3.17	2.74	2.39	3.54	9.33	10.1	27.8	27.9	13.4	5.12													
(WY)	1985	1982	1995	1986	1977	1980	1999	1995	1995	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 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1976 - 1999

ANNUAL TOTAL	1130.7	1580.81		
ANNUAL MEAN	3.10	4.33		
HIGHEST ANNUAL MEAN			2.51	
LOWEST ANNUAL MEAN			5.12	1995
HIGHEST DAILY MEAN	150	Jul 30	1.20	1990
LOWEST DAILY MEAN	1.0	Jul 20	700	Jul 28 1985
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 16	.80	Mar 25
INSTANTANEOUS PEAK FLOW			.99	Mar 19
INSTANTANEOUS PEAK STAGE			a1710	Jul 31
ANNUAL RUNOFF (AC-FT)	2240	3140	9.21	Jul 31
10 PERCENT EXCEEDS	2.5	3.8	b4810	Jun 3 1994
50 PERCENT EXCEEDS	1.8	1.9	c9.51	Jun 3 1994
90 PERCENT EXCEEDS	1.3	1.2	1820	
			3.0	
			1.7	
			.96	

e Estimated

a From rating curve extended above 500 ft<sup>3</sup>/s.

b From slope-area measurement of peak flow.

c From floodmark.

ARKANSAS RIVER BASIN

07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO

LOCATION.--Lat 38°42'27", long 104°50'46", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.36, T.15 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 20 ft 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 mi<sup>2</sup>.

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.--No estimated daily discharges. Records fair except for discharges above 100 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.69	.44	.31	.41	.31	.33	231	17	2.3	7.6	2.2
2	.28	.68	.44	.31	.35	.32	.47	117	14	2.2	4.8	2.0
3	.26	.70	.44	.35	.34	.31	.43	81	13	2.0	4.0	1.8
4	.26	.67	.44	.37	.33	.31	.47	53	11	1.9	34	1.8
5	.26	.67	.44	.37	.34	.33	.54	38	9.8	1.8	150	1.8
6	.27	.60	.47	.38	.34	.33	.61	30	8.8	1.8	69	1.6
7	.27	.62	.45	.40	.34	.33	.76	26	7.9	1.8	47	1.5
8	.30	.57	.41	.40	.34	.35	.98	30	7.1	1.8	35	1.4
9	.27	.54	.44	.39	.34	.34	.89	39	6.6	1.7	28	1.4
10	.26	.50	.44	.40	.36	.32	.75	42	6.4	1.6	23	1.3
11	.27	.49	.43	.41	.35	.31	.69	34	5.8	1.5	20	1.3
12	.32	.49	.43	.42	.35	.34	.65	29	5.8	1.5	16	1.4
13	.32	.47	.43	.40	.35	.34	.62	28	5.3	1.4	15	1.5
14	.30	.47	.42	.40	.34	.36	.67	32	5.5	1.4	13	1.4
15	.34	.51	.43	.40	.34	.37	.66	35	5.4	1.4	11	1.5
16	.39	.52	.43	.40	.34	.36	.59	33	5.3	1.5	9.7	1.5
17	.45	.51	.44	.40	.34	.35	.62	30	5.4	3.8	8.5	1.5
18	.49	.51	.46	.41	.33	.38	.67	26	4.9	3.5	7.7	1.3
19	.54	.50	.45	.47	.34	.40	.64	24	4.4	2.3	7.6	1.3
20	.59	.46	.40	.47	.34	.38	.62	22	4.4	2.2	6.7	1.6
21	.68	.47	.33	.45	.33	.37	.65	21	3.9	1.9	6.1	1.6
22	.73	.46	.29	.44	.34	.39	1.3	19	3.6	1.8	5.7	1.3
23	.78	.44	.28	.43	.32	.41	1.5	18	3.4	1.7	5.1	1.1
24	.77	.47	.26	.45	.33	.42	1.4	16	3.3	1.5	4.5	1.1
25	.78	.51	.26	.46	.32	.43	1.9	23	3.2	1.4	4.0	1.1
26	.84	.51	.32	.47	.32	.44	2.2	22	2.9	1.3	3.7	.97
27	.84	.47	.35	.44	.31	.41	2.2	21	2.7	1.4	3.4	1.0
28	.59	.47	.36	.43	.31	.39	3.0	19	2.6	1.3	3.5	1.3
29	.47	.49	.34	.42	---	.38	197	21	2.5	1.3	3.0	1.3
30	.44	.48	.34	.43	---	.36	397	22	2.4	1.2	2.8	1.2
31	.55	---	.33	.43	---	.33	---	19	---	7.7	2.4	---
TOTAL	14.17	15.94	12.19	12.71	9.49	11.17	620.77	1201	184.3	61.9	561.8	43.07
MEAN	.46	.53	.39	.41	.34	.36	20.7	38.7	6.14	2.00	18.1	1.44
MAX	.84	.70	.47	.47	.41	.44	397	231	17	7.7	150	2.2
MIN	.26	.44	.26	.31	.31	.31	.33	16	2.4	1.2	2.4	.97
AC-FT	28	32	24	25	19	22	1230	2380	366	123	1110	85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1999, BY WATER YEAR (WY)

	1978	1979	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985
MEAN	1.58	1.04	.51	.48	.49	1.02	5.10	11.8	5.76	2.02	3.55	1.36
MAX	20.7	10.7	2.25	1.42	1.33	2.56	20.7	39.1	32.7	7.23	18.1	7.75
(WY)	1985	1985	1985	1985	1985	1998	1999	1995	1997	1985	1999	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1978 - 1999
ANNUAL TOTAL	689.08	2748.51	
ANNUAL MEAN	1.89	7.53	2.96
HIGHEST ANNUAL MEAN			7.70
LOWEST ANNUAL MEAN			.36
HIGHEST DAILY MEAN	13	Apr 25	397
LOWEST DAILY MEAN	.11	Sep 27	.26
ANNUAL SEVEN-DAY MINIMUM	.13	Sep 24	.27
INSTANTANEOUS PEAK FLOW		b582	Apr 30
INSTANTANEOUS PEAK STAGE		d6.00	Apr 30
ANNUAL RUNOFF (AC-FT)	1370	5450	2140
10 PERCENT EXCEEDS	5.2	19	6.4
50 PERCENT EXCEEDS	.68	.65	.68
90 PERCENT EXCEEDS	.26	.33	.17

a No flow many days, in most years.  
 b From rating curve extended above 412 ft<sup>3</sup>/s.  
 c From rating curve extended above 133 ft<sup>3</sup>/s on basis of width-contraction measurement of peak flow at gage height 5.28 ft.  
 d From floodmark.  
 f From floodmark. at site and datum then in use.

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°36'06", long 104°40'11", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.4, T.17 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on right bank 50 ft upstream from Old Pueblo Road bridge, 100 ft downstream from Denver & Rio Grande Railroad bridge, 0.9 mi downstream from Little Fountain Creek, and 5.6 mi south of Fountain.

DRAINAGE AREA.--681 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1938 to February 1940 (monthly records only), March 1940 to September 1954; July 1985 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,355 ft above sea level, from topographic map. Sept. 18, 1938 to Mar. 1, 1940, nonrecording gage, at site 50 ft downstream, at different datum. Mar. 2, 1940 to Sept. 30, 1954, at site 200 ft upstream, at different datum. July 2, 1985 to Sept. 2, 1987, at site 500 ft upstream, at different datum. Sept. 3, 1987 to Mar. 12, 1990, at site 1,100 ft upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges and those above 1,000 ft<sup>3</sup>/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation and municipal use, return flows from irrigation, and sewage effluent discharges.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 14.4 ft, at different datum, May 30, 1935, discharge undetermined. Floods of May 1935 and June 1965 probably exceeded flood of May 1940.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	354	150	142	133	132	92	6010	1080	267	1160	222
2	115	194	154	132	133	113	195	3080	1000	257	510	232
3	101	187	160	143	e128	125	185	2320	858	225	419	244
4	103	165	153	142	123	110	165	e2170	695	228	1680	247
5	100	168	160	137	136	141	212	e1610	627	230	3470	238
6	79	171	158	142	e130	122	149	e1240	586	262	1660	232
7	91	e165	155	143	e130	124	104	936	546	236	1040	228
8	99	159	166	143	127	141	97	958	495	379	1120	222
9	106	167	151	142	130	93	111	1040	451	376	957	198
10	124	e150	160	135	134	104	140	1330	621	230	755	179
11	102	e150	160	145	e128	128	92	1090	647	224	722	199
12	101	151	151	143	123	113	96	1080	962	235	626	217
13	114	e152	146	140	120	121	e95	1110	670	220	609	219
14	112	153	150	139	131	89	e95	1140	738	210	512	231
15	89	155	141	142	126	98	e94	1280	621	227	470	272
16	126	151	141	129	131	104	93	1360	577	495	487	283
17	90	154	143	142	125	148	96	1290	592	771	417	259
18	106	149	144	136	125	136	94	1070	512	676	363	249
19	121	175	120	142	125	117	e92	993	464	325	600	239
20	109	173	e110	128	118	98	e90	1100	490	262	708	300
21	133	178	e105	131	119	90	e90	1100	491	275	390	295
22	119	165	107	140	121	99	984	1070	524	280	360	252
23	118	173	120	133	124	101	792	990	540	275	331	240
24	115	155	117	139	126	102	213	1410	886	237	332	225
25	136	160	129	139	119	101	291	3210	851	289	355	231
26	155	e160	140	140	117	97	181	1910	401	300	376	245
27	173	154	142	137	126	86	187	1770	378	223	338	249
28	274	132	143	118	132	88	171	2090	359	284	300	291
29	153	131	140	124	---	100	5120	1420	316	385	387	282
30	147	141	140	138	---	88	13200	1250	281	428	405	237
31	146	---	137	130	---	86	---	1220	---	2530	253	---
TOTAL	3740	4992	4393	4256	3540	3395	23616	49647	18259	11841	22112	7257
MEAN	121	166	142	137	126	110	787	1602	609	382	713	242
MAX	274	354	166	145	136	148	13200	6010	1080	2530	3470	300
MIN	79	131	105	118	117	86	90	936	281	210	253	179
AC-FT	7420	9900	8710	8440	7020	6730	46840	98470	36220	23490	43860	14390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

	63.8	79.1	66.1	67.1	71.3	80.9	129	240	181	114	144	68.7
MEAN	63.8	79.1	66.1	67.1	71.3	80.9	129	240	181	114	144	68.7
MAX	201	201	179	167	152	216	787	1602	1080	432	713	242
(WY)	1995	1998	1998	1996	1996	1998	1999	1999	1997	1995	1999	1999
MIN	3.70	10.0	5.14	6.99	6.07	6.39	4.30	9.78	4.50	3.47	3.15	1.31
(WY)	1954	1940	1953	1952	1941	1941	1954	1950	1953	1952	1954	1939

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	72659		157048			
ANNUAL MEAN	199		430		109	
HIGHEST ANNUAL MEAN					430	
LOWEST ANNUAL MEAN					10.3	
HIGHEST DAILY MEAN	1260		13200		13200	
LOWEST DAILY MEAN	42		79		a.00	
ANNUAL SEVEN-DAY MINIMUM	79		91		.27	
INSTANTANEOUS PEAK FLOW			b20100		c22100	
INSTANTANEOUS PEAK STAGE			d12.06		f9.19	
ANNUAL RUNOFF (AC-FT)	144100		311500		78680	
10 PERCENT EXCEEDS	342		1040		218	
50 PERCENT EXCEEDS	155		160		58	
90 PERCENT EXCEEDS	107		102		7.0	

- e Estimated
- a Also occurred Sep 30, 1939.
- b From rating curve extended above 18,000 ft<sup>3</sup>/s..
- c From contracted-opening and slope-area measurement of peak flow.
- d From floodmarks.
- f At different datum, maximum gage height, 12.06 ft, Apr 30, 1999.

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, 1,270 microsiemens, Dec. 27; minimum, 255 microsiemens, May 28.  
 pH: Maximum, 8.4, July 2-7, 12-16, Aug. 19; minimum, 7.5, Apr. 7-8, 24-25, 27-28.  
 WATER TEMPERATURE: Maximum, 28.9° C, July 27; minimum, 0.0° C, on many days during winter months.  
 DISSOLVED OXYGEN: Maximum, 12.5° mg/L, Nov.10-12, Dec. 10-11; minimum, 4.5° mg/L, June 24, Aug. 30.

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 WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, (COLS./100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)
APR											
01...	1200	278	743	8.2	11.0	8.9	6.0	K17	50	60	21
22...	1215	258	737	8.3	14.5	8.0	6.0	K7	K25	60	21
JUN											
25...	0930	83	918	8.2	18.0	--	<1.8	180	300	71	24
AUG											
19...	1445	245	699	8.0	24.0	6.3	1.4	780	K2500	60	19

DATE	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	FLUO-RIDE DIS-SOLVED (MG/L) AS F (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	ALUM-INUM, DIS-SOLVED (UG/L) AS AL (01106)	ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS-SOLVED (UG/L) AS AS (01000)	BORON, TOTAL RECOV-ERABLE (UG/L) AS B (01022)	BORON, DIS-SOLVED (UG/L) AS B (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS CD (01027)	CADMIUM DIS-SOLVED (UG/L) AS CD (01025)
APR											
01...	--	1.8	3.80	.200	7.0	3	2	110	100	.214	.085
22...	190	1.7	2.80	--	6.3	3	2	120	122	<.100	.1
JUN											
25...	220	2.0	3.80	--	6.5	2	2	170	185	--	.12
AUG											
19...	180	1.6	3.40	--	6.6	8.2	3	130	127	.895	<.1

DATE	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)	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)
APR										
01...	4	<1.0	8.39	--	4400	<12.0	7	.24	163	6.00
22...	3	<1.0	--	--	4000	<12	6	.21	130	4.0
JUN										
25...	3	1.3	10	2.4	2600	<12	5	.31	87	4.0
AUG										
19...	10	<1.0	17	--	12000	<12	56	.20	330	3.0

K Based on non-ideal colony count.

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

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

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
APR 01...	<.100	<.100	10	7.3	8	8	<.200	<.200	38.0	20
APR 22...	--	<.100	10	8.8	8	7	<.200	<.2	33	12
JUN 25...	<.10	<.100	10	12	8	7	<.200	<.2	30	20
AUG 19...	--	<.1	18.6	5.4	10	7.27	.235	<.20	100	14

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 21...	0830	138	928	8.3	10.0	8.7	1.7	220	130	73	26	240
DEC 07...	1315	116	912	8.1	6.5	9.8	1.6	61	88	78	28	250
FEB 22...	1300	113	885	8.3	8.5	9.4	3.1	K13	40	73	25	230
APR 19...	1245	66	988	8.2	18.5	7.9	<1.00	K5	26	82	28	260
JUN 21...	1315	486	685	8.2	20.5	7.3	<1.0	K100	340	63	18	160
AUG 16...	1130	464	706	8.1	20.0	7.5	<1.0	E460	2500	61	20	190

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	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) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL SOLVED (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV- ERABLE (MG/L AS B) (01022)	BORON, DIS- SOLVED (MG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 21...	1.8	4.30	.020	.400	.200	1100	6.7	3	2	190	189	.221
DEC 07...	1.7	4.10	.070	.700	.700	800	9.6	3	2	200	208	<.100
FEB 22...	1.6	4.20	.280	.500	.400	650	9.9	3	2	210	214	.168
APR 19...	1.7	4.00	.020	.500	.500	360	9.5	2	2	220	214	.160
JUN 21...	1.9	1.80	.020	.500	.300	3420	14	2	2	120	117	.192
AUG 16...	2.0	2.10	<.020	.400	.100	3800	10	5	2	120	114	.302

DATE	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)	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)
OCT 21...	<.1	1.9	<1.0	8	3.0	1500	13	3	.38	82	7.8
DEC 07...	<.1	3	<1.0	8	3.5	1000	<12	2	.28	63	8.6
FEB 22...	.11	2	2.4	6	4.6	757	<12	2	.54	71	19
APR 19...	.11	<1	1.7	4	3.0	550	<12	1	.42	38	11
JUN 21...	<.1	2	<1.0	5	1.9	5200	<12	7	<.15	160	3.0
AUG 16...	<.1	3	<1.0	13	2.1	6400	<12	10	<.15	180	5.0

K Based on non-ideal colony count.

## ARKANSAS RIVER BASIN

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	MERCURY	MERCURY	NICKEL,	NICKEL,	SELE-	SELE-	SILVER,	SILVER,	ZINC,	ZINC,	CYANIDE
	TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	DIS- SOLVED (UG/L AS HG) (71890)	TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	DIS- SOLVED (UG/L AS NI) (01065)	NIUM, TOTAL (UG/L AS SE) (01147)	NIUM, DIS- SOLVED (UG/L AS SE) (01145)	TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	DIS- SOLVED (UG/L AS AG) (01075)	TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	DIS- SOLVED (UG/L AS ZN) (01090)	
OCT 21...	--	--	13	10	9	10	<.200	<.20	30	21	<.020
DEC 07...	--	--	12	12	11	10	<.200	<.20	30	20	<.020
FEB 22...	<.10	<.1	8	7.8	9	9	<.200	<.20	40	30	<.020
APR 19...	<.1	<.1	5.0	4.4	9	8	<.200	<.20	30	27	<.020
JUN 21...	--	--	6	6.4	7.49	6.59	<.200	<.20	36	8.0	<.010
AUG 16...	--	--	10	4.5	10	6	<.200	<.20	48	9.0	<.010

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1040	941	973	884	567	733	938	895	912	972	912	949
2	1050	920	979	861	694	808	956	910	925	960	901	933
3	1080	989	1020	911	852	879	943	899	918	966	904	934
4	1040	970	1010	908	775	832	949	892	922	960	875	912
5	1040	970	991	914	844	876	954	893	925	922	865	890
6	1060	970	994	939	882	903	960	898	924	926	855	881
7	1060	962	993	926	880	901	958	916	934	921	853	877
8	1020	939	972	925	858	895	1020	920	974	906	837	869
9	1040	959	990	908	863	880	982	925	946	915	850	874
10	1050	958	999	895	854	876	967	898	927	903	838	860
11	1040	950	989	895	842	865	980	896	935	941	848	886
12	1030	952	978	941	875	907	972	907	930	942	883	904
13	1100	984	1030	953	891	919	955	900	917	932	872	896
14	1110	969	1040	948	888	917	946	884	908	970	866	915
15	1090	943	1010	944	871	905	949	907	924	957	893	920
16	1040	944	980	945	876	902	940	892	914	954	907	926
17	1020	929	985	933	883	901	954	883	911	968	904	934
18	999	923	961	937	878	896	920	899	910	976	905	928
19	1020	881	945	924	870	888	920	888	899	964	909	929
20	996	881	954	925	868	887	---	---	---	985	923	945
21	996	909	951	929	863	887	---	---	---	987	923	946
22	1090	964	1010	919	854	885	---	---	---	958	903	929
23	1040	960	990	904	864	879	---	---	---	1020	911	957
24	1040	924	989	949	876	900	---	---	---	953	879	917
25	1020	933	965	924	894	911	---	---	---	929	853	892
26	959	884	926	939	887	914	1080	894	1020	932	855	889
27	952	885	911	936	895	915	1270	969	1110	939	859	898
28	---	---	---	947	897	923	1030	956	1000	930	873	902
29	---	---	---	938	895	922	1030	961	994	997	906	946
30	949	896	912	938	893	913	1010	950	979	955	903	929
31	936	873	911	---	---	---	991	933	967	970	883	925
MONTH	---	---	---	953	567	887	---	---	---	1020	837	913





## ARKANSAS RIVER BASIN

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.2	8.1	8.1	8.1	8.0	8.0	8.1	7.9	8.0	8.0	7.9	7.9
2	8.1	7.9	8.0	8.0	7.8	8.0	8.1	7.9	8.0	8.0	7.9	7.9
3	8.0	7.9	7.9	8.2	8.0	8.1	8.1	7.9	8.0	8.0	7.9	7.9
4	8.0	7.9	8.0	8.2	8.1	8.1	8.1	8.0	8.0	8.0	7.8	7.9
5	8.0	7.9	8.0	8.2	8.1	8.1	8.1	8.0	8.0	7.9	7.9	7.9
6	8.0	7.9	8.0	8.2	8.0	8.2	8.1	8.0	8.0	7.9	7.9	7.9
7	8.0	8.0	8.0	8.2	8.2	8.2	8.1	7.9	8.0	7.9	7.9	7.9
8	8.1	8.0	8.0	8.2	8.2	8.2	8.1	7.9	8.0	7.9	7.9	7.9
9	8.1	8.0	8.0	8.2	8.2	8.2	8.1	8.0	8.0	8.0	7.9	7.9
10	8.1	8.0	8.0	8.2	8.2	8.2	8.1	8.0	8.0	8.0	7.9	7.9
11	8.1	8.0	8.0	8.2	8.2	8.2	8.1	8.0	8.0	7.9	7.9	7.9
12	8.1	8.0	8.0	8.2	8.2	8.2	8.1	8.0	8.0	7.9	7.8	7.9
13	8.1	8.0	8.0	8.2	7.8	8.1	8.1	8.0	8.0	8.0	7.9	7.9
14	8.1	8.0	8.0	7.9	7.8	7.8	8.0	7.8	7.9	8.0	7.9	7.9
15	8.1	8.0	8.1	7.9	7.8	7.8	---	---	---	8.0	7.9	7.9
16	8.1	8.0	8.0	7.9	7.8	7.9	---	---	---	8.0	7.9	7.9
17	8.1	8.0	8.1	7.9	7.9	7.9	8.1	7.9	8.0	8.0	7.9	7.9
18	8.1	8.0	8.1	7.9	7.8	7.9	---	---	---	8.0	7.9	7.9
19	8.1	8.0	8.1	7.9	7.9	7.9	---	---	---	8.0	7.9	7.9
20	8.1	8.0	8.1	8.0	7.9	7.9	---	---	---	8.0	7.9	8.0
21	8.2	8.1	8.1	8.0	7.9	7.9	---	---	---	8.0	7.9	8.0
22	8.1	8.0	8.1	8.0	7.9	7.9	---	---	---	8.0	8.0	8.0
23	8.2	8.0	8.1	8.0	7.9	7.9	---	---	---	8.0	7.9	8.0
24	8.2	8.1	8.1	8.0	7.9	7.9	---	---	---	8.0	7.9	8.0
25	8.2	8.1	8.1	8.0	7.9	7.9	8.1	7.8	7.9	8.0	7.9	7.9
26	8.2	8.0	8.1	8.0	7.9	7.9	8.1	7.8	8.0	8.0	7.9	7.9
27	8.2	8.0	8.1	8.0	7.9	7.9	8.1	8.0	8.1	7.9	7.9	7.9
28	8.1	7.8	7.9	8.0	7.9	7.9	8.1	7.9	8.0	8.0	7.9	7.9
29	8.1	7.9	8.0	8.0	7.9	8.0	7.9	7.9	7.9	8.1	8.0	8.0
30	8.1	7.8	8.0	8.0	7.9	7.9	7.9	7.9	7.9	8.1	8.0	8.0
31	8.2	7.8	8.0	---	---	---	7.9	7.9	7.9	8.1	7.9	8.0
MONTH	8.2	7.8	8.0	8.2	7.8	8.0	---	---	---	8.1	7.8	7.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	8.1	7.9	8.0	7.9	7.7	7.8	8.2	7.9	7.9	---	---	---
2	8.1	7.9	8.0	8.0	7.8	7.9	7.9	7.7	7.8	---	---	---
3	8.0	7.9	7.9	8.0	7.8	7.9	7.9	7.8	7.8	---	---	---
4	8.0	7.9	7.9	8.0	7.8	7.9	7.8	7.7	7.8	8.1	7.9	8.0
5	8.1	7.9	8.0	8.0	7.8	7.9	7.9	7.7	7.8	8.1	8.1	8.1
6	8.0	7.9	7.9	8.0	7.8	7.9	7.9	7.7	7.8	8.1	8.1	8.1
7	8.0	7.8	7.9	8.0	7.8	7.9	7.9	7.5	7.7	8.1	7.9	8.0
8	8.0	7.8	7.9	8.1	7.8	7.9	7.9	7.5	7.6	8.1	7.9	8.0
9	8.1	7.9	8.0	8.1	7.8	7.9	8.0	7.7	7.9	8.0	7.9	7.9
10	8.1	7.9	8.0	8.2	7.8	8.0	8.0	7.9	7.9	8.0	7.9	8.0
11	8.0	7.9	8.0	8.2	7.8	8.0	8.0	7.9	7.9	8.0	7.9	8.0
12	8.0	7.9	8.0	8.0	7.8	7.9	8.0	7.9	7.9	8.0	7.9	8.0
13	8.1	7.9	8.0	8.1	7.8	7.9	8.0	7.6	7.9	8.0	7.9	8.0
14	8.0	7.8	7.9	8.1	7.8	7.9	8.0	7.8	7.9	8.0	7.9	8.0
15	7.9	7.8	7.8	8.0	7.7	7.9	8.0	7.8	7.9	8.1	7.9	8.0
16	7.9	7.8	7.8	8.0	7.6	7.7	8.0	7.9	7.9	8.1	8.0	8.1
17	8.0	7.8	7.9	8.1	7.7	7.9	8.0	7.9	7.9	8.1	8.0	8.0
18	8.0	7.8	7.9	7.9	7.7	7.8	8.0	7.9	7.9	8.0	8.0	8.0
19	8.0	7.7	7.9	8.0	7.7	7.9	8.0	7.9	7.9	8.1	8.0	8.0
20	7.9	7.7	7.8	8.1	7.8	7.9	8.0	7.9	7.9	8.1	8.0	8.0
21	7.9	7.7	7.8	8.2	7.8	7.9	8.0	7.9	7.9	8.1	8.0	8.0
22	7.9	7.7	7.8	8.1	7.9	7.9	7.9	7.7	7.8	8.1	8.0	8.0
23	7.9	7.8	7.8	7.9	7.7	7.8	7.9	7.7	7.8	8.1	8.0	8.1
24	8.0	7.8	7.8	8.2	7.8	8.0	7.8	7.5	7.6	8.1	7.9	8.1
25	8.0	7.8	7.9	8.1	7.7	7.9	7.9	7.5	7.7	8.1	7.9	8.0
26	8.0	7.7	7.8	7.9	7.8	7.9	8.0	7.6	7.8	8.3	8.0	8.1
27	8.0	7.7	7.8	8.0	7.8	7.9	8.0	7.5	7.8	8.2	8.0	8.1
28	7.9	7.8	7.8	8.0	7.8	7.9	8.0	7.5	7.8	8.1	7.9	8.0
29	---	---	---	8.0	7.8	7.9	8.1	7.8	8.0	8.1	8.1	8.1
30	---	---	---	8.1	7.9	7.9	---	---	---	8.1	8.0	8.1
31	---	---	---	8.0	7.9	7.9	---	---	---	8.1	8.1	8.1
MONTH	8.1	7.7	7.9	8.2	7.6	7.9	---	---	---	---	---	---

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.2	8.0	8.1	8.3	8.2	8.2	8.1	7.7	8.0	8.2	7.9	8.1
2	8.2	8.1	8.1	8.4	8.2	8.3	8.1	8.0	8.1	8.1	7.8	8.0
3	8.1	7.8	8.0	8.4	8.2	8.3	---	---	---	8.0	7.7	7.8
4	7.9	7.8	7.9	8.4	8.2	8.3	---	---	---	7.9	7.7	7.8
5	8.0	7.9	7.9	8.4	8.2	8.3	8.0	7.8	7.9	8.0	7.8	7.9
6	8.0	7.9	7.9	8.4	8.2	8.3	8.0	7.9	7.9	8.1	7.9	8.0
7	8.0	7.9	7.9	8.4	8.2	8.3	8.0	7.9	8.0	8.2	7.9	8.1
8	7.9	7.9	7.9	8.3	7.9	8.2	8.0	8.0	8.0	8.3	8.1	8.2
9	8.0	7.9	7.9	8.2	8.0	8.1	8.0	7.8	7.9	8.2	8.2	8.2
10	8.0	7.8	7.9	8.3	8.2	8.2	7.8	7.8	7.8	8.2	8.2	8.2
11	8.0	7.9	8.0	8.3	8.3	8.3	8.0	7.8	7.9	8.3	8.1	8.2
12	8.0	7.7	7.8	8.4	8.3	8.3	8.0	7.7	7.9	8.2	8.2	8.2
13	8.2	7.8	8.0	8.4	8.3	8.3	8.1	7.7	7.8	8.3	8.2	8.2
14	8.2	7.9	8.1	8.4	8.3	8.3	7.9	7.8	7.9	8.3	8.2	8.2
15	8.1	8.0	8.1	8.4	8.3	8.3	8.0	7.8	7.9	8.2	8.2	8.2
16	8.2	8.1	8.1	8.4	7.7	8.2	8.0	7.9	7.9	8.2	8.1	8.2
17	8.1	8.1	8.1	8.0	7.7	7.8	8.1	7.8	7.9	8.2	8.2	8.2
18	8.1	8.1	8.1	8.1	7.8	7.9	8.1	7.7	7.9	8.3	8.2	8.2
19	8.1	8.0	8.1	8.1	7.8	8.0	8.4	7.8	8.0	8.2	8.2	8.2
20	8.1	8.1	8.1	8.1	8.0	8.0	8.0	7.8	7.9	8.2	8.2	8.2
21	8.1	8.1	8.1	8.1	8.0	8.0	8.1	7.9	8.0	8.2	8.2	8.2
22	8.1	8.1	8.1	8.1	8.0	8.0	8.1	7.9	8.0	8.3	8.2	8.2
23	8.2	8.1	8.1	8.1	8.0	8.1	8.2	7.7	8.0	8.3	8.2	8.2
24	8.1	7.8	8.0	8.1	8.0	8.1	8.2	8.1	8.1	8.3	8.2	8.3
25	8.2	7.8	8.0	8.1	8.0	8.1	8.2	8.1	8.1	8.3	8.2	8.3
26	8.2	8.1	8.2	8.1	8.0	8.1	8.1	8.0	8.0	8.3	8.2	8.3
27	8.2	8.2	8.2	8.2	8.0	8.1	8.0	8.0	8.0	8.3	8.2	8.2
28	8.3	8.2	8.2	8.1	8.0	8.1	8.1	7.9	8.0	8.2	8.1	8.2
29	8.2	8.2	8.2	8.1	7.8	8.0	8.1	7.9	8.0	8.2	8.1	8.2
30	8.3	8.2	8.2	8.1	7.8	8.0	8.0	7.8	7.9	8.2	8.2	8.2
31	---	---	---	8.0	7.9	7.9	8.3	7.9	8.1	---	---	---
MONTH	8.3	7.7	8.0	8.4	7.7	8.1	---	---	---	8.3	7.7	8.2

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	15.9	11.7	13.5	8.9	7.8	8.3	11.6	5.0	7.8	7.1	3.1	4.3
2	20.4	11.7	14.8	9.6	8.8	9.0	11.7	6.3	8.3	5.0	1.7	2.9
3	19.6	11.3	15.0	9.7	8.1	8.8	11.4	5.1	7.8	4.0	.0	1.4
4	17.8	11.7	14.4	10.9	7.8	8.8	10.8	4.8	7.3	5.2	.0	1.8
5	15.7	8.8	11.9	10.2	7.7	8.6	8.9	4.5	6.2	7.7	1.4	3.9
6	17.8	7.5	11.9	12.7	7.9	9.5	5.8	3.3	4.3	8.2	1.6	4.4
7	18.0	7.9	12.3	12.0	7.5	9.1	6.8	1.6	3.7	8.0	2.3	4.8
8	18.7	9.5	13.7	11.3	5.5	8.2	6.5	.0	2.7	4.7	2.1	3.4
9	19.4	10.0	14.1	8.7	4.1	6.2	3.8	1.5	2.4	6.5	1.5	3.9
10	19.3	10.0	14.0	9.1	2.7	5.2	5.8	1.1	2.7	7.5	1.8	4.2
11	17.3	9.2	12.7	9.8	2.8	5.9	6.7	.0	2.9	9.2	2.7	5.7
12	16.0	8.7	11.9	10.3	4.6	6.9	7.2	1.4	4.1	6.3	3.8	5.1
13	17.1	8.9	12.6	11.7	4.0	7.4	7.7	1.5	4.2	5.6	1.8	3.7
14	18.5	9.9	13.5	12.5	5.6	8.6	8.3	1.7	4.4	6.3	.9	3.6
15	18.2	10.3	13.3	13.3	6.1	9.1	6.9	4.1	5.0	8.9	3.3	5.6
16	16.3	8.4	11.7	12.1	6.6	9.0	7.4	3.1	4.3	7.2	2.8	5.1
17	16.3	9.2	11.6	11.0	6.2	8.1	8.3	1.9	4.7	7.3	2.7	4.3
18	15.7	6.9	10.7	10.8	5.4	7.9	6.3	3.4	4.6	9.0	1.1	4.7
19	16.0	7.6	11.2	10.5	6.2	7.7	3.9	1.2	2.3	9.7	4.0	6.2
20	11.6	8.9	10.0	9.9	4.8	7.1	---	---	---	9.3	3.5	5.9
21	13.3	9.5	10.8	10.2	4.0	6.9	---	---	---	6.7	3.7	5.0
22	16.5	7.4	11.5	11.9	6.3	8.7	---	---	---	6.4	1.6	3.7
23	17.6	8.9	12.6	10.7	5.5	7.7	---	---	---	8.4	1.0	4.2
24	16.3	8.9	12.2	11.1	4.8	7.3	---	---	---	9.3	4.0	6.1
25	16.2	9.2	12.1	10.0	4.6	7.0	---	---	---	6.8	2.4	4.3
26	16.7	11.0	13.5	11.8	4.8	7.8	5.8	.2	2.7	7.8	2.2	4.3
27	13.8	10.8	12.4	12.6	5.9	8.6	5.7	.9	3.0	7.8	.8	4.2
28	15.3	11.2	12.6	11.5	6.6	8.5	6.9	1.4	3.6	8.2	3.1	5.1
29	14.6	9.2	11.7	11.6	7.0	8.6	7.4	1.9	4.2	7.7	1.2	4.4
30	11.3	8.9	10.1	11.3	4.9	7.6	7.4	2.3	4.8	6.8	4.2	5.4
31	10.5	8.9	9.8	---	---	---	5.6	3.7	4.6	10.3	5.4	7.1
MONTH	20.4	6.9	12.4	13.3	2.7	7.9	---	---	---	10.3	.0	4.5

## ARKANSAS RIVER BASIN

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.6	3.4	5.9	14.1	4.8	8.8	15.4	6.8	10.2	---	---	---
2	8.8	1.2	4.8	9.7	4.5	6.9	6.8	3.3	4.8	---	---	---
3	10.0	4.3	6.2	12.0	2.2	6.9	12.9	2.5	7.3	---	---	---
4	9.9	1.9	5.5	12.5	4.0	7.7	11.8	5.5	8.1	11.8	7.1	9.4
5	11.3	4.7	7.5	12.2	4.6	8.1	15.6	5.9	10.2	9.6	5.4	7.4
6	9.9	3.0	6.2	8.7	3.8	5.7	16.9	6.1	11.1	13.3	4.5	8.6
7	11.4	3.5	6.9	12.7	3.1	7.2	17.3	6.8	11.8	15.4	6.4	10.7
8	13.0	4.9	8.4	13.5	4.9	8.4	17.7	5.4	10.9	16.7	8.5	12.3
9	11.4	4.2	7.5	13.4	3.1	7.6	16.6	6.5	10.6	14.8	8.9	11.7
10	11.5	3.6	7.4	14.3	4.5	8.5	17.2	3.9	9.6	14.2	8.3	10.8
11	4.9	.4	2.5	12.3	4.4	7.7	17.0	5.2	10.5	9.9	6.4	8.1
12	9.6	.0	4.1	6.4	3.7	5.0	18.7	6.1	12.1	14.8	5.8	9.9
13	10.9	1.4	5.8	13.3	2.0	7.0	15.7	7.6	10.8	17.1	7.9	12.1
14	10.6	2.5	6.3	15.0	3.3	8.7	10.9	6.3	8.3	17.0	9.3	12.9
15	7.6	3.2	5.2	12.7	5.5	8.8	9.8	2.7	5.9	16.8	9.2	12.9
16	8.0	2.1	5.0	16.3	5.9	10.4	12.6	2.7	6.7	15.1	9.6	12.1
17	8.8	2.4	5.2	13.3	5.5	9.2	16.7	2.7	9.2	16.0	8.1	11.6
18	10.0	1.3	5.1	8.9	4.9	6.6	15.9	6.0	10.5	16.8	8.2	12.3
19	10.5	2.1	6.0	12.0	5.0	7.7	18.8	7.6	13.1	18.4	10.2	13.9
20	10.4	2.9	6.1	15.9	4.8	10.0	18.1	8.8	13.4	16.4	10.6	13.4
21	9.9	2.0	5.5	16.1	6.2	10.7	16.1	9.3	12.0	19.5	11.7	15.0
22	8.6	2.8	5.5	16.2	6.3	10.4	10.0	6.6	8.1	18.8	11.6	14.8
23	11.1	.9	5.6	15.7	7.2	10.9	7.9	4.7	6.5	17.8	12.2	14.7
24	13.1	3.0	7.6	13.8	8.8	10.9	8.0	6.3	7.2	19.4	11.3	14.4
25	13.1	4.1	8.2	16.2	8.4	11.4	12.2	6.7	9.1	12.3	11.2	11.6
26	12.1	4.0	7.6	15.6	7.2	11.1	15.6	7.5	10.9	17.3	10.8	13.5
27	12.0	2.9	6.9	17.6	8.3	12.3	17.3	7.7	12.0	16.4	11.5	13.7
28	13.1	3.0	7.6	15.4	7.1	10.6	15.4	9.7	11.6	18.6	11.1	14.6
29	---	---	---	16.1	5.5	10.6	11.0	6.7	7.7	18.9	12.0	14.5
30	---	---	---	16.2	6.7	10.8	---	---	---	18.6	11.2	14.5
31	---	---	---	16.5	6.7	11.0	---	---	---	19.5	11.8	15.1
MONTH	13.1	.0	6.1	17.6	2.0	9.0	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	19.6	11.4	15.1	25.6	16.2	20.4	---	---	---	---	---	---
2	19.1	12.1	15.3	24.2	16.7	20.4	---	---	---	---	---	---
3	19.9	11.8	15.6	27.2	15.8	20.7	---	---	---	---	---	---
4	19.8	11.6	15.4	27.6	16.5	21.4	---	---	---	23.5	14.5	18.6
5	17.0	10.9	13.9	27.3	16.9	21.7	---	---	---	23.7	15.7	19.0
6	20.0	9.5	14.6	26.6	18.4	21.5	21.0	16.1	18.2	24.7	14.6	19.1
7	21.6	11.7	16.4	28.6	17.9	22.8	22.7	16.0	19.1	25.0	14.5	19.2
8	21.6	12.3	16.7	26.5	17.7	20.9	23.8	16.4	19.4	22.5	15.0	17.9
9	22.5	12.2	16.9	23.1	17.5	19.4	23.8	16.2	19.2	24.6	12.4	17.9
10	20.4	13.5	16.3	25.4	15.7	19.9	22.8	16.6	19.4	23.9	14.8	18.4
11	21.6	11.3	16.7	24.5	16.0	19.7	23.9	16.2	19.6	23.2	13.6	17.6
12	19.1	9.8	13.8	27.2	15.9	21.1	21.6	15.3	18.4	16.4	11.8	13.2
13	20.6	11.9	15.8	28.4	16.2	21.9	23.5	16.1	19.2	21.6	10.8	15.4
14	20.1	13.2	15.7	26.0	16.7	21.1	21.8	16.1	18.8	22.1	11.9	16.3
15	15.4	12.2	13.8	26.7	17.3	21.1	20.8	16.3	18.4	16.0	13.5	14.8
16	14.0	12.5	13.3	24.8	17.5	20.4	23.3	15.1	18.9	21.6	13.6	16.8
17	18.9	12.1	14.6	25.0	18.0	20.5	23.2	16.5	19.7	22.3	14.5	17.3
18	21.6	12.0	16.7	26.9	17.4	20.8	22.8	15.4	18.8	22.6	11.8	16.5
19	23.4	13.9	18.5	26.5	17.4	21.0	23.3	14.9	18.9	16.6	12.0	13.9
20	23.7	14.9	19.0	26.6	17.3	21.1	23.7	16.6	19.6	13.5	11.8	12.6
21	22.3	14.5	18.0	27.9	17.0	21.7	24.1	16.6	20.0	20.7	10.2	14.8
22	24.1	14.5	18.7	27.5	17.3	21.3	22.9	16.4	19.3	21.1	10.7	15.4
23	25.0	14.6	19.3	25.2	17.1	21.0	25.3	15.7	19.8	22.3	12.5	16.6
24	24.4	16.2	19.4	27.4	17.7	21.9	25.2	15.8	20.2	19.9	12.8	15.7
25	23.6	15.7	19.2	28.3	18.1	22.0	26.2	15.8	20.2	22.4	12.4	16.7
26	25.7	15.4	19.9	27.0	17.5	21.7	25.0	16.1	20.3	19.8	12.3	15.6
27	25.7	15.8	20.6	28.9	18.1	22.6	25.9	16.7	21.0	14.5	10.8	11.9
28	24.5	14.8	19.6	28.2	18.4	22.6	25.6	18.1	21.1	14.5	8.9	11.2
29	25.4	14.6	19.5	26.5	18.1	21.4	24.8	17.3	20.3	17.5	6.8	11.4
30	26.2	17.0	21.1	28.1	17.3	21.6	24.6	16.5	19.9	18.3	8.7	12.7
31	---	---	---	23.3	17.3	19.6	---	---	---	---	---	---
MONTH	26.2	9.5	17.0	28.9	15.7	21.1	---	---	---	---	---	---

ARKANSAS RIVER BASIN

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.9	7.0	7.5	9.6	8.9	9.3	10.3	7.7	9.0	10.0	8.5	9.5
2	8.0	6.3	7.3	9.0	6.6	8.2	9.4	7.7	8.7	10.9	9.2	10.1
3	7.9	6.5	7.3	9.2	8.6	8.9	9.9	7.8	8.8	11.5	9.7	10.7
4	7.9	6.7	7.3	9.6	8.3	9.1	10.0	7.9	9.0	11.0	8.7	10.0
5	8.7	7.2	8.0	9.4	8.1	8.9	10.2	8.5	9.4	10.3	7.7	9.2
6	9.2	6.9	8.1	9.2	7.3	8.5	10.9	9.9	10.4	10.0	7.4	8.8
7	9.2	6.9	8.1	9.6	8.1	9.1	11.9	9.5	10.8	9.4	7.7	8.6
8	8.7	6.9	7.7	10.7	8.4	9.5	12.3	9.5	11.2	10.1	9.1	9.6
9	8.6	6.7	7.6	11.4	9.2	10.3	12.2	11.0	11.6	10.6	8.0	9.4
10	8.5	6.7	7.6	12.5	9.2	11.1	12.5	10.2	11.6	10.5	8.2	9.4
11	8.8	7.1	7.9	12.5	9.0	10.9	12.5	9.5	11.2	10.0	7.6	8.7
12	8.9	7.3	8.1	12.5	9.0	10.4	12.2	9.4	10.7	9.5	8.3	8.9
13	8.8	7.0	7.9	12.0	7.2	10.3	12.0	8.8	10.4	10.6	8.9	9.7
14	8.4	6.7	7.6	11.1	8.4	9.8	11.4	7.3	9.0	11.3	8.7	9.9
15	8.3	6.3	7.4	10.7	8.1	9.4	---	---	---	9.9	8.0	9.0
16	8.7	6.7	7.8	10.4	8.3	9.4	10.8	9.2	9.5	10.2	8.3	9.2
17	8.6	7.2	8.0	10.5	8.4	9.6	11.6	7.9	9.9	10.5	8.6	9.6
18	9.5	7.3	8.4	11.1	8.6	9.8	---	---	---	11.3	7.9	9.7
19	9.1	7.2	8.1	10.7	9.0	10.0	---	---	---	9.7	7.9	9.0
20	8.7	8.1	8.4	11.2	9.2	10.3	---	---	---	10.1	8.2	9.2
21	8.8	7.9	8.4	11.6	8.9	10.3	---	---	---	9.9	8.9	9.5
22	9.3	7.0	8.2	10.3	8.2	9.3	---	---	---	11.4	9.4	10.4
23	8.8	7.0	7.8	10.6	8.6	9.7	---	---	---	11.8	8.6	10.2
24	8.7	7.2	7.9	10.9	8.4	9.7	---	---	---	10.0	8.3	9.3
25	8.6	7.2	7.9	10.9	8.7	9.8	11.1	7.3	9.1	11.0	9.2	10.2
26	8.0	6.9	7.4	10.8	7.9	9.4	12.3	8.0	10.3	10.9	8.7	10.1
27	8.1	7.0	7.6	10.1	7.5	8.9	11.9	9.7	10.8	12.2	8.6	10.2
28	7.6	6.8	7.2	9.5	7.8	8.7	11.6	9.1	10.6	10.9	8.6	9.9
29	8.2	6.9	7.5	9.1	7.7	8.6	11.3	8.9	10.1	12.1	9.3	10.5
30	8.9	5.9	7.9	10.2	7.9	9.1	10.8	8.6	9.7	10.6	9.5	10.0
31	9.0	5.9	7.8	---	---	---	10.0	9.0	9.5	9.9	8.4	9.2
MONTH	9.5	5.9	7.8	12.5	6.6	9.5	---	---	---	12.2	7.4	9.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.8	8.7	9.6	10.2	7.8	9.0	9.6	7.2	8.6	---	---	---
2	12.2	8.8	10.4	10.7	9.1	9.7	11.5	9.5	10.6	---	---	---
3	10.6	8.6	9.7	11.7	8.3	9.8	11.9	7.8	9.8	---	---	---
4	12.0	8.6	10.3	10.7	8.4	9.5	10.1	7.0	8.7	---	---	---
5	10.4	8.4	9.4	10.8	8.5	9.4	9.9	7.1	8.5	---	---	---
6	11.3	8.7	10.0	11.0	9.6	10.4	9.8	6.5	8.1	---	---	---
7	11.0	8.4	9.7	11.3	8.2	9.8	9.6	6.4	7.6	---	---	---
8	10.3	7.9	9.0	10.5	8.3	9.3	---	---	---	12.3	8.5	10.4
9	10.9	8.4	9.5	11.5	8.3	9.8	9.8	7.3	8.6	12.1	8.6	10.4
10	11.1	8.5	9.6	10.9	8.4	9.4	11.1	7.3	9.1	---	---	---
11	12.2	11.1	11.9	11.0	8.8	9.6	10.5	7.3	8.8	---	---	---
12	11.9	9.2	10.9	11.2	9.6	10.6	10.1	6.7	8.3	12.1	8.7	10.7
13	12.3	8.9	10.7	12.2	8.5	10.2	9.4	7.4	8.5	11.9	7.5	9.6
14	12.1	9.0	10.3	11.4	8.0	9.5	10.1	8.6	9.4	11.1	7.3	9.5
15	11.6	10.1	10.8	10.3	7.6	9.0	11.5	9.0	10.4	11.4	8.2	9.7
16	12.2	9.7	10.9	9.5	7.0	8.2	11.8	8.2	10.1	11.3	8.0	9.5
17	12.3	9.7	10.9	10.0	7.9	8.8	12.0	7.1	9.4	11.5	7.6	9.8
18	12.0	9.4	11.0	10.4	9.1	9.8	10.1	6.9	8.6	11.7	7.3	9.4
19	12.3	8.5	10.4	10.4	8.5	9.5	9.4	6.4	7.8	10.6	7.7	9.0
20	11.3	8.8	9.9	10.5	7.2	8.7	9.0	6.6	7.5	10.1	7.8	8.7
21	11.8	8.8	10.2	9.8	6.4	8.1	8.4	6.6	7.8	9.9	6.6	8.5
22	11.2	9.1	10.0	9.6	6.4	8.1	10.0	7.8	9.0	9.9	7.3	8.7
23	12.4	8.4	10.4	8.8	6.2	7.3	11.3	8.1	10.2	9.8	7.4	8.5
24	11.3	8.0	9.5	8.6	6.2	7.4	---	---	---	9.6	6.7	8.4
25	10.5	7.6	9.0	9.3	6.6	7.6	9.9	6.3	8.2	10.1	8.6	9.1
26	10.4	7.6	9.1	9.8	7.2	8.5	8.8	6.8	7.7	9.8	7.5	8.7
27	11.2	7.9	9.6	9.3	7.0	8.1	9.4	6.8	7.8	9.6	7.9	8.8
28	11.1	8.1	9.5	9.8	7.3	8.6	8.3	7.0	7.5	10.2	7.5	8.8
29	---	---	---	10.6	7.4	8.9	10.6	8.3	10.1	9.7	7.7	8.9
30	---	---	---	10.0	7.0	8.6	---	---	---	10.3	7.9	9.1
31	---	---	---	9.9	7.3	8.5	---	---	---	10.0	8.0	9.0
MONTH	12.4	7.6	10.1	12.2	6.2	9.0	---	---	---	---	---	---

## ARKANSAS RIVER BASIN

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.4	7.2	8.8	7.8	6.5	7.2	8.1	5.2	7.0	---	---	---
2	9.7	7.1	8.4	7.8	6.6	7.1	8.0	7.0	7.4	---	---	---
3	9.6	7.3	8.3	7.8	6.3	7.0	---	---	---	7.3	6.5	7.0
4	9.2	7.1	8.2	7.6	6.1	6.9	---	---	---	8.1	6.5	7.3
5	9.4	7.9	8.6	7.7	6.0	6.9	7.3	6.5	7.0	8.1	6.0	7.2
6	9.7	7.1	8.4	7.5	6.2	6.8	7.8	6.5	7.1	8.2	6.1	7.1
7	9.0	6.7	7.9	7.4	6.0	6.6	7.7	6.7	7.4	8.2	5.5	7.0
8	8.4	6.3	7.4	7.4	6.1	6.7	7.5	5.9	6.7	8.2	6.7	7.4
9	8.5	6.2	7.5	7.2	6.2	6.8	7.4	5.6	6.4	8.9	6.7	7.8
10	---	---	---	7.9	6.4	7.1	---	---	---	8.2	6.6	7.5
11	---	---	---	7.9	6.5	7.2	---	---	---	8.5	6.8	7.7
12	---	---	---	7.9	6.3	7.1	---	---	---	9.0	7.8	8.6
13	---	---	---	7.8	6.1	6.9	---	---	---	9.2	7.2	8.2
14	8.6	7.1	7.7	7.7	6.3	6.9	---	---	---	8.9	7.0	8.0
15	8.7	7.7	8.3	7.7	6.4	7.0	---	---	---	8.5	8.0	8.2
16	8.6	8.2	8.4	7.6	6.4	7.0	---	---	---	8.4	7.1	7.8
17	8.6	7.4	8.1	7.1	6.1	6.6	---	---	---	8.1	7.0	7.7
18	8.8	7.0	7.9	7.1	5.8	6.5	---	---	---	8.8	6.8	7.9
19	8.4	6.7	7.5	7.2	5.8	6.6	---	---	---	8.9	7.9	8.4
20	8.0	6.2	7.1	7.2	6.1	6.6	8.0	5.9	6.9	8.9	8.5	8.7
21	7.8	6.3	7.0	7.4	5.8	6.6	---	---	---	9.4	7.2	8.4
22	7.4	5.8	6.6	7.4	6.0	6.8	---	---	---	9.4	7.6	8.4
23	7.1	4.7	5.9	7.4	6.2	6.8	---	---	---	9.2	7.3	8.3
24	7.0	4.5	5.8	7.2	5.8	6.6	7.3	5.5	6.3	8.9	7.7	8.3
25	7.1	4.6	6.1	7.1	6.0	6.6	6.9	5.2	6.0	8.9	7.0	8.1
26	7.4	5.5	6.5	7.2	5.9	6.6	7.2	5.3	6.0	9.0	7.6	8.2
27	7.3	5.6	6.4	7.1	5.9	6.5	6.6	4.9	5.7	9.4	8.4	9.1
28	7.5	5.7	6.6	7.2	6.1	6.6	6.2	4.6	5.4	10.2	8.7	9.5
29	7.5	6.4	7.0	6.8	5.9	6.4	7.3	4.9	5.9	11.0	8.0	9.6
30	7.5	6.4	7.0	7.5	5.9	6.7	6.8	4.5	5.7	10.3	8.0	9.2
31	---	---	---	7.0	6.0	6.5	---	---	---	---	---	---
MONTH	---	---	---	7.9	5.8	6.8	---	---	---	---	---	---

07106300 FOUNTAIN CREEK NEAR PINON, CO

LOCATION.--Lat 38°26'23", long 104°35'35", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.31, T.18 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, on right bank, 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 mi<sup>2</sup>.

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. Oct. 1, 1995 to present at various locations within 70 ft. downstream from underflow mouth (see district office for location history).

REMARKS.--Records fair except for estimated daily discharges and those above 1,000 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	302	153	152	172	149	95	e4300	924	277	2580	222
2	116	262	154	145	162	130	188	e4100	873	276	749	223
3	93	211	151	143	168	134	238	e3000	723	234	397	215
4	100	228	151	150	157	123	225	e1900	605	220	1130	233
5	100	213	146	172	165	122	220	e1800	529	204	e4000	239
6	85	194	156	189	158	119	188	e1730	489	284	e1700	259
7	91	196	159	189	166	119	142	1550	493	217	e1400	264
8	96	205	145	190	163	118	129	1250	473	196	e1150	243
9	95	195	150	179	166	113	126	1380	346	507	e1000	171
10	87	193	151	187	162	110	108	1510	510	223	1350	174
11	97	187	151	191	171	107	105	1450	411	192	772	158
12	96	195	154	187	162	108	94	1220	1490	192	578	202
13	92	191	157	175	178	111	88	988	1130	191	552	210
14	78	186	164	179	178	106	91	851	787	191	541	220
15	72	184	160	179	175	102	91	904	1020	187	518	271
16	95	187	150	173	165	119	112	981	841	270	490	327
17	99	185	160	175	161	127	91	958	838	1200	415	292
18	113	180	162	172	164	131	96	e950	746	1350	380	270
19	120	182	159	175	165	137	95	e900	571	654	341	242
20	121	190	156	165	161	137	80	e830	552	268	1070	316
21	123	173	152	162	159	136	79	e900	524	217	443	337
22	113	184	148	165	165	133	623	e850	458	201	408	268
23	107	181	157	161	158	155	707	e800	421	191	363	243
24	112	165	155	168	161	137	352	e750	666	190	333	211
25	118	164	174	169	159	140	328	e2500	1470	192	326	204
26	135	164	174	167	153	137	283	e2000	643	215	340	203
27	131	163	178	170	140	109	223	1820	421	183	246	227
28	258	161	156	165	148	107	213	2820	353	185	227	247
29	e190	160	155	169	---	108	e3500	1850	349	234	227	294
30	e150	163	152	169	---	107	e11000	1480	306	195	346	242
31	201	---	159	170	---	88	---	1250	---	1550	232	---
TOTAL	3574	5744	4849	5302	4562	3779	19910	49572	19962	10886	24604	7227
MEAN	115	191	156	171	163	122	664	1599	665	351	794	241
MAX	258	302	178	191	178	155	11000	4300	1490	1550	4000	337
MIN	72	160	145	143	140	88	79	750	306	183	227	158
AC-FT	7090	11390	9620	10520	9050	7500	39490	98330	39590	21590	48800	14330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1999, BY WATER YEAR (WY)

	78.3	98.3	89.6	98.5	104	111	138	302	205	111	160	76.3
MEAN	78.3	98.3	89.6	98.5	104	111	138	302	205	111	160	76.3
MAX	457	289	182	174	177	229	664	1599	1083	365	794	241
(WY)	1985	1985	1998	1996	1998	1998	1999	1999	1997	1985	1999	1999
MIN	.81	5.77	30.0	19.0	35.2	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 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1973 - 1999	
ANNUAL TOTAL	71782		159971			
ANNUAL MEAN	197		438			
HIGHEST ANNUAL MEAN					131	
LOWEST ANNUAL MEAN					438	1999
HIGHEST DAILY MEAN	1390	Jul 31	e11000	Apr 30	29.4	1978
LOWEST DAILY MEAN	22	Jul 20	72	Oct 15	.00	Jul 6 1973
ANNUAL SEVEN-DAY MINIMUM	40	Jul 16	88	Oct 9	.00	Aug 18 1973
INSTANTANEOUS PEAK FLOW			a19100	Apr 30	a19100	Apr 30 1999
INSTANTANEOUS PEAK STAGE			b9.80	Apr 30	b9.80	Apr 30 1999
ANNUAL RUNOFF (AC-FT)	142400		317300		94550	
10 PERCENT EXCEEDS	323		1010		246	
50 PERCENT EXCEEDS	166		187		85	
90 PERCENT EXCEEDS	90		108		4.0	

e Estimated  
a From rating curve extended above 15,000 ft<sup>3</sup>/s.  
b From floodmark.

ARKANSAS RIVER BASIN

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1976 to December 1983, December 1990 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 WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)
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APR	01...	0950	278	814	8.3	7.5	9.5	3.0	88	92	68	22
	22...	1030	271	816	8.4	10.0	9.3	5.0	37	K45	67	23
JUN	25...	1130	72	1000	8.3	22.0	--	<1.7	K20	K360	80	25
AUG	20...	1215	226	877	8.1	23.5	6.7	1.1	K740	1700	75	23

DATE	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	ALUM-INUM, DIS-SOLVED (UG/L) AS AL (01106)	ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS-SOLVED (UG/L) AS AS (01000)	BORON, TOTAL RECOV-ERABLE (UG/L) AS B (01022)	BORON, DIS-SOLVED (UG/L) AS B (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS CD (01027)	CADMIUM DIS-SOLVED (UG/L) AS CD (01025)
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APR	01...	--	1.9	3.60	.030	6.9	5	2	130	100	.535	<.070
	22...	230	1.8	2.90	.040	6.7	4	2	131	100	.230	.093
JUN	25...	260	2.2	2.60	.050	8.0	4	2	180	189	--	.12
AUG	20...	240	1.9	2.70	.050	7.0	9	4	170	160	.845	<.1

DATE	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)	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)
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APR	01...	7	<1.0	13.0	--	9000	<12.0	15	.25	305	2.00
	22...	5	<1.0	11.4	--	7430	<12.0	13	.19	253	2.00
JUN	25...	6	1.2	18	2.5	7400	<12	14	.18	240	2.0
AUG	20...	9	<1.0	18	3.0	13000	<12	44	.29	350	3.0

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L) AS HG (71900)	MERCURY DIS-SOLVED (UG/L) AS HG (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L) AS NI (01067)	NICKEL, DIS-SOLVED (UG/L) AS NI (01065)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L) AS SE (01147)	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, TOTAL RECOV-ERABLE (UG/L) AS ZN (01092)	ZINC, DIS-SOLVED (UG/L) AS ZN (01090)
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APR	01...	<.100	<.100	17	7.9	9	7.83	<.200	<.200	61.0	10
	22...	--	<.100	14	9.7	9	8	<.200	<.200	47.0	10.0
JUN	25...	<.10	<.100	13	13	8	8	<.200	<.2	50	10
AUG	20...	--	<.1	21	14	10	9	.237	<.20	90	12

K Based on non-ideal colony count.



ARKANSAS RIVER BASIN

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
OCT	21...	1115	117	1040	8.4	10.0	9.3	1.6	140	120	87	28
DEC	07...	1115	148	965	8.1	4.0	10.5	3.4	K360	K360	84	28
FEB	22...	1045	181	930	8.4	5.0	10.9	2.6	K20	K85	78	26
APR	19...	1100	102	1030	8.3	14.0	9.2	1.3	K10	37	87	28
JUN	21...	1115	436	771	8.3	20.5	7.3	1.1	K180	K390	70	20
AUG	16...	0945	466	763	8.2	18.0	7.9	<1.0	E820	520	66	20

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	
OCT	21...	250	2.0	3.10	<.020	.600	.200	3300	4.4	5	3	210
DEC	07...	270	1.8	3.20	.04	.600	.300	2700	7.7	3	2	200
FEB	22...	260	1.7	4.10	<.020	.600	.200	2200	8.0	3	2	220
APR	19...	260	1.9	3.40	<.020	.600	.500	1400	10	3	3	210
JUN	21...	190	2.0	2.10	<.020	.600	.200	5600	11	3	2	130
AUG	16...	200	2.0	2.10	<.020	.700	.100	8100	6.8	8	2	130

DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	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)	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)	
OCT	21...	207	.406	<.1	11.6	<1.0	11	2.3	4400	<12	10	.22
DEC	07...	202	.256	<.1	4	<1.0	12	3.4	3300	<12	8	.27
FEB	22...	214	.320	.11	3	2.3	8	3.8	3800	<12	8	.50
APR	19...	205	.177	.1	1	1.5	6	2.8	2200	<12	5	.32
JUN	21...	129	.387	.10	2	<1.0	6	2.0	8600	<12	13	<.15
AUG	16...	120	.626	<.1	7	2.6	18	1.9	13000	<12	21	<.15

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)	
OCT	21...	210	4.0	18	12	10.4	9.79	<.200	<.20	40	14	<.020
DEC	07...	180	4.1	11	12	8.67	10	<.200	<.20	40	18	<.020
FEB	22...	190	3.0	8	9.0	--	--	<.200	<.20	60	28	<.020
APR	19...	120	2.0	8	7.6	7.6	9.51	<.200	<.20	30	20	<.020
JUN	21...	270	4.0	6	5.0	8.88	6.88	<.200	<.20	52	8.0	<.010
AUG	16...	400	5.0	21	4.0	10	6	<.200	<.20	70	11	<.010

K Based on non-ideal colony count.

## ARKANSAS RIVER BASIN

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					MAY				
06...	1340	89	1080	17.5	14...	1645	877	670	17.5
20...	1040	125	1070	9.0	JUN				
28...	1145	303	825	14.0	01...	1500	802	749	19.0
NOV					08...	1110	470	740	18.0
09...	1315	198	1000	6.0	23...	1330	398	775	24.5
DEC					JUL				
02...	1330	160	1020	12.0	12...	1305	203	860	28.0
JAN					AUG				
06...	1130	195	969	3.5	03...	1450	408	862	24.0
FEB					16...	1130	486	813	21.0
17...	1355	169	989	7.0	SEP				
MAR					10...	1530	157	946	25.5
11...	1015	115	1040	6.0					
APR									
06...	1315	200	972	14.5					
22...	1000	1220	600	9.0					
26...	1250	274	849	13.0					

07106500 FOUNTAIN CREEK AT PUEBLO, CO

LOCATION.--Lat 38°17'16", long 104°36'02", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.19, T.20 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, on left bank at upstream side of bridge on U.S. Highway 50 at Pueblo and 2.6 mi upstream from mouth.

DRAINAGE AREA.--926 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1922 to September 1925, October 1940 to September 1965, February 1971 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WDR CO-79-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 4,705 ft above sea level, from topographic map. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1940, and WSP 1921 for changes Oct.2, 1940 to Sept.30, 1965. Feb. 1, 1971 to Sept. 30, 1976, water-stage recorder at site 1.4 mi upstream at datum 4,725.30 ft, above sea level(unadjusted).

REMARKS.--Records fair except for Dec. 21-29, Jan. 5-7, estimated daily discharges, and those above 2,000 ft<sup>3</sup>/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 14,000 acres, and return flow from irrigated areas.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903, that of June 17, 1965. Flood of June 4, 1921, reached a discharge of 34,000 ft<sup>3</sup>/s, by slope-area measurement. Flood of May 30, 1935, reached a discharge of 35,000 ft<sup>3</sup>/s, by slope-area measurement.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	266	158	139	171	157	92	4700	954	265	2270	244
2	145	275	155	137	161	134	170	4400	789	281	1160	241
3	127	213	157	131	158	137	277	2300	702	253	408	231
4	117	215	158	127	159	124	253	1740	596	228	1710	232
5	125	208	155	169	162	118	211	e1600	514	228	4360	223
6	107	188	164	181	165	119	199	e1500	499	398	1960	232
7	103	191	166	173	168	119	126	e1200	497	244	1590	211
8	111	187	157	170	168	118	111	e1000	488	220	1240	209
9	116	187	150	164	168	115	112	e1100	478	546	1120	184
10	106	188	153	172	167	114	98	e1200	605	308	1040	174
11	103	184	151	173	163	113	101	1270	564	232	708	175
12	99	182	157	178	156	123	91	1150	977	224	632	191
13	99	188	165	170	166	128	81	1030	1140	243	598	213
14	87	187	166	166	172	119	86	1040	803	212	580	190
15	76	188	164	167	169	115	88	1320	1050	200	520	243
16	80	192	159	171	177	131	101	1420	741	499	485	284
17	110	192	159	171	169	131	92	1360	770	1450	473	249
18	109	193	162	166	167	146	92	1190	663	1380	413	241
19	121	193	162	172	168	149	91	973	560	692	390	225
20	124	199	152	172	169	150	81	834	528	287	1010	293
21	125	195	148	172	168	143	79	881	537	257	424	405
22	125	198	155	173	172	135	527	835	480	255	390	264
23	113	195	166	171	169	155	694	749	477	242	377	251
24	116	188	162	174	168	140	397	717	756	215	318	234
25	125	171	171	176	174	137	340	2460	1430	204	307	239
26	145	166	188	173	168	136	323	1720	692	244	300	239
27	147	164	180	175	156	106	258	1470	476	168	312	262
28	228	165	167	169	156	104	303	1740	369	193	303	283
29	182	165	168	171	---	102	3440	1420	305	276	304	342
30	145	164	143	168	---	102	11400	1280	276	210	444	256
31	159	---	142	175	---	88	---	1040	---	1190	275	---
TOTAL	3793	5787	4960	5166	4654	3908	20314	46639	19716	11844	26421	7260
MEAN	122	193	160	167	166	126	677	1504	657	382	852	242
MAX	228	275	188	181	177	157	11400	4700	1430	1450	4360	405
MIN	76	164	142	127	156	88	79	717	276	168	275	174
AC-FT	7520	11480	9840	10250	9230	7750	40290	92510	39110	23490	52410	14400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1999, BY WATER YEAR (WY)

	53.8	67.3	64.2	66.6	72.1	69.3	92.5	202	149	84.8	132	50.2
MEAN	53.8	67.3	64.2	66.6	72.1	69.3	92.5	202	149	84.8	132	50.2
MAX	513	303	193	185	180	232	677	1504	1104	429	852	242
(WY)	1985	1985	1998	1985	1998	1998	1999	1999	1997	1995	1999	1999
MIN	.61	.90	1.10	1.90	1.40	1.00	1.10	.28	.71	.96	.71	.37
(WY)	1963	1955	1955	1954	1954	1954	1955	1950	1963	1964	1960	1978

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1922 - 1999	
ANNUAL TOTAL	73512		160462			
ANNUAL MEAN	201		440		94.0	
HIGHEST ANNUAL MEAN					440	
LOWEST ANNUAL MEAN					4.42	
HIGHEST DAILY MEAN	1370	Jul 31	11400	Apr 30	11400	Apr 30 1999
LOWEST DAILY MEAN	19	Jul 22	76	Oct 15	a.00	May 12 1923
ANNUAL SEVEN-DAY MINIMUM	47	Jul 16	89	Apr 15	.00	Sep 9 1945
INSTANTANEOUS PEAK FLOW			b18900	Apr 30	c47000	Jun 17 1965
INSTANTANEOUS PEAK STAGE			d9.72	Apr 30	d19.00	Jun 17 1965
ANNUAL RUNOFF (AC-FT)	145800		318300		68100	
10 PERCENT EXCEEDS	334		1070		190	
50 PERCENT EXCEEDS	175		188		37	
90 PERCENT EXCEEDS	91		115		1.0	

e Estimated

a No flow at times many years.

b From rating curve extended above 16000 ft<sup>3</sup>/s.

c Site and datum then in use, from rating curve extended above 400 ft<sup>3</sup>/s, on basis of contracted-opening measurement of peak flow.

d From floodmarks.

ARKANSAS RIVER BASIN

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. Instantaneous discharge and selected water-quality data collected as part of a basin-wide water-quality assessment of the lower Arkansas River basin in Colorado are published elsewhere in this report.

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.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,600 microsiemens, Oct. 1; minimum, 167 microsiemens, July 16.  
 WATER TEMPERATURE: Maximum, 31.4°C, July 25; minimum, 0.0°C, many days.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					APR				
21...	1430	127	1160	13.0	19...	0915	97	1170	9.5
26...	1140	155	1180	15.5	26...	1130	360	880	10.2
DEC					JUN				
07...	0845	164	1060	2.0	14...	1145	855	745	20.5
FEB					21...	0945	671	875	18.0
22...	0900	168	1080	2.5	AUG				
MAR					09...	1130	921	752	21.5
01...	1230	188	1080	10.5	16...	0745	481	841	16.5
					16...	1130	--	706	--

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1600	1180	1310	1120	788	1040	1120	1110	1110	1110	1090	1100
2	1310	1190	1240	1050	771	899	1120	1110	1110	1110	1070	1090
3	1300	1220	1260	1090	1020	1060	1110	1100	1100	1110	1050	1080
4	1300	1260	1280	1100	1010	1060	1110	1090	1100	1140	1060	1100
5	1310	1230	1250	1100	993	1040	1110	1090	1100	1110	1060	1080
6	1290	1230	1260	1130	1060	1090	1110	1070	1090	1080	1040	1060
7	1310	1250	1270	1160	1080	1110	1090	1080	1090	1070	1050	1060
8	1290	1190	1260	1170	1080	1120	1110	1080	1090	1080	1050	1060
9	1330	1200	1240	1180	1110	1150	1130	1110	1110	1070	1040	1060
10	1270	1200	1230	1160	1110	1140	1110	1100	1110	1090	1040	1060
11	1270	1200	1220	1190	1100	1140	1130	1090	1100	1080	1050	1060
12	1300	1190	1240	1200	1090	1150	1110	1090	1100	1080	1040	1060
13	1290	1190	1250	1170	1110	1130	1100	1080	1090	1060	1050	1060
14	1310	1250	1270	1120	1100	1110	1100	1080	1090	1060	1040	1050
15	1290	1220	1250	1120	1100	1110	1090	1080	1090	1070	1050	1060
16	1260	1170	1210	1130	1090	1110	1100	1080	1090	1060	1040	1050
17	1430	1160	1220	1110	1090	1100	1100	1070	1090	1070	1040	1050
18	1210	1140	1190	1120	1090	1100	1100	1080	1090	1060	1040	1050
19	1220	1180	1200	1100	1080	1090	1110	1060	1070	1070	1040	1050
20	1230	1180	1210	1100	1070	1080	1130	1070	1100	1080	1050	1060
21	1240	1200	1210	1100	1080	1090	1190	1070	1150	1080	1050	1060
22	1260	1190	1220	1100	1070	1090	1210	973	1130	1080	1050	1060
23	1270	1240	1250	1100	1070	1080	1220	968	1130	1070	1030	1050
24	1270	1200	1240	1100	1070	1080	1150	974	1040	1080	1040	1060
25	1250	1070	1200	1120	1100	1100	1140	955	1050	1060	1030	1040
26	1320	1160	1210	1110	1100	1110	1180	999	1070	1050	1020	1040
27	1210	1170	1190	1120	1100	1110	1180	1030	1100	1050	1000	1030
28	1210	909	1080	1130	1100	1120	1200	1150	1160	1050	1030	1040
29	1100	856	969	1130	1110	1120	1150	1110	1120	1050	1030	1040
30	1120	1070	1090	1130	1100	1110	1130	1110	1120	1060	1040	1050
31	1160	1080	1120	---	---	---	1120	1090	1110	1060	1030	1040
MONTH	1600	856	1210	1200	771	1090	1220	955	1100	1140	1000	1060

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1070	1020	1040	1110	1080	1090	1210	1160	1190	670	495	580
2	1080	1020	1060	1110	1090	1100	1220	951	1130	623	519	585
3	1190	1070	1090	1110	1080	1100	1040	931	984	724	601	642
4	1120	1080	1090	1130	1090	1110	1160	1010	1090	901	723	831
5	1110	1080	1090	1130	1120	1120	1120	1030	1070	---	---	---
6	1090	1070	1080	1130	1110	1120	1090	1040	1060	---	---	---
7	1100	1070	1080	1130	1100	1120	1150	1090	1130	---	---	---
8	1090	1050	1070	1130	1120	1120	1160	1150	1160	---	---	---
9	1090	1060	1070	1130	1100	1120	1160	1140	1150	---	---	---
10	1080	1070	1070	1130	1120	1130	1170	1150	1160	---	---	---
11	1080	1050	1060	1150	1110	1140	1190	1160	1170	666	615	634
12	1100	850	1040	1150	1120	1130	1200	1170	1180	663	614	629
13	1080	1030	1060	1250	1110	1150	1230	1200	1210	662	639	652
14	1070	1040	1050	1170	1150	1160	1230	1190	1210	661	639	655
15	1070	1030	1050	1150	1140	1150	1230	1190	1210	665	616	638
16	1060	1020	1040	1140	1100	1120	1200	1150	1170	634	609	622
17	1080	1050	1070	1140	1100	1120	1220	1180	1200	633	605	620
18	1090	1070	1080	1100	1080	1090	1220	1190	1200	666	617	643
19	1100	1090	1090	1110	1070	1090	1210	1200	1200	684	659	671
20	1100	1080	1090	1100	1090	1090	1240	1210	1230	705	674	690
21	1100	1070	1080	1100	1090	1100	1420	1190	1250	701	668	686
22	1110	1060	1080	1130	1100	1110	1530	593	965	717	675	690
23	1100	1070	1080	1130	1080	1100	718	598	661	705	682	692
24	1100	1070	1080	1130	1090	1110	940	695	841	723	689	703
25	1140	1070	1080	1130	1110	1110	967	899	941	702	516	578
26	1180	1080	1090	1120	1100	1110	974	874	907	613	532	579
27	1110	1090	1100	1160	1120	1140	1030	974	1000	641	607	624
28	1110	1080	1100	1160	1150	1160	1350	1010	1070	624	575	595
29	---	---	---	1320	1140	1170	1150	508	736	664	599	632
30	---	---	---	1170	1150	1160	650	455	556	691	658	674
31	---	---	---	1200	1160	1190	---	---	---	711	678	692
MONTH	1190	850	1070	1320	1070	1120	1530	455	1070	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	727	692	707	1020	989	1000	739	492	630	1090	1060	1070
2	737	705	720	1010	955	976	928	560	811	1100	1070	1090
3	754	718	735	1040	922	1010	971	925	948	1110	1080	1100
4	778	732	754	1030	1000	1020	966	498	797	1110	1080	1100
5	801	764	781	1070	1000	1040	932	559	669	1130	1080	1110
6	828	781	802	1480	1000	1080	773	599	720	1140	1100	1120
7	847	802	825	1060	1010	1030	691	497	606	1130	1090	1120
8	852	826	840	1070	1040	1060	732	691	710	1160	1110	1140
9	843	803	825	1060	834	912	785	718	756	1200	1140	1170
10	984	785	840	1030	907	964	764	671	722	1200	1160	1180
11	828	779	799	1160	992	1030	792	756	775	1220	1180	1190
12	830	545	668	1160	1020	1060	819	766	793	1210	1140	1160
13	707	641	670	1130	1080	1100	822	792	808	1180	1150	1160
14	971	440	773	1130	1110	1120	837	804	821	1180	1140	1160
15	829	615	712	1150	1110	1130	859	819	843	1170	1090	1140
16	817	768	789	1400	167	1100	875	845	860	1150	1080	1100
17	833	791	810	1010	629	720	899	862	881	1130	1090	1110
18	886	815	843	867	586	745	925	877	903	1150	1100	1120
19	916	858	887	917	813	865	1050	655	926	1170	1120	1140
20	926	893	907	1010	917	974	953	694	791	1160	1100	1130
21	938	898	921	1200	953	1030	937	823	885	1120	1080	1090
22	946	906	919	1200	1050	1070	946	922	934	1150	1100	1130
23	925	889	909	1100	1060	1070	972	932	949	1190	1140	1150
24	923	727	851	1090	1050	1070	1000	958	974	1180	1150	1170
25	791	516	642	1080	1050	1060	1040	981	1000	1200	1150	1180
26	841	681	784	1060	990	1030	1030	1000	1010	1210	1160	1180
27	891	834	863	1200	1000	1100	1030	991	1010	1200	1150	1170
28	1010	874	931	1210	1040	1150	1110	1020	1040	1170	1140	1150
29	1010	948	982	1160	1000	1090	1070	1020	1030	1140	1090	1120
30	1020	977	996	1170	794	1070	1020	919	969	1160	1110	1140
31	---	---	---	1180	512	801	1070	971	1030	---	---	---
MONTH	1020	440	816	1480	167	1020	1110	492	858	1220	1060	1140

## ARKANSAS RIVER BASIN

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.3	11.8	13.6	9.2	6.9	8.2	10.8	3.7	7.1	5.8	1.6	3.4
2	20.1	11.4	14.6	9.1	8.1	8.6	10.9	5.8	7.9	3.8	.4	2.1
3	20.7	10.9	15.2	9.4	7.6	8.2	10.5	4.1	7.2	2.1	.0	.5
4	18.0	11.2	14.4	10.7	7.1	8.4	9.4	3.7	6.4	1.9	.0	.4
5	15.8	8.2	11.8	8.3	6.5	7.4	8.7	3.2	5.6	5.6	.0	2.0
6	18.4	7.2	12.1	12.9	7.5	9.5	5.2	2.8	3.9	6.2	.0	2.7
7	18.9	7.4	12.6	11.5	7.0	8.7	5.9	1.3	3.3	5.2	1.2	2.9
8	20.1	9.2	14.2	9.5	5.3	7.3	4.4	.0	1.6	3.6	.1	1.8
9	20.3	10.1	14.7	7.6	3.3	5.7	2.4	.0	1.0	5.0	.0	2.2
10	20.9	9.4	14.5	6.9	1.2	3.8	4.5	.0	1.6	5.7	.0	2.6
11	18.2	9.3	13.2	8.6	1.2	4.7	4.2	.0	1.5	7.4	1.8	4.5
12	16.8	8.4	12.2	9.4	3.1	6.0	6.1	.0	2.5	5.4	2.7	4.3
13	18.3	8.0	12.7	9.9	2.5	6.2	5.9	.0	2.7	4.2	.0	2.3
14	20.5	9.1	14.2	11.2	4.2	7.5	6.3	.0	2.9	4.4	.0	2.0
15	19.3	10.3	13.9	11.4	4.5	7.8	6.3	.2	3.1	7.3	2.0	4.5
16	16.4	7.5	11.5	11.2	5.4	8.2	6.0	.4	3.0	6.2	2.2	4.4
17	16.6	8.1	11.5	8.3	5.1	6.7	7.0	.1	3.4	6.7	1.3	3.4
18	16.0	6.3	10.7	10.0	4.3	7.0	6.7	1.5	3.8	7.1	.0	3.2
19	16.0	6.6	11.0	9.5	4.7	6.7	2.7	.0	.3	8.2	3.2	5.5
20	11.7	9.0	10.4	8.6	3.1	5.7	.0	.0	.0	7.6	1.8	4.7
21	13.6	9.3	10.7	8.8	2.4	5.6	.1	.0	.0	4.8	2.3	3.6
22	16.7	6.8	11.4	11.3	4.7	7.8	.0	.0	.0	7.0	1.2	3.4
23	18.0	8.5	12.8	9.7	4.9	7.2	.0	.0	.0	6.5	.0	2.8
24	17.2	8.7	12.5	9.0	3.6	6.3	.0	.0	.0	7.8	1.4	4.3
25	15.4	8.7	11.9	9.5	4.2	6.7	.1	.0	.0	6.1	.8	3.3
26	16.8	10.6	13.5	10.7	3.8	7.1	.2	.0	.0	6.5	.3	3.0
27	13.7	10.7	12.3	11.6	4.6	7.8	1.8	.0	.5	6.3	.0	2.9
28	14.3	9.2	11.6	10.1	5.7	7.8	5.5	.0	2.2	7.4	2.3	4.2
29	14.7	7.3	10.5	10.6	6.7	8.1	5.8	.6	3.1	4.4	.0	2.4
30	13.9	8.1	10.6	10.2	3.9	7.0	7.0	1.5	4.0	5.7	2.8	4.2
31	10.6	8.4	9.4	---	---	---	4.6	2.6	3.8	9.6	4.5	6.6
MONTH	20.9	6.3	12.5	12.9	1.2	7.1	10.9	.0	2.7	9.6	.0	3.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.2	2.8	5.9	12.9	2.9	7.6	15.8	6.3	10.3	7.5	6.9	7.3
2	7.2	.0	3.4	9.7	4.0	6.8	8.2	2.7	4.8	11.7	5.8	8.4
3	9.0	2.4	5.1	11.2	1.0	6.1	12.4	2.3	6.7	11.7	8.7	10.3
4	6.8	.4	3.7	12.7	3.0	7.5	11.1	4.7	7.6	11.4	9.0	10.1
5	9.2	3.6	5.9	11.3	3.8	7.3	15.6	5.9	10.1	---	---	---
6	9.1	1.6	5.1	7.8	3.2	5.2	17.3	5.6	11.0	---	---	---
7	10.3	3.1	6.3	12.3	1.6	6.4	18.7	6.4	12.2	---	---	---
8	11.7	3.5	7.3	12.9	4.8	8.2	16.2	4.9	10.7	---	---	---
9	10.7	2.7	6.6	12.6	1.9	7.0	16.5	6.1	10.3	---	---	---
10	11.2	3.1	6.6	12.0	3.3	7.4	15.1	2.4	8.3	---	---	---
11	4.6	.0	1.8	11.8	3.1	6.9	17.1	4.1	10.1	12.3	8.5	10.0
12	6.4	.0	2.4	6.0	2.0	3.9	19.6	5.1	11.9	16.0	6.7	11.0
13	8.7	.0	3.9	11.9	.0	5.6	16.4	7.5	11.6	18.9	9.6	13.9
14	9.1	.5	4.8	14.3	2.3	8.1	12.1	6.4	9.0	18.8	11.0	14.6
15	6.4	1.3	4.0	12.6	4.6	8.2	13.4	4.1	7.4	19.4	11.2	15.0
16	6.1	.0	3.2	15.8	4.7	9.9	10.6	1.9	6.0	17.1	11.6	13.9
17	7.1	.5	3.8	13.5	4.4	8.7	16.8	2.1	8.9	18.0	9.9	13.4
18	8.5	.6	4.3	7.3	4.3	5.6	15.9	4.5	10.0	19.4	10.2	14.5
19	9.2	.8	4.9	12.3	3.7	7.2	19.4	6.9	13.2	19.8	12.0	15.7
20	10.1	3.2	6.1	15.2	3.3	9.0	20.6	7.9	14.0	20.0	12.4	16.1
21	8.4	.4	4.2	16.4	5.3	10.3	17.5	9.3	12.8	22.2	13.4	17.3
22	7.4	1.6	4.1	16.0	5.1	10.4	10.6	8.1	9.3	21.7	13.8	17.1
23	9.8	.0	4.4	15.6	6.0	10.7	8.1	6.0	7.2	20.8	13.9	17.2
24	11.4	2.2	6.5	16.9	7.9	11.5	8.0	6.2	7.2	22.5	13.8	17.6
25	12.3	2.8	7.3	16.8	7.8	11.7	14.2	6.5	10.1	16.1	12.6	14.0
26	11.3	2.9	6.7	17.1	6.6	11.5	15.5	6.7	10.8	18.7	11.8	14.9
27	10.6	.9	5.5	18.5	8.1	12.4	19.2	8.2	13.5	20.5	13.5	16.5
28	11.0	1.0	6.0	15.9	5.8	10.4	15.5	10.3	12.4	20.6	13.0	16.5
29	---	---	---	16.6	4.5	10.1	11.1	7.0	8.4	19.5	14.0	16.5
30	---	---	---	15.5	5.7	10.4	8.3	7.5	7.8	21.0	13.0	16.8
31	---	---	---	17.5	5.9	10.9	---	---	---	22.2	13.6	17.3
MONTH	12.3	.0	5.0	18.5	.0	8.5	20.6	1.9	9.8	---	---	---

ARKANSAS RIVER BASIN

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.1	13.5	17.4	28.0	18.1	22.3	20.1	18.3	18.9	26.5	17.7	21.8
2	21.9	13.8	17.3	27.0	17.9	22.1	22.1	17.8	19.4	27.3	18.2	22.0
3	22.8	13.4	17.6	26.6	17.7	21.6	25.9	18.2	21.4	25.2	16.3	20.4
4	22.5	13.2	17.2	27.9	17.4	22.3	22.5	19.2	20.5	25.9	15.0	19.8
5	19.0	11.7	15.2	28.9	18.1	23.0	22.6	18.7	20.3	26.1	16.5	20.3
6	22.0	9.8	15.5	28.1	19.4	22.9	23.0	18.2	20.6	24.8	15.5	19.9
7	23.6	12.9	17.9	30.3	19.0	24.0	25.1	18.0	21.0	26.2	14.6	19.7
8	24.0	13.3	18.3	29.2	18.6	22.6	25.4	18.2	21.5	24.3	15.6	19.0
9	24.4	13.4	18.7	21.6	18.8	19.9	25.2	18.3	21.5	25.5	13.0	18.5
10	22.8	13.4	17.9	27.3	16.3	21.1	24.9	18.4	21.2	25.8	15.2	19.4
11	23.7	15.0	18.3	28.0	16.8	21.2	25.7	18.2	21.3	24.6	14.1	18.8
12	19.0	14.6	16.5	29.3	17.2	22.6	25.1	16.8	20.8	18.3	13.1	14.5
13	21.7	13.1	17.0	30.4	17.3	23.2	25.7	17.4	21.2	23.4	12.0	16.8
14	23.2	15.3	18.0	28.9	17.7	22.6	26.1	17.7	21.2	22.6	12.6	17.2
15	17.4	13.9	15.7	28.5	17.9	22.1	24.1	18.2	21.1	17.0	14.9	16.1
16	15.2	13.6	14.4	26.9	18.6	21.9	26.6	16.3	21.2	23.2	14.7	18.0
17	23.1	12.7	17.2	24.6	18.7	21.5	27.2	18.2	22.0	24.0	16.0	19.2
18	25.2	14.6	19.5	26.8	19.2	22.4	27.1	17.8	21.7	24.0	12.8	17.9
19	26.3	15.3	20.6	26.8	18.6	22.3	27.0	17.8	21.6	16.9	12.9	14.8
20	24.5	16.4	20.2	28.7	19.0	23.3	24.5	18.0	21.0	15.1	12.2	13.3
21	25.0	15.8	20.0	29.6	18.6	23.3	27.6	18.2	22.3	21.5	10.3	15.2
22	25.5	16.1	20.5	30.2	18.6	23.3	26.2	18.1	21.8	22.1	10.9	16.1
23	27.3	15.5	20.9	26.7	19.4	22.4	27.3	16.9	21.6	22.6	13.0	17.2
24	26.2	17.4	21.2	29.1	18.5	23.0	27.6	17.0	21.7	22.1	13.2	17.1
25	25.5	16.6	20.7	31.4	18.7	23.5	28.5	16.9	22.0	23.1	12.4	17.1
26	27.5	16.5	21.6	29.0	18.4	22.7	28.3	17.4	22.4	21.0	12.0	16.0
27	27.8	17.2	22.2	30.3	18.9	23.4	28.7	18.5	23.0	15.0	11.1	12.5
28	26.3	16.3	21.2	30.6	18.7	23.7	28.3	19.0	22.6	14.6	8.6	11.4
29	27.9	15.6	21.1	29.8	19.0	23.6	25.8	19.0	22.0	17.9	5.8	11.3
30	28.0	18.3	22.7	31.1	18.8	23.4	26.5	17.4	21.6	19.0	8.2	13.1
31	---	---	---	24.8	18.5	21.3	28.2	17.8	22.4	---	---	---
MONTH	28.0	9.8	18.8	31.4	16.3	22.5	28.7	16.3	21.4	27.3	5.8	17.1

ARKANSAS RIVER BASIN

07107900 GREENHORN CREEK NEAR RYE, CO

LOCATION.--Lat 37°55'14", long 104°57'21", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.36, T.24 S., R.68 W., Pueblo County, Hydrologic Unit 11020002, on right bank, 20 ft upstream from road bridge in Rye Mountain Park and 1.4 mi west of Post Office in Rye.

DRAINAGE AREA.--9.56 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1973 to September 1979, October 1998 to current year.

GAGE.--Water-stage recorder. October 1973 to September 1979, 5 ft downstream, in midstream, at different datum. Elevation of gage is 7,220 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, and those above 35 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	4.1	3.0	e2.0	2.3	2.1	2.4	24	24	7.1	9.8	3.6
2	5.7	4.0	3.0	e2.0	e2.3	2.1	2.6	25	23	6.8	12	3.6
3	4.6	3.8	3.0	e2.0	2.3	2.2	2.9	23	22	6.5	11	3.4
4	3.9	3.9	3.0	e2.0	2.5	2.1	2.6	20	22	7.1	13	3.4
5	3.6	3.8	2.9	e2.0	2.2	2.0	2.5	16	20	8.1	13	3.4
6	3.5	3.8	3.1	e2.0	2.2	2.1	2.7	13	19	8.6	11	3.1
7	3.6	3.6	4.0	e2.0	2.2	e2.2	2.9	12	19	7.7	11	3.2
8	3.6	3.7	4.2	e2.0	2.3	2.1	2.9	13	19	8.0	9.4	4.0
9	3.4	3.9	3.5	e2.0	2.2	2.3	2.8	13	18	7.9	7.6	3.8
10	3.5	4.7	3.4	e2.0	2.2	2.1	2.7	e13	18	7.0	7.7	3.2
11	3.6	4.5	3.1	e2.0	e2.2	2.1	2.7	16	16	6.2	8.0	3.1
12	3.6	3.6	2.9	e2.0	e2.2	e2.1	2.8	14	15	5.6	6.6	3.2
13	3.5	3.5	e2.8	e2.0	e2.3	e2.2	3.1	17	15	5.1	5.6	3.1
14	3.5	3.6	e2.5	e2.2	2.2	2.3	3.2	25	15	4.7	4.7	3.0
15	3.4	3.7	e2.3	e2.3	2.1	2.2	3.2	30	17	4.5	4.9	3.8
16	3.4	3.6	e2.1	e2.4	2.4	2.1	3.5	30	19	4.3	4.6	3.7
17	3.4	3.5	e2.0	e2.5	2.2	2.1	3.7	26	18	4.2	4.3	3.5
18	3.4	3.4	e2.0	e2.5	2.1	2.1	3.4	24	16	4.3	4.7	3.3
19	3.4	3.4	e2.0	e2.5	2.3	e2.3	3.9	29	15	3.9	5.5	3.2
20	3.4	3.5	e1.9	e2.5	2.0	2.2	4.5	30	13	4.1	6.3	3.3
21	3.4	3.6	e1.8	e2.5	2.3	2.3	4.7	e30	13	4.7	8.7	3.0
22	3.3	3.3	e1.8	e2.5	2.0	2.3	4.8	e31	12	4.6	5.8	2.7
23	3.3	3.2	e1.8	e2.5	2.5	2.3	4.9	e31	12	3.7	5.2	2.5
24	3.3	3.2	e1.9	e2.5	2.1	2.6	4.7	e31	12	3.0	4.7	2.4
25	3.4	3.1	e2.0	e2.6	2.1	2.5	5.0	30	12	3.2	4.6	2.4
26	4.4	3.1	e2.2	2.6	2.0	2.5	5.0	27	10	3.1	4.9	2.5
27	4.7	3.1	e2.0	2.9	2.1	2.6	5.3	26	9.2	4.0	4.9	2.5
28	4.5	3.2	e2.0	e2.5	2.3	2.5	6.5	28	9.0	4.3	4.9	2.8
29	4.0	3.2	e2.0	e2.5	---	2.4	26	27	8.3	5.4	4.6	3.1
30	3.9	3.1	e2.0	2.5	---	2.4	22	28	7.5	5.3	3.4	3.1
31	4.2	---	e2.0	2.4	---	2.5	---	26	---	7.0	3.4	---
TOTAL	118.2	107.7	78.2	70.9	62.1	69.9	149.9	728	468.0	170.0	215.8	94.9
MEAN	3.81	3.59	2.52	2.29	2.22	2.25	5.00	23.5	15.6	5.48	6.96	3.16
MAX	5.8	4.7	4.2	2.9	2.5	2.6	26	31	24	8.6	13	4.0
MIN	3.3	3.1	1.8	2.0	2.0	2.0	2.4	12	7.5	3.0	3.4	2.4
AC-FT	234	214	155	141	123	139	297	1440	928	337	428	188

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, 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	1999
MEAN	3.30	2.40	1.71	1.65	1.84	2.38	4.50	11.6	10.8	6.19	4.27	2.62														
MAX	7.09	4.06	2.52	2.29	3.08	3.59	5.62	23.5	22.3	18.6	6.96	4.19														
(WY)	1977	1977	1999	1999	1977	1974	1977	1999	1975	1975	1999	1976														
MIN	1.37	.88	1.04	1.24	1.34	1.64	3.92	4.75	2.54	1.10	1.17	.90														
(WY)	1979	1979	1974	1979	1975	1978	1975	1978	1978	1978	1978	1978														

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1974 - 1999

ANNUAL TOTAL	2333.6		
ANNUAL MEAN	6.39	4.45	
HIGHEST ANNUAL MEAN		6.44	1975
LOWEST ANNUAL MEAN		2.05	1978
HIGHEST DAILY MEAN	31	69	Jul 10 1975
LOWEST DAILY MEAN	e1.8	.60	Nov 13 1978
ANNUAL SEVEN-DAY MINIMUM	1.9	.63	Nov 13 1978
INSTANTANEOUS PEAK FLOW	a69	b340	Jul 10 1975
INSTANTANEOUS PEAK STAGE	5.63	c3.90	Jul 10 1975
ANNUAL RUNOFF (AC-FT)	4630	3230	
10 PERCENT EXCEEDS	17	9.7	
50 PERCENT EXCEEDS	3.4	2.6	
90 PERCENT EXCEEDS	2.1	1.2	

- e Estimated
- a From rating curve extended above 35 ft<sup>3</sup>/s.
- b From slope-area measurement of peak flow.
- c Site and datum then in use.



07108100 GRANEROS CREEK NEAR RYE, CO

LOCATION.--Lat 37°54'47", long 104°55'31", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.31, T.24 S., R.67 W., Pueblo County, Hydrologic Unit 11020003, on right bank at downstream side of culvert on Greenhorn Road. 0.7 mile southeast of Rye, and 2.7 miles upstream from Steele Hollow Creek.

DRAINAGE AREA.--4.32 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1998 to September 1999.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,770 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair except those above 20 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	.65	.55	.41	.42	.40	.48	25	11	2.8	2.3	.41
2	.45	.56	.59	.38	.43	.39	.61	21	11	2.2	3.7	.33
3	.33	.51	.58	.37	.45	.39	.63	21	11	1.9	2.0	.27
4	.27	.56	.55	.40	.45	.38	.61	20	11	1.6	5.7	.23
5	.30	.50	.50	.40	.45	.38	.78	20	11	1.4	6.4	.21
6	.31	.53	.48	.42	.44	.34	.92	17	10	1.8	4.3	.15
7	.26	.53	.46	.43	.45	.42	1.1	16	10	1.2	3.3	.05
8	.23	.50	.47	.42	.44	.41	1.2	16	11	1.2	2.8	.07
9	.19	.65	.45	.41	.44	.39	1.1	18	11	1.5	2.3	.08
10	.19	.49	.46	.42	.45	.40	.84	18	11	1.4	2.5	.07
11	.20	.58	.51	.43	.40	.39	.77	17	11	2.4	2.1	.12
12	.20	.55	.51	.43	.45	.38	.70	15	10	2.1	1.2	.19
13	.19	.56	.51	.41	.48	.44	.78	14	10	1.6	.98	.20
14	.17	.62	.50	.41	.47	.43	1.0	16	9.9	1.2	.79	.14
15	.16	.66	.49	.43	.44	.43	.90	15	10	1.3	.74	.33
16	.18	.74	.48	.43	.44	.41	.79	13	11	3.1	.69	.35
17	.20	.68	.47	.40	.45	.40	.95	11	11	2.4	.58	.32
18	.21	.60	.47	.41	.42	.42	1.4	10	9.7	1.4	.81	.22
19	.20	.57	.43	.52	.45	.45	1.9	11	9.1	.98	1.6	.20
20	.21	.50	.42	.51	.40	.44	2.6	11	8.7	1.2	3.7	.39
21	.24	.54	.37	.51	.42	.45	2.7	11	8.3	.91	5.2	.33
22	.22	.54	.41	.43	.38	.47	3.2	12	7.8	.73	4.1	.20
23	.21	.55	.40	.48	.42	.51	3.6	12	7.3	.59	3.4	.12
24	.20	.50	.44	.50	.44	.75	3.2	12	6.8	.54	2.4	.10
25	.23	.51	.43	.49	.40	.60	4.1	12	6.4	.54	1.8	.08
26	.45	.52	.45	.45	.39	.60	4.6	11	5.7	.40	1.4	.07
27	.57	.55	.45	.43	.37	.61	4.6	10	5.2	.52	1.3	.12
28	.48	.57	.44	.44	.40	.60	5.5	11	4.6	.39	1.3	.31
29	.36	.59	.44	.45	---	.54	18	11	3.8	.47	1.3	.31
30	.36	.57	.45	.46	---	.50	37	11	3.2	.92	.76	.27
31	.55	---	.42	.45	---	.48	---	11	---	1.2	.44	---
TOTAL	8.85	16.98	14.58	13.53	12.04	14.20	106.56	449	267.5	41.89	71.89	6.24
MEAN	.29	.57	.47	.44	.43	.46	3.55	14.5	8.92	1.35	2.32	.21
MAX	.57	.74	.59	.52	.48	.75	37	25	11	3.1	6.4	.41
MIN	.16	.49	.37	.37	.37	.34	.48	10	3.2	.39	.44	.05
AC-FT	18	34	29	27	24	28	211	891	531	83	143	12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

MEAN	.29	.57	.47	.44	.43	.46	3.55	14.5	8.92	1.35	2.32	.21
MAX	.29	.57	.47	.44	.43	.46	3.55	14.5	8.92	1.35	2.32	.21
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	.29	.57	.47	.44	.43	.46	3.55	14.5	8.92	1.35	2.32	.21
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

ANNUAL TOTAL	1023.26
ANNUAL MEAN	2.80
HIGHEST ANNUAL MEAN	
LOWEST ANNUAL MEAN	
HIGHEST DAILY MEAN	37 Apr 30
LOWEST DAILY MEAN	.05 Sep 7
ANNUAL SEVEN-DAY MINIMUM	.10 Sep 6
INSTANTANEOUS PEAK FLOW	a49 Apr 30
INSTANTANEOUS PEAK STAGE	2.46 Apr 30
ANNUAL RUNOFF (AC-FT)	2030
10 PERCENT EXCEEDS	11
50 PERCENT EXCEEDS	.52
90 PERCENT EXCEEDS	.24

a From rating curve extended above 20 ft<sup>3</sup>/s.

ARKANSAS RIVER BASIN

07108900 ST. CHARLES RIVER AT VINELAND, CO

LOCATION.--Lat 38°14'44", long 104°29'09", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 50°E, 1.6 mi west of Vineland, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--474 mi<sup>2</sup>.

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 4,400 ft<sup>3</sup>/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 ft<sup>3</sup>/s, at site 5.0 mi upstream.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	47	20	20	19	15	7.9	2470	181	27	115	17
2	25	50	19	20	18	13	12	1090	162	27	111	16
3	22	48	20	18	18	11	20	778	143	26	59	14
4	19	46	20	15	17	11	18	606	152	24	60	14
5	17	39	18	17	17	11	17	497	122	21	79	14
6	17	38	18	21	17	11	14	401	115	90	95	14
7	17	39	19	21	16	11	13	336	109	45	88	14
8	18	38	18	18	16	11	11	306	91	26	73	14
9	18	38	18	18	15	11	9.4	292	77	21	61	15
10	18	37	21	18	14	11	11	308	71	21	47	15
11	17	38	18	19	15	11	12	300	70	21	43	16
12	19	38	18	19	15	11	10	278	71	22	41	17
13	19	37	20	18	18	13	12	251	74	22	40	18
14	20	37	20	17	16	12	12	249	76	21	39	16
15	20	28	20	18	16	11	15	268	74	18	38	16
16	19	25	20	18	15	12	16	263	109	108	37	16
17	21	23	20	17	14	9.7	16	242	110	214	27	16
18	20	22	e20	17	13	9.8	14	211	104	56	23	24
19	21	22	e18	18	14	10	14	205	98	65	21	18
20	22	27	15	17	13	11	15	201	85	53	20	18
21	22	30	15	18	12	11	18	179	70	34	19	17
22	23	30	15	18	11	11	23	186	67	71	18	17
23	23	31	15	17	9.9	12	38	189	65	33	16	16
24	23	27	15	18	12	12	40	199	57	32	17	16
25	22	24	15	19	12	11	36	196	45	28	16	16
26	24	24	15	18	13	11	37	200	41	27	16	14
27	24	23	15	17	13	10	33	177	41	32	15	15
28	23	22	17	18	15	9.9	32	228	38	27	20	17
29	22	21	19	18	---	11	649	228	37	24	27	17
30	23	20	19	20	---	9.5	3150	229	35	30	21	17
31	27	---	21	20	---	9.1	---	203	---	48	17	---
TOTAL	646	969	561	565	413.9	344.0	4325.3	11766	2590	1314	1319	484
MEAN	20.8	32.3	18.1	18.2	14.8	11.1	144	380	86.3	42.4	42.5	16.1
MAX	27	50	21	21	19	15	3150	2470	181	214	115	24
MIN	17	20	15	15	9.9	9.1	7.9	177	35	18	15	14
AC-FT	1280	1920	1110	1120	821	682	8580	23340	5140	2610	2620	960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1999, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	14.4	16.2	13.3	13.1	13.6	22.5	73.1	174	87.3	37.3	48.5	20.4										
MAX (WY)	39.5	32.3	24.3	22.6	25.1	127	306	484	358	108	207	120										
MIN (WY)	3.50	5.59	6.81	6.75	7.68	6.71	5.02	6.06	8.79	7.60	10.2	6.36										

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1979 - 1999	
ANNUAL TOTAL	32070		25297.2			
ANNUAL MEAN	87.9		69.3		44.6	
HIGHEST ANNUAL MEAN					88.4	
LOWEST ANNUAL MEAN					9.52	
HIGHEST DAILY MEAN	898	Mar 27	3150	Apr 30	3150	Apr 30 1999
LOWEST DAILY MEAN	11	Sep 18	7.9	Apr 1	.25	Apr 25 1979
ANNUAL SEVEN-DAY MINIMUM	12	Sep 15	9.8	Mar 26	2.7	Apr 25 1981
INSTANTANEOUS PEAK FLOW			a5250	Apr 30	b7560	Aug 11 1982
INSTANTANEOUS PEAK STAGE			c13.68	Apr 30	d12.70	Aug 11 1982
ANNUAL RUNOFF (AC-FT)	63610		50180		32330	
10 PERCENT EXCEEDS	303		156		103	
50 PERCENT EXCEEDS	26		20		15	
90 PERCENT EXCEEDS	17		12		6.7	

e Estimated  
a From rating curve extended above 4400 ft<sup>3</sup>/s.  
b From rating curve extended above 1800 ft<sup>3</sup>/s.  
c From floodmarks.  
d Maximum gage height, 13.68 ft, Apr 30, 1999.

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

LOCATION.--Lat 38°14'53", long 104°23'55", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	459	886	366	365	359	345	630	e12300	2740	2410	3080	1040
2	412	974	375	355	354	589	704	6060	2770	2520	e2650	1060
3	418	818	374	351	353	638	879	3240	2660	2410	e2100	1100
4	459	735	368	355	352	597	898	2620	2450	2080	e2550	1060
5	456	729	369	360	349	587	849	2290	e2400	2040	e3700	1060
6	469	688	370	378	355	583	642	2030	e2500	2150	e3100	1020
7	471	682	387	383	350	581	637	1830	2360	2180	3360	1020
8	514	674	378	380	347	581	908	2150	2180	2090	3640	1030
9	488	660	368	377	346	513	907	2380	2140	1830	4060	941
10	484	623	374	377	350	515	902	2930	2460	1550	3770	885
11	471	617	369	374	348	506	1720	3030	3460	1410	2890	825
12	474	621	374	375	340	512	981	2590	3650	1310	2700	973
13	480	726	380	379	342	538	782	2440	3290	1380	2390	922
14	421	739	384	371	350	574	645	2160	3290	1460	2150	894
15	398	493	382	360	351	568	627	2180	3230	1610	1970	894
16	397	410	378	360	357	559	633	2250	3180	1800	1790	905
17	435	402	381	355	360	534	640	2260	3340	2710	1760	843
18	416	390	372	352	369	511	627	2180	3570	1990	1770	892
19	427	392	379	357	364	497	612	2010	3320	1790	1820	884
20	458	399	376	364	351	500	432	1750	3260	1760	2170	934
21	540	402	e370	363	345	482	401	1660	3250	1780	1950	947
22	573	399	e350	368	341	468	683	1770	3280	1750	1830	935
23	551	399	e350	361	353	446	1190	1910	3320	1350	1780	986
24	506	399	e350	357	344	513	958	2160	3450	1090	1800	955
25	511	390	e360	362	348	517	713	2920	3800	1100	1790	924
26	496	388	e370	361	339	548	689	2960	3990	1160	1770	840
27	480	379	e380	361	328	561	604	3340	3990	1130	1720	814
28	505	366	389	362	331	570	650	3720	3290	1090	1700	765
29	595	365	375	364	---	573	3470	3470	3220	1140	1710	728
30	585	361	373	357	---	645	e11500	3090	2800	1240	1400	681
31	734	---	369	362	---	647	---	2730	---	1720	1260	---
TOTAL	15083	16506	11540	11306	9776	16798	36513	90410	92640	53030	72130	27757
MEAN	487	550	372	365	349	542	1217	2916	3088	1711	2327	925
MAX	734	974	389	383	369	647	11500	12300	3990	2710	4060	1100
MIN	397	361	350	351	328	345	401	1660	2140	1090	1260	681
AC-FT	29920	32740	22890	22430	19390	33320	72420	179300	183800	105200	143100	55060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, 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	1999	
MEAN	533	475	355	376	424	542	877	1675	2778	1931	1370	656														
MAX (WY)	1631	985	718	770	1103	994	1884	4170	4971	4432	3210	1511														
MIN (WY)	1985	1985	1987	1985	1985	1985	1987	1980	1997	1995	1984	1982														
MIN (WY)	187	170	197	190	223	219	220	517	638	562	423	200														

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1975 - 1999
ANNUAL TOTAL	351882	453489	
ANNUAL MEAN	964	1242	a1001
HIGHEST ANNUAL MEAN			1626
LOWEST ANNUAL MEAN			411
HIGHEST DAILY MEAN	3770	Jun 6	12300
LOWEST DAILY MEAN	323	Jan 10	b90
ANNUAL SEVEN-DAY MINIMUM	333	Jan 21	341
INSTANTANEOUS PEAK FLOW			c20900
INSTANTANEOUS PEAK STAGE			d10.60
ANNUAL RUNOFF (AC-FT)	698000	899500	725400
10 PERCENT EXCEEDS	1860	2990	2330
50 PERCENT EXCEEDS	734	650	600
90 PERCENT EXCEEDS	345	358	274

e Estimated

a Average discharge for 20 years (water years 1940-51, 1966-73), 867 ft<sup>3</sup>/s; 628100 acre-ft/yr, prior to completion of Pueblo Reservoir.

b Minimum daily discharge for period of record, 50 ft<sup>3</sup>/s, Apr 2, 1940.

c From rating curve extended above 11500 ft<sup>3</sup>/s on basis of velocity-area study.

d From floodmark.

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 Dec. 27-28, May 5, June 6, July 30, Aug. 7, 10, 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. Instantaneous discharge and selected water-quality data collected as part of a basin-wide water-quality assessment of the lower Arkansas River basin in Colorado are published elsewhere in this report.

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, 1,110 microsiemens, several days; minimum, 467 microsiemens, Apr. 30.  
 pH: Maximum, 8.7, Sept. 1-2, 5-6; minimum, 7.5, several days.  
 WATER TEMPERATURE: Maximum, 25.5° C, July 28; minimum, 0.0° C, several days.  
 DISSOLVED OXYGEN: Maximum, 13.1° mg/L, Dec. 25; minimum, 5.3° mg/L, Sept. 20.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	945	794	896	834	789	807	1090	1060	1080	1080	1050	1060
2	1030	945	988	821	744	783	1090	1050	1070	1090	1060	1070
3	1030	942	982	848	802	817	1090	1050	1070	1080	1060	1070
4	942	868	890	861	843	852	1110	1050	1070	1080	1060	1070
5	902	863	883	867	838	856	1090	1060	1070	1080	1060	1070
6	890	851	870	873	851	863	1090	1050	1070	1090	1030	1060
7	865	832	850	890	852	865	1070	1030	1050	1090	1040	1050
8	879	819	841	874	850	861	1100	1030	1050	1050	1010	1030
9	905	869	887	882	854	866	1100	1050	1080	1070	1020	1040
10	906	868	889	892	873	882	1100	1070	1090	1080	1020	1040
11	914	869	892	897	872	885	1110	1070	1090	1060	1040	1050
12	903	862	885	906	866	890	1110	1060	1090	1060	1030	1050
13	900	858	875	866	819	833	1110	1070	1090	1040	1020	1030
14	931	900	915	844	825	835	1100	1060	1080	1050	1030	1040
15	951	918	934	1080	836	973	1100	1060	1080	1070	1040	1050
16	972	921	939	1080	1060	1070	1090	1060	1080	1070	1040	1060
17	1030	919	957	1070	1050	1060	1090	1060	1080	1070	1040	1060
18	999	946	968	1080	1060	1070	1100	1070	1090	1060	1040	1050
19	978	932	957	1080	1050	1070	1100	1070	1080	1060	1040	1050
20	964	907	936	1090	1050	1070	1080	1030	1050	1060	1030	1040
21	934	841	870	1080	1060	1070	1090	1050	1060	1060	1040	1040
22	891	848	869	1080	1050	1060	1090	1040	1080	1060	1040	1050
23	903	860	878	1080	1050	1060	1080	1050	1070	1060	1040	1050
24	927	888	906	1070	1040	1060	---	---	---	1060	1040	1050
25	930	882	908	1070	1050	1060	---	---	---	1060	1030	1050
26	962	910	926	1090	1050	1070	---	---	---	1060	1030	1040
27	992	936	958	1090	1050	1070	1060	1030	1040	1050	1020	1040
28	1000	945	962	1100	1070	1080	1110	1040	1070	1060	1020	1040
29	964	876	910	1110	1070	1090	1110	1080	1090	1040	1020	1030
30	942	837	915	1100	1070	1090	1090	1060	1070	1050	1020	1040
31	837	808	824	---	---	---	1090	1040	1060	1050	1030	1040
MONTH	1030	794	908	1110	744	964	---	---	---	1090	1010	1050

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1050	1020	1040	1040	974	1020	776	748	764	---	---	---
2	1040	1020	1040	974	770	819	764	726	750	---	---	---
3	1060	1030	1040	797	766	781	802	759	785	---	---	---
4	1060	1030	1050	820	784	804	815	771	794	---	---	---
5	1060	1030	1050	818	791	808	836	777	797	834	801	811
6	1060	1030	1050	816	794	804	880	836	861	878	831	850
7	1070	1030	1040	816	790	804	869	730	841	917	872	889
8	1070	1040	1050	837	791	807	736	676	718	920	797	840
9	1060	1040	1050	854	837	845	731	704	718	801	752	780
10	1050	1030	1040	852	832	842	724	703	715	752	685	708
11	1040	1020	1030	854	824	841	716	543	662	700	669	685
12	1040	1000	1020	844	810	825	719	635	708	704	689	696
13	1050	1010	1020	857	820	834	766	691	719	730	699	712
14	1040	1000	1020	860	808	825	776	755	765	730	708	722
15	1030	999	1010	851	796	816	794	760	775	708	680	693
16	1030	1000	1010	905	810	832	800	758	777	680	667	674
17	1040	1010	1020	870	827	846	795	776	786	680	665	671
18	1040	983	1020	882	820	849	789	760	775	692	669	680
19	1050	994	1020	898	870	883	828	776	790	722	684	703
20	1060	1020	1040	898	873	884	935	828	909	741	718	729
21	1060	1010	1030	918	868	887	941	913	927	744	719	735
22	1030	1010	1020	928	895	911	1000	696	851	730	706	721
23	1030	1000	1010	971	921	944	768	560	696	713	684	705
24	1050	1010	1030	963	875	906	860	721	784	694	676	686
25	1050	1010	1030	893	858	878	899	859	876	695	589	661
26	1040	1020	1030	870	835	849	907	863	889	686	579	641
27	1050	1020	1030	839	804	825	922	872	904	645	631	637
28	1040	1020	1030	824	787	808	874	836	856	647	606	621
29	---	---	---	833	797	812	839	479	655	635	608	623
30	---	---	---	825	755	782	710	467	548	659	633	643
31	---	---	---	780	752	768	---	---	---	654	640	647
MONTH	1070	983	1030	1040	752	843	1000	467	780	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	652	638	646	568	545	559	---	554	---	725	700	714
2	657	642	650	550	534	544	739	600	644	709	677	696
3	685	647	665	574	523	542	614	572	599	685	671	677
4	691	673	681	574	557	565	---	---	---	700	681	687
5	---	---	---	564	548	556	---	---	---	696	673	684
6	688	675	680	741	543	600	636	622	629	707	686	693
7	713	679	693	607	545	558	667	489	563	705	667	693
8	717	704	711	566	536	544	---	---	---	694	667	683
9	725	710	717	615	566	589	---	---	---	718	681	701
10	747	648	705	644	615	631	588	518	540	737	708	718
11	650	645	648	658	611	627	584	572	578	767	712	750
12	664	613	640	667	635	656	600	565	579	714	686	698
13	645	638	643	637	608	625	633	593	609	746	713	731
14	734	586	649	608	571	597	645	613	626	745	725	736
15	683	635	653	576	548	566	673	628	643	764	732	743
16	649	640	645	---	---	---	682	663	671	791	764	775
17	648	626	640	---	---	---	670	645	662	806	791	797
18	629	620	624	---	---	---	657	633	646	813	755	786
19	629	611	623	---	---	---	634	613	627	805	759	778
20	620	603	609	605	570	585	637	573	605	768	748	759
21	604	581	594	579	569	574	622	584	608	784	768	774
22	588	560	576	663	576	616	630	607	616	779	740	767
23	565	537	553	703	614	638	647	611	627	740	716	728
24	567	534	546	725	698	708	630	606	623	743	719	732
25	571	508	538	715	678	696	613	605	609	764	713	734
26	515	503	509	685	658	671	613	603	608	772	743	755
27	549	505	518	685	659	672	614	603	609	797	748	764
28	539	517	524	677	648	664	634	593	603	826	791	801
29	526	508	516	672	648	661	650	594	612	858	824	835
30	558	524	535	669	613	635	689	597	653	883	847	858
31	---	---	---	---	---	---	705	649	663	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	883	667	742

## ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	18.5	14.2	15.9	11.2	10.2	10.7	9.8	5.4	7.7	5.2	2.9	4.0
2	19.2	13.9	16.1	11.2	10.6	10.9	10.3	7.2	8.6	4.6	3.0	3.7
3	19.0	14.6	16.8	11.2	10.0	10.6	9.8	6.0	8.0	3.5	1.4	2.3
4	18.4	14.7	16.7	11.3	9.4	10.3	8.8	5.6	7.4	1.7	.1	1.0
5	16.2	12.3	14.3	10.0	8.9	9.5	7.9	4.9	6.6	5.0	.5	2.5
6	17.6	11.6	14.5	12.8	9.5	10.9	6.1	4.3	5.0	5.3	1.1	3.3
7	18.1	12.0	15.0	11.8	9.5	10.6	6.2	3.4	4.5	4.4	2.5	3.3
8	19.0	13.4	16.2	10.0	8.0	9.1	4.9	1.2	3.1	3.8	1.0	2.4
9	19.5	14.1	16.7	9.3	6.8	8.0	3.6	1.7	2.7	4.5	.6	2.7
10	19.2	13.4	16.3	7.7	4.7	6.4	4.7	1.9	3.1	5.1	1.2	3.3
11	17.6	13.4	15.5	8.6	4.9	6.9	4.2	.1	2.3	6.5	2.4	4.5
12	16.3	12.3	14.2	9.7	6.5	8.1	5.5	1.0	3.3	5.6	3.8	4.8
13	17.6	12.1	14.8	10.1	6.2	8.3	5.6	2.0	3.8	4.4	1.7	3.3
14	19.1	12.8	15.8	10.7	7.0	9.0	5.8	1.7	3.8	4.4	1.0	2.9
15	18.2	13.6	15.8	11.1	7.1	9.3	5.8	2.0	4.0	6.7	2.9	4.7
16	16.2	11.7	14.0	10.9	7.3	9.2	5.6	2.0	3.8	5.8	3.6	5.0
17	15.8	11.6	13.5	8.9	7.1	7.8	5.9	1.7	4.0	6.3	2.7	4.4
18	15.7	10.3	13.0	9.7	6.0	7.8	6.2	2.8	4.4	6.1	1.3	3.9
19	15.9	10.5	13.2	9.3	6.2	7.6	4.2	.0	1.3	7.6	4.1	5.8
20	13.5	12.0	12.7	8.6	5.3	7.0	.0	.0	.0	7.2	3.2	5.2
21	13.7	12.0	12.7	8.5	4.1	6.5	.0	.0	.0	5.3	3.5	4.4
22	15.9	10.7	13.3	10.3	6.1	8.3	.0	.0	.0	6.1	3.1	4.4
23	17.1	12.2	14.7	9.7	6.6	8.2	.0	.0	.0	6.2	1.3	3.9
24	16.5	12.5	14.6	9.2	5.7	7.5	.0	.0	.0	7.7	3.1	5.2
25	14.9	11.9	13.5	8.9	5.6	7.4	.0	.0	.0	5.5	2.5	4.1
26	16.4	12.9	14.7	9.9	5.5	7.8	.0	.0	.0	6.1	2.2	4.1
27	14.9	13.1	13.9	10.4	6.2	8.3	2.7	.0	1.0	5.5	1.5	3.6
28	15.3	11.3	13.2	10.1	6.9	8.5	4.8	.5	2.7	6.4	3.2	4.4
29	13.8	9.5	11.7	10.1	7.9	8.8	5.1	1.8	3.6	4.2	1.8	3.1
30	13.1	10.4	12.0	9.7	5.8	7.9	6.0	2.5	4.4	5.6	3.5	4.5
31	12.6	10.9	11.6	---	---	---	5.3	3.8	4.4	9.0	4.9	6.6
MONTH	19.5	9.5	14.4	12.8	4.1	8.6	10.3	.0	3.3	9.0	.1	3.9

## ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.6	5.3	6.4	11.5	4.7	8.2	12.4	7.6	10.1	---	---	---
2	6.9	2.1	4.7	8.8	5.6	7.0	9.9	4.0	6.5	---	---	---
3	8.1	3.8	6.0	8.6	3.2	6.1	10.8	4.0	7.3	---	---	---
4	6.2	2.6	4.5	9.7	4.7	7.2	9.7	6.3	8.2	---	---	---
5	8.0	4.0	6.1	8.3	4.8	6.7	13.2	6.8	9.8	11.4	---	---
6	8.1	3.2	5.7	6.6	4.4	5.5	14.6	7.5	11.0	12.4	8.2	10.3
7	9.6	4.1	6.7	8.9	3.1	6.0	15.4	8.8	12.1	14.8	9.7	12.1
8	10.4	4.7	7.7	10.0	5.8	7.9	12.8	6.7	10.1	15.6	11.1	13.6
9	9.8	4.6	7.4	9.9	4.3	7.2	13.2	7.6	10.3	15.3	11.6	13.7
10	10.4	4.9	7.5	9.9	5.4	7.8	12.2	5.5	8.9	13.9	10.6	12.4
11	5.8	1.9	3.6	9.3	4.9	7.0	11.1	6.4	9.0	12.3	9.7	10.9
12	5.5	.0	2.8	6.6	3.4	4.7	14.3	7.2	10.5	13.9	8.5	11.1
13	8.1	1.3	4.8	9.5	2.6	5.9	12.4	8.4	10.8	16.0	10.3	13.1
14	8.2	2.6	5.6	11.0	4.5	7.8	11.1	8.5	9.5	16.1	11.7	14.1
15	6.1	3.3	4.9	10.0	5.9	8.1	10.3	6.5	8.1	16.4	11.6	14.1
16	6.5	2.5	4.7	12.6	6.1	9.4	9.8	5.5	7.9	15.5	11.9	13.8
17	6.9	2.5	4.8	11.5	6.5	9.1	13.9	5.6	9.5	15.4	10.6	13.1
18	7.9	2.8	5.3	8.6	5.7	6.5	13.3	7.7	10.6	16.5	11.1	13.8
19	8.5	2.8	5.8	9.9	5.1	7.2	16.3	8.9	12.6	16.7	12.5	14.6
20	9.6	4.9	7.0	12.7	5.5	9.1	17.5	10.4	13.9	17.7	12.8	15.4
21	8.0	2.9	5.5	13.9	7.2	10.4	15.2	11.3	13.2	18.6	14.0	16.4
22	7.4	3.6	5.2	13.9	7.6	10.7	12.1	9.6	10.7	17.7	14.1	16.2
23	8.4	1.5	5.0	14.1	7.9	11.0	9.6	7.7	8.4	17.0	13.4	15.3
24	10.5	3.7	7.1	13.3	8.9	11.0	8.5	7.4	8.0	17.4	12.9	15.1
25	11.1	4.7	8.0	13.8	8.6	10.9	13.2	7.7	10.2	15.3	12.7	13.6
26	10.6	5.4	8.1	13.9	8.3	11.1	14.2	9.0	11.8	16.8	12.4	14.1
27	9.7	3.6	6.7	14.3	9.3	11.7	17.8	10.0	13.8	16.2	12.1	14.0
28	10.1	3.3	6.8	13.3	7.5	10.4	15.2	11.5	13.0	16.9	12.2	14.3
29	---	---	---	13.4	6.9	10.1	12.6	8.0	9.3	15.4	12.4	14.0
30	---	---	---	11.7	7.5	9.7	8.8	7.7	8.2	16.4	12.2	14.2
31	---	---	---	13.6	7.4	10.5	---	---	---	16.9	12.4	14.5
MONTH	11.1	.0	5.9	14.3	2.6	8.4	17.8	4.0	10.1	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	17.0	12.3	14.6	21.5	16.8	19.0	---	19.0	---	24.1	20.0	22.4
2	16.7	12.4	14.5	20.8	16.7	18.7	21.1	18.3	19.6	25.3	20.0	22.4
3	17.7	12.2	14.7	21.1	16.5	18.6	22.6	18.5	20.4	23.4	19.1	21.4
4	17.5	12.3	14.9	22.2	16.6	19.2	---	---	---	23.6	18.4	21.1
5	---	---	---	22.5	16.7	19.5	21.9	---	---	23.5	18.7	21.1
6	17.0	11.0	13.5	21.6	17.5	19.5	22.5	19.3	21.0	24.0	18.6	21.4
7	18.5	12.1	15.1	22.7	17.3	19.9	23.2	19.0	20.9	23.7	18.2	21.1
8	18.6	12.7	15.5	21.1	17.3	19.3	23.5	19.2	21.2	22.5	18.3	20.6
9	18.6	12.6	15.6	19.6	17.4	18.3	23.3	19.4	21.2	22.8	17.1	20.1
10	17.2	13.1	15.1	22.4	16.4	19.2	22.6	19.6	21.1	23.4	18.1	20.8
11	17.0	12.7	14.4	22.3	16.9	19.7	23.8	19.4	21.4	22.7	17.8	20.5
12	16.1	12.6	14.2	23.6	17.4	20.5	23.6	18.8	21.1	21.3	16.7	17.7
13	17.2	12.5	14.7	23.8	17.5	20.7	23.9	19.1	21.4	21.7	16.1	18.7
14	16.6	13.4	14.7	23.4	17.6	20.5	23.7	19.2	21.4	21.2	17.0	19.3
15	15.2	13.0	14.1	22.0	17.7	19.7	23.7	19.5	21.6	19.9	17.5	18.2
16	14.0	13.3	13.6	---	17.9	---	24.3	18.8	21.6	21.8	17.1	19.0
17	17.0	12.9	14.7	---	---	---	24.1	19.6	22.0	21.7	18.2	20.0
18	18.7	13.8	16.0	---	---	---	24.1	19.4	21.8	21.9	17.0	19.5
19	19.5	14.1	16.7	23.0	---	---	24.2	19.3	21.7	20.4	16.7	17.7
20	18.6	14.8	16.4	23.2	18.9	21.0	22.9	19.4	21.2	16.9	15.3	16.1
21	18.7	14.7	16.5	23.6	18.4	20.9	24.4	19.7	22.0	20.2	14.9	17.3
22	18.9	14.9	16.9	23.7	18.6	21.0	23.9	19.9	22.0	20.6	15.4	18.2
23	20.0	14.8	17.2	22.6	18.8	20.8	24.3	19.1	21.7	21.1	16.5	18.9
24	20.4	15.8	17.7	24.2	19.1	21.8	24.4	19.0	21.7	21.0	16.8	19.0
25	20.3	15.4	17.6	24.9	19.3	22.0	24.6	19.1	21.9	21.7	16.1	19.0
26	20.5	15.7	17.8	23.3	19.0	21.4	24.5	19.5	22.0	19.8	16.1	18.2
27	21.0	16.0	18.2	24.3	19.4	22.0	24.9	20.0	22.4	18.0	14.4	15.4
28	20.2	16.1	18.0	25.5	19.0	22.2	23.9	20.2	22.1	16.0	13.2	14.4
29	20.7	15.7	18.0	24.8	19.6	22.4	24.0	20.0	22.0	16.8	10.7	13.8
30	21.4	17.0	19.0	25.1	19.3	22.1	24.5	19.6	22.1	17.7	12.8	15.3
31	---	---	---	---	---	---	25.4	19.6	22.5	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	25.3	10.7	19.0



ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.3	6.3	6.8	9.5	8.8	9.1	10.1	6.7	8.1	---	---	---
2	7.6	6.3	7.0	9.3	8.8	9.0	10.6	6.9	8.1	---	---	---
3	7.5	6.3	6.9	9.4	8.8	9.0	10.7	7.6	8.8	---	---	---
4	7.3	6.3	6.9	9.4	8.4	9.0	10.4	7.8	8.9	---	---	---
5	8.4	6.9	7.6	9.0	7.8	8.5	10.2	7.8	8.8	---	---	---
6	8.2	6.8	7.6	8.0	7.3	7.7	10.4	8.0	9.2	11.6	9.6	10.5
7	8.3	6.6	7.5	8.0	7.5	7.7	11.0	8.9	9.7	11.3	9.8	10.4
8	8.3	7.1	7.7	8.7	7.9	8.3	11.5	9.1	10.2	11.5	9.8	10.6
9	8.6	6.9	7.7	9.2	8.2	8.8	11.8	9.8	10.7	11.5	9.1	10.4
10	8.5	6.8	7.7	10.2	9.2	9.6	12.0	10.1	10.8	11.5	9.3	10.3
11	8.6	7.0	7.8	10.1	9.0	9.6	12.2	9.8	10.9	10.9	8.6	9.8
12	8.8	7.2	8.0	10.1	8.7	9.5	11.8	9.1	10.5	10.6	8.6	9.3
13	8.7	7.0	7.8	8.8	7.0	7.8	12.1	9.1	10.4	11.1	9.3	10.1
14	8.3	6.5	7.5	8.8	7.1	7.8	11.6	9.3	10.5	11.5	9.4	10.2
15	8.6	6.8	7.4	8.7	7.7	8.1	12.0	9.0	10.3	11.2	8.7	9.9
16	8.7	7.0	7.8	9.3	8.0	8.7	12.3	9.4	10.7	10.9	8.6	9.5
17	8.9	7.2	8.0	9.4	8.0	8.6	12.2	9.1	10.5	11.5	8.9	10.1
18	9.3	7.5	8.4	9.5	8.0	8.6	11.8	9.1	10.2	11.9	8.7	10.3
19	9.4	7.6	8.5	9.5	8.1	8.8	12.5	9.4	10.8	10.8	8.2	9.3
20	9.4	7.8	8.5	10.2	8.3	9.0	11.1	9.1	10.0	11.0	8.1	9.4
21	9.0	7.9	8.3	10.8	8.7	9.7	10.3	9.0	9.8	10.5	8.4	9.2
22	9.5	7.3	8.5	10.7	8.4	9.4	10.1	9.2	9.6	11.3	9.1	9.9
23	8.7	6.9	7.8	10.6	8.6	9.4	9.9	8.9	9.3	11.4	8.3	9.9
24	8.6	7.2	7.8	11.1	8.5	9.5	10.1	8.6	9.3	11.3	8.6	9.7
25	8.8	7.4	8.1	11.3	8.8	9.8	13.1	9.5	10.7	12.0	8.9	10.2
26	8.6	7.3	7.9	11.1	8.1	9.6	12.9	9.4	10.8	11.3	8.6	9.9
27	8.7	7.4	8.1	11.1	8.1	9.5	11.2	9.0	10.2	11.5	9.0	10.1
28	9.2	7.9	8.5	11.1	7.7	9.2	11.1	9.5	10.4	11.2	8.9	9.9
29	8.9	8.2	8.5	10.6	8.0	9.0	11.0	8.9	10.0	11.7	9.2	10.3
30	9.0	8.1	8.6	11.4	7.6	9.5	10.0	8.9	9.5	10.9	8.4	9.5
31	9.2	8.1	8.8	---	---	---	---	---	---	10.8	7.6	9.1
MONTH	9.5	6.3	7.9	11.4	7.0	8.9	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	11.0	7.9	9.0	10.8	7.6	9.0	10.6	7.9	8.8	---	---	---
2	10.9	8.5	9.5	9.8	7.7	8.9	10.9	8.1	9.7	---	---	---
3	11.4	8.7	9.8	10.6	8.5	9.6	10.1	8.0	9.3	---	---	---
4	11.4	8.7	10.1	10.3	8.3	9.1	9.9	8.1	9.1	---	---	---
5	11.3	8.5	9.7	10.4	8.7	9.5	9.6	7.4	8.8	9.1	8.0	8.7
6	11.5	8.1	9.6	10.9	9.0	9.8	9.1	7.1	8.0	8.9	7.8	8.4
7	11.5	8.1	9.5	11.0	8.2	9.8	9.0	7.3	8.0	8.5	7.2	7.9
8	10.8	8.1	9.2	10.4	8.4	9.2	9.9	7.7	8.7	8.4	7.3	7.8
9	10.9	7.7	9.1	10.6	8.0	9.2	9.7	8.2	8.8	8.2	7.4	7.8
10	10.6	7.8	9.1	10.6	8.2	9.2	10.3	8.2	9.2	9.0	7.7	8.4
11	10.9	8.5	9.7	10.6	8.3	9.2	10.5	8.6	9.6	9.6	8.9	9.4
12	11.5	8.6	10.0	11.1	8.5	9.9	9.7	7.7	8.8	9.7	8.0	8.9
13	11.0	7.6	9.4	10.9	8.2	9.8	9.5	7.8	8.7	8.7	7.4	8.2
14	10.6	7.6	9.2	11.8	8.4	9.9	10.0	8.4	9.2	8.4	7.4	7.9
15	10.5	8.1	9.3	11.6	8.2	9.8	10.4	9.0	9.6	8.4	7.4	7.9
16	10.9	8.4	9.6	11.2	7.8	9.4	10.6	9.2	9.9	8.4	7.5	8.0
17	10.8	8.3	9.4	11.2	8.0	9.4	10.6	8.1	9.5	8.8	7.7	8.3
18	11.1	8.5	9.6	11.3	8.3	9.7	10.1	8.4	9.2	8.6	7.5	8.1
19	11.1	8.2	9.6	11.9	8.6	10.1	10.5	8.0	9.2	8.3	7.3	7.8
20	10.9	8.0	9.2	11.2	7.3	9.3	9.0	6.9	8.0	8.1	6.9	7.5
21	11.9	8.5	10.2	11.1	7.4	9.1	8.8	7.0	7.8	7.8	6.8	7.3
22	11.5	9.0	10.2	11.3	7.5	9.1	9.3	7.3	8.3	7.8	7.0	7.4
23	11.8	8.2	10.2	11.2	7.7	9.1	10.0	8.8	9.6	8.1	7.4	7.7
24	11.4	8.4	9.8	10.6	7.5	8.6	10.0	8.9	9.5	8.2	7.4	7.8
25	10.7	7.0	9.0	11.3	7.8	9.1	9.2	7.5	8.5	8.2	7.2	7.8
26	10.0	7.2	8.3	11.3	7.5	9.0	8.7	7.6	8.1	8.0	7.2	7.6
27	10.2	7.3	8.7	10.4	7.3	8.5	8.6	6.6	7.7	8.5	7.8	8.1
28	10.6	7.8	9.1	11.4	7.6	9.2	8.5	7.1	7.9	8.4	7.5	8.0
29	---	---	---	11.6	7.7	9.6	9.5	7.8	8.9	8.4	7.7	8.0
30	---	---	---	10.7	7.7	8.9	10.5	5.6	8.6	8.3	7.6	8.0
31	---	---	---	11.0	7.9	9.2	---	---	---	8.1	7.3	7.8
MONTH	11.9	7.0	9.5	11.9	7.3	9.3	10.9	5.6	8.8	---	---	---

## ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.2	7.3	7.7	7.4	6.4	6.9	7.6	6.1	7.1	7.4	6.3	6.8
2	8.1	7.3	7.7	7.6	6.6	7.1	7.3	6.8	7.0	7.5	6.4	6.9
3	8.2	7.1	7.7	7.7	6.7	7.2	7.5	6.5	7.0	7.7	6.5	7.1
4	8.0	7.0	7.5	7.4	6.4	7.0	---	---	---	7.9	6.6	7.3
5	---	---	---	7.6	6.3	6.9	7.5	6.8	7.2	7.9	6.7	7.3
6	8.7	7.1	8.1	7.3	6.4	6.9	7.6	6.9	7.2	7.9	6.5	7.1
7	8.0	6.9	7.5	7.7	6.4	7.2	7.5	6.6	7.2	8.1	6.5	7.2
8	8.0	6.9	7.5	7.7	6.7	7.1	7.2	6.4	6.8	8.1	6.7	7.3
9	8.0	6.8	7.4	7.9	6.8	7.3	7.2	6.4	6.9	7.6	6.2	6.9
10	7.9	7.0	7.6	7.7	6.3	7.0	7.2	6.5	6.9	7.8	6.2	6.9
11	8.2	7.7	8.0	7.6	6.2	6.9	7.6	6.5	6.8	7.6	6.1	6.8
12	8.4	7.7	8.0	7.4	6.3	6.8	7.3	6.3	6.8	8.1	6.0	7.2
13	8.4	7.4	7.9	7.8	6.5	7.2	7.3	6.3	6.8	8.1	6.9	7.5
14	8.2	7.6	7.9	8.2	6.7	7.5	7.5	6.2	6.8	8.3	7.0	7.6
15	8.2	7.8	7.9	8.1	7.0	7.4	7.1	6.1	6.7	8.5	7.0	7.9
16	8.2	7.9	8.1	---	---	---	7.4	6.3	6.8	8.5	7.4	8.0
17	8.2	7.6	7.9	---	---	---	7.4	6.3	6.9	7.6	6.5	6.9
18	8.1	7.3	7.8	---	---	---	7.8	6.7	7.2	7.7	6.7	7.2
19	8.1	7.1	7.5	---	---	---	7.7	6.5	7.1	7.4	5.6	6.7
20	7.9	7.1	7.5	7.9	6.7	7.2	7.7	6.8	7.1	7.7	5.3	6.5
21	8.0	7.2	7.6	8.2	6.9	7.6	7.5	6.3	6.9	8.1	6.7	7.4
22	7.9	7.0	7.5	7.8	6.3	7.1	7.0	6.3	6.6	8.1	6.9	7.4
23	8.0	7.0	7.4	7.8	6.2	7.0	7.2	6.5	7.0	8.1	6.8	7.4
24	7.6	6.9	7.3	7.2	5.7	6.4	7.7	6.7	7.3	8.2	6.8	7.4
25	7.7	6.6	7.2	7.0	5.9	6.4	7.7	6.7	7.2	8.3	6.5	7.4
26	7.6	6.9	7.2	7.3	6.1	6.7	7.8	6.6	7.2	8.1	6.6	7.3
27	7.6	6.6	7.2	7.2	5.9	6.6	7.8	6.6	7.2	8.8	7.2	8.0
28	7.5	6.8	7.1	7.3	5.7	6.6	7.5	6.4	7.0	8.4	7.3	7.9
29	7.5	6.8	7.2	6.9	6.0	6.4	7.4	6.4	6.9	9.1	7.7	8.3
30	7.4	6.4	7.0	7.2	5.9	6.5	7.5	6.0	6.8	8.7	7.3	8.0
31	---	---	---	---	---	---	7.3	6.3	6.8	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	9.1	5.3	7.3

07110400 CHICO CREEK NEAR PUEBLO CHEMICAL DEPOT, CO

LOCATION.--Lat 38°21'40", long 104°23'15", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 estimated daily discharges and those above 240 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	1.9	.66	2.4	1.5	.49	.85	578	1.1	.08	58	.02
2	.03	2.2	.64	1.4	1.1	.49	1.5	204	.72	.07	121	.02
3	.02	1.8	.70	1.0	.88	.51	2.7	30	.51	.06	31	.02
4	.01	1.0	.73	.78	.68	.47	4.8	15	.34	.06	11	.03
5	.02	.49	.66	.96	.67	.49	6.1	11	.22	.06	13	.03
6	.02	.37	.79	1.0	.72	.49	5.4	8.2	.18	.08	5.6	.03
7	.02	.35	.67	1.0	.70	.63	1.9	6.2	.19	.07	1.0	.03
8	.02	.35	.57	1.4	.68	.52	.52	4.3	.16	.08	.34	.03
9	.02	.39	.65	1.0	.57	.60	.21	2.9	.11	.10	.23	.03
10	.02	.23	.61	.78	.53	.47	.11	2.2	.10	.07	.15	.03
11	.02	.23	.50	1.2	.45	.44	.09	2.0	.10	.06	.13	e.03
12	.03	.20	.63	1.3	.58	.95	.08	2.1	.18	.06	.11	e.03
13	.04	.19	.54	1.3	.56	1.8	.12	2.0	.18	.05	.06	e.03
14	.05	.24	.61	.91	.39	2.8	.10	1.7	.13	.04	.06	e.03
15	.04	.29	.69	.98	.47	2.5	.09	1.5	.17	.05	.05	.24
16	.05	.29	.78	1.1	.66	1.7	.09	1.3	.21	29	.04	.41
17	.10	.33	.89	.99	.75	1.3	.10	1.2	.20	174	.04	.07
18	.07	.26	.94	1.1	.80	1.1	.10	1.1	.14	14	.03	.04
19	.07	.28	.10	1.3	.82	1.1	.10	.99	.09	.92	.07	.04
20	.08	.30	.06	1.2	.66	1.5	.09	.93	.07	.10	.05	.07
21	.09	.29	.10	1.4	.70	1.5	.12	1.3	.07	.12	.05	.09
22	.09	.37	.13	1.2	.53	1.1	1.2	1.5	.07	34	.03	.07
23	.10	.39	.06	1.1	.75	.83	21	.66	.06	6.9	.02	.06
24	.11	.37	.05	1.1	.57	2.9	18	.60	.06	.26	.02	.06
25	.16	.33	.07	.90	.52	3.4	16	33	.06	.12	.02	.06
26	.29	.40	.09	.82	.54	2.4	12	21	.06	.12	.02	.07
27	.42	.45	.31	.86	.65	2.1	3.8	9.6	.05	.12	.02	.07
28	.35	.57	.58	.82	.60	1.5	2.6	3.2	.05	.11	.03	.11
29	.19	.60	.77	.88	---	1.3	192	3.9	.06	.11	.02	.10
30	.25	.64	1.3	1.0	---	1.1	1750	4.0	.05	.11	.02	.09
31	.70	---	2.3	1.4	---	.96	---	1.9	---	.12	.02	---
TOTAL	3.55	16.10	18.18	34.58	19.03	39.44	2041.77	957.28	5.69	261.10	242.23	2.04
MEAN	.11	.54	.59	1.12	.68	1.27	68.1	30.9	.19	8.42	7.81	.068
MAX	.70	2.2	2.3	2.4	1.5	3.4	1750	578	1.1	174	121	.41
MIN	.01	.19	.05	.78	.39	.44	.08	.60	.05	.04	.02	.02
AC-FT	7.0	32	36	69	38	78	4050	1900	11	518	480	4.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	.19	1.39	1.20	1.30	1.41	1.93	34.6	15.6	1.45	13.1	5.69	.088
MAX	.27	2.24	1.81	1.48	2.14	2.58	68.1	30.9	4.15	17.4	7.81	.11
(WY)	1998	1998	1998	1998	1998	1998	1999	1999	1997	1998	1999	1998
MIN	.11	.54	.59	1.12	.68	1.27	1.19	.27	.002	8.42	2.87	.068
(WY)	1999	1999	1999	1999	1999	1999	1998	1998	1998	1999	1998	1999

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 1997 WATER YEAR	FOR 1998 WATER YEAR	FOR 1999 WATER YEAR
ANNUAL TOTAL	900.57	3640.99			
ANNUAL MEAN	2.47	9.98			
HIGHEST ANNUAL MEAN			6.35	9.98	1999
LOWEST ANNUAL MEAN				2.72	1998
HIGHEST DAILY MEAN	145	Jul 23	1750	Apr 30	1750
LOWEST DAILY MEAN	a.00	May 31	.01	Oct 4	a.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 7	.02	Oct 3	.00
INSTANTANEOUS PEAK FLOW			b7400	Apr 30	b7400
INSTANTANEOUS PEAK STAGE			10.98	Apr 30	10.98
ANNUAL RUNOFF (AC-FT)	1790	7220	4600		
10 PERCENT EXCEEDS	2.3	3.0	2.8		
50 PERCENT EXCEEDS	.57	.45	.50		
90 PERCENT EXCEEDS	.01	.04	.02		

e Estimated

a No flow many days most years.

b From rating curve extended above 240 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

ARKANSAS RIVER BASIN

07116500 HUERFANO RIVER NEAR BOONE, CO

LOCATION.--Lat 38°13'30", long 104°15'37", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	62	12	e20	41	13	7.2	777	100	29	12	4.5
2	70	68	10	e19	38	13	8.2	801	89	24	29	4.3
3	50	52	11	e19	36	12	8.3	354	71	28	22	4.1
4	35	50	11	20	31	12	8.4	386	68	31	30	4.8
5	38	42	11	24	36	12	9.0	316	46	25	32	3.9
6	42	40	11	33	35	12	8.2	284	51	50	27	4.1
7	31	41	10	51	34	13	7.6	302	43	30	33	4.3
8	38	47	11	40	32	13	10	322	34	18	34	4.4
9	48	41	15	36	28	12	12	372	25	12	33	5.1
10	37	36	17	38	27	13	10	259	22	8.2	26	6.6
11	38	32	18	49	24	14	9.0	258	21	11	18	8.3
12	38	30	21	48	e22	14	7.3	258	22	14	16	12
13	31	30	29	40	e24	e12	6.9	331	31	5.4	15	16
14	27	36	34	37	26	e12	7.3	319	46	3.7	15	15
15	25	41	37	35	28	e13	9.4	271	49	3.3	18	6.5
16	26	26	35	36	28	13	8.8	245	36	3.8	16	7.5
17	31	22	26	44	28	18	9.1	193	184	22	11	7.8
18	26	22	29	39	23	49	8.1	285	261	8.2	9.3	8.9
19	29	21	e25	35	22	38	7.5	274	271	5.8	8.5	7.1
20	26	21	e20	23	23	25	7.0	242	219	5.0	8.5	10
21	27	23	e16	21	21	20	8.0	242	202	5.0	8.4	12
22	24	20	e15	20	19	17	14	228	185	83	8.0	9.7
23	26	18	e15	34	19	9.2	50	240	177	14	7.5	7.9
24	24	16	e15	30	21	10	36	287	172	8.5	7.7	7.2
25	17	15	e16	21	21	7.7	21	368	146	6.0	7.9	8.1
26	16	13	e17	32	18	7.3	24	463	132	4.6	7.9	8.8
27	15	14	e19	32	15	7.2	18	598	132	4.3	7.4	8.2
28	19	13	e20	28	14	7.0	19	729	108	3.7	9.9	12
29	24	12	e18	30	---	7.4	78	338	79	3.3	9.0	26
30	26	12	e25	36	---	6.8	189	235	70	3.3	7.0	33
31	37	---	e22	36	---	7.1	---	168	---	8.3	5.3	---
TOTAL	1008	916	591	1006	734	439.7	626.3	10745	3092	481.4	499.3	278.1
MEAN	32.5	30.5	19.1	32.5	26.2	14.2	20.9	347	103	15.5	16.1	9.27
MAX	70	68	37	51	41	49	189	801	271	83	34	33
MIN	15	12	10	19	14	6.8	6.9	168	21	3.3	5.3	3.9
AC-FT	2000	1820	1170	2000	1460	872	1240	21310	6130	955	990	552

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	10.1	16.9	15.9	22.2	26.2	23.0	32.4	166	110	27.5	31.8	7.00									
MAX (WY)	46.7	46.0	40.2	65.1	65.2	129	224	1113	667	226	254	26.5									
MIN (WY)	.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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1980 - 1999

ANNUAL TOTAL	28028.24	20416.8	
ANNUAL MEAN	76.8	55.9	
HIGHEST ANNUAL MEAN			153 1987
LOWEST ANNUAL MEAN			5.09 1991
HIGHEST DAILY MEAN	760 May 12	801 May 2	2900 Aug 12 1981
LOWEST DAILY MEAN	.07 Jul 21	3.3 Jul 15	a.00 Oct 1 1979
ANNUAL SEVEN-DAY MINIMUM	.54 Jul 17	4.3 Sep 2	.00 Oct 1 1979
INSTANTANEOUS PEAK FLOW		1550 May 1	b8030 Aug 12 1981
INSTANTANEOUS PEAK STAGE		10.38 May 1	c10.90 Aug 12 1981
ANNUAL RUNOFF (AC-FT)	55590	40500	29620
10 PERCENT EXCEEDS	238	184	68
50 PERCENT EXCEEDS	37	22	8.1
90 PERCENT EXCEEDS	4.1	7.3	.00

e Estimated

a No flow many days most years.

b From rating curve extended above 1200 ft<sup>3</sup>/s. Maximum discharge for period of record, 19400 ft<sup>3</sup>/s, Aug 1, 1923, gage height, 9.4 ft, datum then in use, from rating curve extended above 1200 ft<sup>3</sup>/s, on the basis of slope-area measurement of peak flow.

c From flood marks. Maximum gage height for statistical period, 11.75 ft, Jul 19, 1995.



ARKANSAS RIVER BASIN

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO

LOCATION.--Lat 38°07'33", long 103°54'41", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>, of which 54 mi<sup>2</sup> 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 and Parshall flume on 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.--Records fair, except for estimated daily discharges, which are poor. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	752	569	e479	e418	402	122	338	e16300	2730	1790	1960	977
2	560	659	510	e421	391	116	339	e13500	2770	1570	3110	812
3	451	570	484	e420	e418	e252	420	6070	2710	1720	2110	809
4	457	391	475	e435	470	e354	544	4230	2340	1430	2030	855
5	479	348	469	476	494	e334	554	e3700	2020	1200	3210	857
6	486	330	e467	481	499	315	528	e3660	2040	1140	4340	839
7	499	310	e482	499	500	324	363	3430	2080	1330	3340	745
8	504	301	e483	469	486	323	332	3280	1720	1440	3400	723
9	525	297	e464	472	468	315	558	3510	1540	1280	3730	698
10	516	320	e454	460	452	258	636	3790	1440	1060	3810	613
11	525	325	e455	462	424	250	821	4020	2500	811	2980	538
12	496	584	e450	488	400	261	1550	3740	3080	760	2370	495
13	471	647	e437	508	463	284	786	3550	3200	779	2130	617
14	425	710	e433	520	463	301	684	3130	2840	912	1860	581
15	361	782	e454	520	440	329	547	2910	3010	1050	1680	554
16	334	636	e463	496	433	425	523	2890	2890	1280	1480	579
17	338	559	e446	486	404	391	501	2750	3040	2680	1320	667
18	366	544	e443	432	454	e390	486	2530	3540	2260	1260	627
19	364	e502	e426	462	426	e391	474	2320	3510	1920	1310	670
20	358	e484	e346	442	416	361	444	1970	3200	1580	1460	691
21	302	e467	e348	431	407	341	317	1680	3130	1510	1830	744
22	273	e454	e362	433	373	332	294	1600	3130	1640	1550	743
23	328	e447	e370	419	e272	313	661	1720	2920	1390	1450	739
24	332	e458	e548	408	e259	307	1030	1950	2960	e975	1400	766
25	325	405	e430	404	179	296	809	2320	2940	e757	1460	754
26	340	368	e424	420	154	267	605	3320	3340	728	1480	728
27	339	389	e426	441	142	302	555	3260	3390	782	1470	655
28	333	409	e424	428	129	314	502	3550	2990	749	1430	665
29	309	404	e427	425	---	342	915	3800	2590	700	1530	599
30	378	e452	e426	414	---	363	4290	3400	2350	728	1440	522
31	405	---	e425	400	---	316	---	3060	---	951	1150	---
TOTAL	12931	14121	13730	13990	10818	9589	21406	120940	81940	38902	65080	20862
MEAN	417	471	443	451	386	309	714	3901	2731	1255	2099	695
MAX	752	782	548	520	500	425	4290	16300	3540	2680	4340	977
MIN	273	297	346	400	129	116	294	1600	1440	700	1150	495
AC-FT	25650	28010	27230	27750	21460	19020	42460	239900	162500	77160	129100	41380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, 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	1999
MEAN	418	443	379	422	409	417	616	1339	2197	1433	1049	466													
MAX	1234	925	773	854	1249	912	1526	3901	4420	4108	2384	1209													
(WY)	1985	1985	1987	1985	1985	1998	1999	1999	1995	1995	1984	1982													
MIN	91.0	152	133	175	180	175	86.6	212	432	286	526	84.5													
(WY)	1979	1979	1991	1990	1995	1978	1978	1981	1977	1977	1978	1977													

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR				FOR 1999 WATER YEAR				WATER YEARS 1975 - 1999			
ANNUAL TOTAL	319945				424309							
ANNUAL MEAN	877				1162							
HIGHEST ANNUAL MEAN									a801			
LOWEST ANNUAL MEAN									1327			
HIGHEST DAILY MEAN	3200				Jul 30				e16300			
LOWEST DAILY MEAN	273				Oct 22				116			
ANNUAL SEVEN-DAY MINIMUM	319				Nov 5				156			
INSTANTANEOUS PEAK FLOW									d,e26000			
INSTANTANEOUS PEAK STAGE									11.30			
ANNUAL RUNOFF (AC-FT)	634600				841600				580000			
10 PERCENT EXCEEDS	1650				3070				1750			
50 PERCENT EXCEEDS	602				525				464			
90 PERCENT EXCEEDS	395				327				204			

e Estimated

a Average discharge for 9 years (water years 1965-73), 636 ft<sup>3</sup>/s, 460800 acre-ft/yr, prior to completion of Pueblo Dam.

b Maximum daily discharge for period of record, 43200 ft<sup>3</sup>/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 ft<sup>3</sup>/s, Jun 18, 1965, gage height, 7.95 ft, site and datum then in use, from rating curve extended above 13000 ft<sup>3</sup>/s, on basis of flow-over-dam computation of peak flow.

g Gage height at Arkansas River gage.

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. Instantaneous discharge and selected water-quality data collected as part of a basin-wide water-quality assessment of the lower Arkansas River basin in Colorado are published elsewhere in this report.

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, 1,750 microsiemens, Mar. 2; minimum, 575 microsiemens, June 26-27.

WATER TEMPERATURE: Maximum, 29.7° C, July 29; minimum, 0.0° C, many days.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1400	853	1150	1180	1040	1090	1460	1380	1410	1310	1270	1290
2	1200	1100	1150	1110	1020	1060	1400	1370	1380	1330	1270	1300
3	1240	1160	1210	1070	1010	1030	1380	1350	1370	1390	1310	1350
4	1270	1230	1260	1150	1070	1110	1370	1350	1360	1440	1340	1410
5	1270	1190	1230	1210	1150	1180	1380	1360	1370	1380	1340	1370
6	1210	1190	1200	1260	1210	1240	1380	1340	1360	1390	1370	1380
7	1210	1190	1200	1290	1260	1280	1360	1330	1340	1400	1390	1390
8	1210	1180	1200	1340	1290	1320	1350	1330	1340	1400	1370	1380
9	1190	1170	1180	1370	1340	1360	1350	1320	1330	1390	1360	1370
10	1200	1160	1190	1380	1360	1370	1390	1330	1360	1360	1350	1350
11	1210	1160	1180	1390	1360	1380	1400	1370	1380	1420	1360	1400
12	1210	1130	1180	1380	1190	1250	1400	1360	1380	1430	1390	1410
13	1150	1100	1120	1200	1190	1200	1400	1380	1390	1400	1390	1400
14	1150	1080	1100	1190	1130	1150	1420	1380	1400	1400	1370	1390
15	1140	1100	1120	1200	1130	1150	1430	1390	1410	1390	1380	1390
16	1190	1140	1160	1290	1160	1220	1420	1390	1410	1390	1380	1390
17	1200	1170	1190	1380	1290	1340	1400	1380	1390	1390	1380	1380
18	1200	1170	1180	---	---	---	1430	1370	1390	1410	1380	1390
19	1220	1190	1210	---	---	---	1430	1370	1390	1430	1390	1410
20	1220	1210	1210	1440	1370	1410	1520	1430	1470	1430	1410	1420
21	1320	1210	1240	1390	1380	1390	1520	1490	1510	1420	1410	1420
22	1350	1270	1300	1390	1340	1370	1610	1510	1560	1410	1400	1410
23	1270	1240	1250	1350	1320	1340	1590	1510	1550	1410	1400	1410
24	1250	1240	1240	1340	1320	1340	1590	1510	1560	1430	1400	1410
25	1260	1250	1250	1350	1320	1330	1530	1470	1510	1410	1390	1400
26	1260	1250	1250	1340	1320	1330	1470	1390	1440	1410	1370	1400
27	1270	1250	1260	1350	1330	1340	1390	1310	1350	1420	1400	1410
28	1300	1260	1280	1350	1330	1340	1320	1270	1300	1410	1410	1410
29	1320	1280	1300	1390	1350	1380	1290	1270	1280	1410	1400	1400
30	1280	1170	1220	1410	1380	1390	1290	1260	1270	1400	1390	1390
31	1220	1180	1200	---	---	---	1280	1250	1260	1400	1390	1400
MONTH	1400	853	1210	---	---	---	1610	1250	1390	1440	1270	1390

## ARKANSAS RIVER BASIN

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1400	1370	1390	1740	1710	1730	1130	1110	1120	937	712	779
2	1410	1390	1400	1750	1730	1740	1130	1050	1110	962	861	926
3	1430	1400	1410	1730	1260	1520	1070	1020	1040	1040	947	1000
4	1420	1410	1420	1260	1190	1220	1030	1010	1020	1030	1010	1020
5	1420	1410	1410	1240	1190	1210	1030	996	1010	1010	986	1010
6	1430	1420	1420	1280	1200	1240	1140	1030	1090	1010	980	998
7	1420	1410	1410	1240	1200	1230	1270	1130	1200	---	---	---
8	1420	1400	1410	1240	1210	1230	1340	1220	1290	---	---	---
9	1430	1410	1420	1240	1200	1220	1220	971	1030	---	---	---
10	1430	1410	1430	1320	1220	1270	993	931	962	918	851	902
11	1420	1400	1410	1320	1300	1310	931	881	904	851	802	826
12	1410	1380	1390	1320	1230	1280	914	690	794	836	790	812
13	1400	1380	1390	1260	1220	1230	897	755	840	836	825	829
14	1410	1400	1400	1300	1250	1270	955	897	916	---	---	---
15	1410	1400	1400	1350	1280	1310	1070	955	1010	---	---	---
16	1410	1400	1410	1330	1170	1220	1060	1030	1040	---	---	---
17	1410	1370	1390	1210	1180	1200	1060	1040	1050	---	---	---
18	1390	1370	1370	1320	1150	1210	1060	1040	1050	---	---	---
19	1380	1360	1370	1150	1140	1140	1090	1050	1070	---	---	---
20	1400	1380	1390	1190	1140	1170	1110	1060	1080	---	---	---
21	1420	1390	1400	1200	1180	1190	1270	1110	1200	---	---	---
22	1410	1400	1400	1230	1200	1220	1260	1200	1240	---	---	---
23	1490	1400	1440	1270	1230	1250	1200	1030	1140	---	---	---
24	---	1420	---	1270	1230	1250	1040	1010	1020	---	---	---
25	1670	1650	1660	1280	1230	1260	1180	991	1050	---	---	---
26	1710	1670	1690	---	1230	---	1250	1180	1230	---	---	---
27	1720	1700	1710	1270	1200	1230	1240	1200	1220	833	710	774
28	1730	1700	1710	1200	1180	1190	1250	1160	1210	729	715	722
29	---	---	---	1180	1140	1170	1220	944	1160	726	691	699
30	---	---	---	1150	1130	1140	944	717	806	724	697	706
31	---	---	---	1220	1120	1170	---	---	---	728	701	710
MONTH	---	1360	---	---	1120	---	1340	690	1060	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	734	719	725	680	619	645	793	694	739	853	790	810
2	720	712	715	688	658	674	805	685	730	896	853	888
3	721	710	716	659	627	643	830	734	773	894	865	882
4	758	716	737	706	619	655	787	700	729	866	849	856
5	771	750	760	722	686	704	787	635	704	886	854	871
6	771	742	760	698	670	679	773	703	747	886	867	876
7	755	734	746	751	658	695	778	718	757	931	882	902
8	805	752	775	696	651	663	738	647	684	906	878	892
9	811	799	805	682	648	661	647	596	615	920	876	896
10	821	802	812	733	682	706	611	592	600	1080	917	961
11	819	685	751	---	---	---	699	591	645	---	---	---
12	696	676	684	---	---	---	701	681	690	---	---	---
13	745	679	702	---	777	---	693	666	681	997	942	954
14	733	708	721	781	751	769	737	690	710	991	949	978
15	742	702	723	762	699	742	760	730	743	1000	978	992
16	735	690	714	707	655	697	794	744	762	1030	995	1010
17	703	684	693	837	626	703	815	790	802	1040	1000	1010
18	711	677	691	964	742	813	805	780	792	1060	1040	1050
19	691	672	679	788	711	735	781	755	772	1070	1020	1040
20	682	660	670	828	727	784	760	738	749	1040	998	1020
21	669	653	660	774	731	751	760	695	709	1010	998	1000
22	660	643	649	771	656	732	753	706	732	1020	1010	1010
23	647	625	632	781	723	753	761	743	751	1030	977	1010
24	833	609	625	1030	781	864	787	761	765	977	952	962
25	623	606	614	992	934	953	767	728	750	966	939	957
26	610	575	592	954	895	934	731	724	727	996	940	963
27	583	575	578	920	895	906	732	724	728	1080	996	1020
28	624	578	603	932	868	907	731	706	725	1020	995	1010
29	606	589	597	926	900	913	732	682	704	1090	1020	1060
30	620	586	598	930	879	906	739	701	716	1140	1090	1120
31	---	---	---	882	777	844	797	732	774	---	---	---
MONTH	833	575	691	---	---	---	830	591	726	---	---	---



ARKANSAS RIVER BASIN

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	17.5	9.4	13.0	8.6	7.1	8.0	9.2	5.4	7.3	1.2	.0	.3
2	16.3	10.6	13.0	9.3	8.5	8.8	10.3	6.9	8.3	1.7	.0	.5
3	18.5	13.2	15.4	10.4	8.2	9.0	9.7	5.4	7.5	.7	.0	.1
4	17.8	13.7	15.5	10.4	7.4	8.6	8.9	5.0	7.0	.6	.0	.1
5	15.7	10.8	13.3	10.1	6.4	8.0	8.0	5.0	6.3	2.3	.0	.9
6	16.3	9.7	12.8	12.7	7.9	9.7	5.0	2.8	3.8	4.3	.0	1.8
7	16.9	10.0	13.3	11.2	6.8	8.9	5.7	2.1	3.3	2.5	.7	1.8
8	18.0	11.5	14.7	9.0	5.3	7.0	3.5	.0	1.6	2.1	.0	.8
9	19.2	13.2	16.1	7.2	4.0	5.8	2.2	.1	1.2	2.4	.0	.9
10	19.0	12.7	15.7	6.4	1.8	4.0	3.9	.2	1.8	4.1	.0	1.9
11	17.0	12.1	14.6	7.9	1.5	4.5	2.3	.0	.9	5.0	1.0	3.1
12	16.9	10.9	13.7	7.5	4.0	5.7	4.1	.0	1.8	5.6	3.4	4.2
13	17.1	11.0	14.0	8.2	4.1	6.2	4.9	.4	2.5	4.8	.8	2.9
14	18.8	11.7	15.0	9.1	5.5	7.4	4.9	.5	2.6	3.9	.6	2.4
15	18.9	12.0	15.3	9.9	6.4	8.3	5.1	.8	2.8	5.6	1.5	3.4
16	16.4	10.5	13.1	10.4	7.3	8.9	4.8	1.0	2.7	6.4	3.2	4.8
17	14.5	9.8	11.7	8.7	7.0	7.9	5.4	.8	3.0	6.1	2.4	4.0
18	15.1	8.0	11.4	---	5.6	---	5.4	1.5	3.2	7.0	1.0	3.5
19	15.4	8.6	11.8	8.3	---	---	2.4	.0	.4	7.5	3.4	5.2
20	12.3	10.2	11.2	8.1	4.4	6.0	.0	.0	.0	7.3	3.1	5.1
21	15.2	9.2	11.6	7.7	3.0	5.6	.0	.0	.0	5.3	3.4	4.3
22	17.0	9.5	12.9	10.5	5.8	8.0	.0	.0	.0	6.4	3.0	4.4
23	17.4	10.4	13.8	10.2	6.1	8.1	.0	.0	.0	6.1	.7	3.4
24	17.7	11.5	14.3	9.2	5.3	7.1	.0	.0	.0	8.4	3.6	5.4
25	14.6	10.2	12.4	9.4	4.9	7.1	.1	.0	.0	4.8	2.5	3.5
26	17.1	10.9	13.9	9.5	4.8	7.1	.4	.0	.1	6.0	1.9	3.7
27	15.5	12.8	14.2	9.6	5.6	7.4	.2	.0	.0	5.4	1.1	3.1
28	15.8	10.6	12.7	9.7	5.7	7.5	.1	.0	.0	5.4	2.2	3.5
29	14.7	8.3	11.2	10.0	7.5	8.5	.1	.0	.0	3.6	1.4	2.6
30	13.2	8.8	10.8	9.6	5.5	7.7	.2	.0	.0	4.3	2.7	3.4
31	11.0	8.2	9.4	---	---	---	.2	.0	.0	8.9	4.3	6.3
MONTH	19.2	8.0	13.3	---	---	---	10.3	.0	2.2	8.9	.0	2.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.7	5.5	6.9	15.3	3.8	8.7	16.8	9.0	12.4	9.0	8.2	8.6
2	7.2	2.2	4.8	10.5	4.7	7.4	10.8	4.5	7.6	12.1	7.3	9.4
3	8.9	4.2	6.1	10.4	2.0	6.5	13.1	3.5	7.9	12.8	10.1	11.5
4	6.1	2.9	4.6	11.5	5.4	8.2	10.1	7.6	8.6	12.9	11.1	12.1
5	8.4	4.5	6.2	10.5	5.3	7.7	14.1	7.0	10.1	12.0	10.1	11.0
6	8.6	3.6	5.9	7.0	4.1	5.7	16.7	8.8	12.5	---	---	---
7	9.7	3.9	6.6	9.1	1.8	5.2	17.8	9.8	13.7	---	---	---
8	11.1	5.4	8.2	11.2	6.0	8.2	15.1	7.0	11.9	---	---	---
9	10.8	4.8	7.8	10.9	4.7	7.8	15.5	9.2	11.9	---	---	---
10	11.4	5.2	8.3	11.5	5.8	8.6	13.5	5.3	9.3	16.6	---	---
11	5.2	.8	2.9	8.5	4.4	6.3	13.9	8.6	11.2	14.3	12.2	13.2
12	4.6	.0	1.6	5.2	1.4	3.2	13.7	9.0	11.4	14.7	10.7	12.7
13	7.8	.6	4.0	9.1	.5	4.6	13.6	11.2	12.5	---	12.2	---
14	8.9	2.2	5.5	12.2	3.8	8.0	12.9	8.8	11.3	---	---	---
15	6.9	3.5	5.2	13.9	6.8	10.2	9.9	6.4	7.9	---	---	---
16	8.3	2.5	5.3	14.9	8.9	11.8	8.8	4.0	6.6	---	---	---
17	8.7	2.7	5.3	13.6	8.0	10.9	13.8	4.4	8.9	---	---	---
18	7.3	2.7	5.0	10.5	6.0	8.1	16.0	8.1	12.2	---	---	---
19	9.5	3.0	6.0	10.5	5.0	7.3	19.2	11.0	15.1	---	---	---
20	10.8	5.2	7.4	13.9	5.1	9.4	19.5	12.7	16.1	---	---	---
21	9.0	3.2	6.0	15.9	8.2	11.7	16.8	12.7	14.7	---	---	---
22	7.3	2.5	5.1	15.9	8.0	11.6	13.9	10.8	12.3	---	---	---
23	8.6	.6	4.1	16.2	7.9	11.7	11.2	8.4	9.1	---	---	---
24	---	3.4	---	12.9	8.7	10.6	8.5	7.7	8.1	---	---	---
25	12.8	---	---	15.0	8.0	10.9	13.0	7.3	10.0	---	---	---
26	13.6	3.8	8.1	---	8.5	---	17.4	9.7	13.4	---	---	---
27	13.2	2.4	7.3	18.2	10.2	13.7	20.5	12.4	16.2	18.2	---	---
28	14.3	2.1	7.7	15.7	9.6	12.4	19.0	13.7	15.9	18.9	15.9	17.4
29	---	---	---	16.0	7.5	11.5	14.8	11.2	12.3	18.7	16.2	17.3
30	---	---	---	14.9	9.4	12.1	11.2	9.0	9.5	18.0	15.3	16.7
31	---	---	---	16.0	8.4	12.0	---	---	---	18.0	15.4	16.6
MONTH	---	---	---	---	.5	---	20.5	3.5	11.4	---	---	---

## ARKANSAS RIVER BASIN

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	19.3	14.8	17.1	24.6	19.9	22.1	23.7	20.4	21.9	26.3	21.7	23.8
2	18.9	15.6	17.5	24.1	20.7	22.6	20.4	19.3	19.8	25.4	20.2	22.4
3	19.8	15.6	17.7	23.5	19.9	21.7	23.4	19.0	21.1	25.2	19.4	22.2
4	19.9	15.5	17.7	25.1	19.4	22.3	23.4	21.1	22.1	24.6	19.1	21.7
5	18.6	14.8	16.8	25.8	20.6	23.3	23.3	20.1	21.6	24.4	19.1	21.5
6	19.0	13.6	16.4	26.1	21.5	23.8	23.4	20.6	22.1	25.1	18.9	21.9
7	20.6	15.1	17.9	26.1	21.5	23.8	23.7	21.1	22.5	24.8	18.7	21.8
8	20.7	16.3	18.6	24.2	21.1	22.4	24.1	20.9	22.5	22.9	18.8	20.6
9	21.6	16.5	19.3	21.2	19.4	20.1	24.2	21.2	22.7	23.1	16.1	19.6
10	21.5	17.6	19.7	24.6	18.1	21.2	23.6	21.4	22.5	24.8	18.3	21.2
11	20.0	17.1	18.2	---	---	---	24.7	20.8	22.6	23.3	17.4	20.7
12	18.9	15.9	17.2	---	---	---	24.8	21.0	22.9	---	---	---
13	18.3	14.9	16.6	27.7	---	---	24.8	20.3	22.5	21.8	15.3	18.0
14	19.5	16.1	17.7	26.8	21.7	24.2	24.8	20.4	22.6	21.6	16.0	18.6
15	17.4	15.7	16.6	26.5	21.6	23.9	25.2	20.8	23.2	18.2	16.2	16.9
16	16.1	14.9	15.5	25.5	21.3	23.3	25.7	21.0	23.6	22.4	15.6	18.3
17	18.1	14.0	16.1	24.1	20.9	22.2	26.2	22.4	24.4	21.3	17.6	19.3
18	19.8	16.4	18.1	25.8	20.7	23.1	25.3	21.0	23.3	22.9	17.2	19.8
19	21.3	17.9	19.5	25.3	21.7	23.7	25.6	21.3	23.5	19.6	15.2	16.7
20	21.6	18.5	19.9	26.0	21.6	23.9	25.2	21.0	23.2	15.3	13.5	14.4
21	21.1	17.7	19.6	26.7	21.9	24.4	25.4	21.1	23.4	19.4	12.4	15.6
22	21.4	18.4	19.9	26.8	22.0	24.4	25.1	22.0	23.8	20.0	14.1	17.0
23	22.1	18.3	20.2	27.2	21.8	24.4	25.6	20.9	23.4	20.8	15.4	17.9
24	22.8	16.0	20.5	27.1	22.1	24.4	25.6	20.9	23.4	20.5	17.0	18.7
25	22.5	19.0	20.7	28.8	21.6	24.9	25.6	20.7	23.3	21.8	15.7	18.7
26	22.3	18.7	20.6	28.2	22.3	24.8	25.8	20.9	23.5	19.8	16.0	18.0
27	22.3	19.4	21.0	28.2	21.8	24.8	26.5	21.9	24.3	16.7	12.1	13.9
28	22.7	19.9	21.3	29.0	22.4	25.5	26.1	22.0	24.1	14.1	11.0	12.2
29	22.2	18.3	20.4	29.7	22.7	25.9	24.8	21.2	23.2	15.7	8.2	11.8
30	23.4	19.8	21.5	28.8	22.6	25.6	25.4	20.9	23.2	17.3	10.5	13.7
31	---	---	---	26.2	22.3	24.1	26.9	21.2	24.0	---	---	---
MONTH	23.4	13.6	18.7	---	---	---	26.9	19.0	22.9	---	---	---

07121500 TIMPAS CREEK AT MOUTH, NEAR SWINK, CO

LOCATION.--Lat 38°00'11", long 103°39'20", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.35, T.23 S., R.56 W., Otero County, Hydrologic Unit 11020005, on right (revised) bank at downstream side of 23rd Rd. Bridge, 1.7 mi southwest of Swink, and 2.9 mi upstream from mouth.

DRAINAGE AREA.--496 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1922 to September 1925, March 1968 to current year.

REVISED RECORDS.--WDR CO 76-1: 1975.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,120 ft above sea level, from topographic map. Jan. 1922 to Sept. 1925 at several sites downstream at different datum. Mar. 1968 to May 29, 1975, at site 140 ft downstream at datum 0.13 ft lower.

REMARKS.--No estimated daily discharges. Records good except those above 200 ft<sup>3</sup>/s, which are fair. Natural flow of stream affected by minor diversions upstream from station for irrigation, water imported from Arkansas River and Crooked Arroyo for irrigation 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 OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1922, 21,400 ft<sup>3</sup>/s, June 17, 1965.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	793	146	25	18	14	28	47	1140	153	56	246	53
2	231	139	24	18	13	26	41	1190	112	57	250	52
3	169	145	24	17	13	24	70	214	129	49	158	61
4	160	134	24	17	13	49	73	91	135	85	205	55
5	171	152	23	17	13	131	75	60	109	104	209	59
6	160	151	23	18	13	79	65	64	74	61	91	59
7	157	150	23	17	13	55	66	48	55	59	64	59
8	150	149	22	17	13	87	55	40	48	59	61	55
9	123	152	22	17	20	49	77	38	50	60	80	68
10	113	153	22	16	37	32	83	38	44	65	199	63
11	111	146	22	16	20	36	83	76	46	67	107	95
12	95	134	22	16	13	48	86	103	198	76	71	119
13	87	144	22	16	13	84	74	111	262	54	69	110
14	90	148	22	16	13	104	71	136	65	47	77	112
15	84	90	22	16	13	55	77	91	80	52	79	100
16	96	49	21	15	37	33	80	55	70	73	75	124
17	99	45	21	15	36	31	80	60	64	926	65	155
18	109	41	21	15	35	33	83	61	52	468	65	154
19	104	34	20	15	34	37	75	69	63	135	64	141
20	108	31	20	15	32	30	72	77	57	73	63	147
21	103	27	20	15	31	29	69	76	61	96	64	141
22	99	28	19	15	30	28	64	62	63	57	68	122
23	98	27	19	14	28	26	87	47	56	41	65	118
24	99	27	18	14	26	62	111	61	55	49	64	107
25	94	26	19	14	26	48	143	73	52	78	62	102
26	95	26	19	14	22	35	158	82	45	55	62	106
27	96	26	19	13	20	45	143	104	51	40	64	110
28	98	26	18	13	25	52	128	119	53	36	61	129
29	110	25	19	13	---	45	351	137	51	53	59	111
30	112	25	19	14	---	45	639	146	55	67	59	77
31	137	---	18	15	---	46	---	158	---	83	55	---
TOTAL	4351	2596	652	481	616	1512	3326	4827	2408	3281	2981	2964
MEAN	140	86.5	21.0	15.5	22.0	48.8	111	156	80.3	106	96.2	98.8
MAX	793	153	25	18	37	131	639	1190	262	926	250	155
MIN	84	25	18	13	13	24	41	38	44	36	55	52
AC-FT	8630	5150	1290	954	1220	3000	6600	9570	4780	6510	5910	5880

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1999, BY WATER YEAR (WY)

	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	1999
MEAN	90.7	77.7	35.4	23.6	31.6	61.2	65.5	77.7	83.3	75.1	87.7	74.1																																																																		
MAX	265	210	109	60.4	84.6	201	170	187	318	200	401	159																																																																		
(WY)	1924	1924	1971	1923	1924	1924	1924	1995	1923	1923	1923	1986																																																																		
MIN	27.4	30.4	9.80	7.87	11.4	24.8	11.0	14.0	24.5	18.1	15.8	15.7																																																																		
(WY)	1979	1992	1979	1975	1976	1981	1978	1981	1981	1974	1974	1974																																																																		

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1922 - 1999	
ANNUAL TOTAL	26337		29995			
ANNUAL MEAN	72.2		82.2		65.6	
HIGHEST ANNUAL MEAN					130 1923	
LOWEST ANNUAL MEAN					25.2 1975	
HIGHEST DAILY MEAN	793	Oct 1	1190	May 2	2670	Aug 17 1923
LOWEST DAILY MEAN	16	Feb 28	13	Jan 27	3.3	Aug 7 1977
ANNUAL SEVEN-DAY MINIMUM	17	Feb 26	13	Feb 2	5.7	Dec 16 1978
INSTANTANEOUS PEAK FLOW			a3000	Oct 1	b12300	Jul 10 1978
INSTANTANEOUS PEAK STAGE			11.81	Oct 1	c21.11	Jul 10 1978
ANNUAL RUNOFF (AC-FT)	52240		59500		47530	
10 PERCENT EXCEEDS	134		146		128	
50 PERCENT EXCEEDS	69		61		50	
90 PERCENT EXCEEDS	19		17		16	

a From rating curve extended above 1760 ft<sup>3</sup>/s, on basis of slope-area and contracted-opening measurements of peak flow.  
b From rating curve extended above 250 ft<sup>3</sup>/s, on basis of contracted-opening measurement of peak flow.  
c From floodmark.

## ARKANSAS RIVER BASIN

07123000 ARKANSAS RIVER AT LA JUNTA, CO

LOCATION.--Lat 37°59'26", long 103°31'55", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>, of which 115 mi<sup>2</sup> 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. 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 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. Instantaneous discharge and selected water-quality data collected as part of a basin-wide water-quality assessment of the lower Arkansas River basin in Colorado are published elsewhere in this report.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e151	115	112	97	e575	13	e34	e11100	1800	864	e168	172
2	e115	171	108	101	e596	12	e34	e19000	1410	512	e1970	108
3	e106	130	104	105	e563	13	e35	e10800	1390	586	1580	107
4	e88	83	98	109	e511	13	e38	e6290	1210	687	1010	118
5	e67	84	105	104	e489	15	e53	e4670	829	311	2020	89
6	e61	80	100	94	e514	23	e65	e4150	e594	108	3410	114
7	e58	80	99	90	e463	28	e45	3360	e522	e90	e4340	103
8	e59	80	103	89	e431	61	e38	2360	e433	e164	e3410	92
9	e63	81	104	92	e59	122	e42	2240	e278	165	e2760	90
10	65	80	103	100	e28	98	e48	2180	86	75	3320	81
11	63	79	106	397	e29	91	e43	2760	96	54	2930	80
12	69	76	108	517	e24	106	e41	2910	861	55	1270	71
13	67	73	110	574	e20	168	e44	2280	2280	67	977	85
14	72	71	111	576	e19	192	e43	2130	1740	57	e587	77
15	70	556	109	e486	e19	74	e44	1600	1940	54	e478	78
16	67	157	109	e485	e19	43	e43	e1640	1910	60	e376	66
17	58	136	111	e509	e18	37	e45	e1720	1950	3170	173	63
18	57	135	110	e520	e18	e44	e44	1370	2420	2640	99	71
19	54	117	106	e487	18	e83	e42	1120	2870	1080	151	74
20	52	119	100	e558	17	e152	e42	802	2250	614	225	74
21	53	109	e107	e525	16	e74	e38	e724	1980	474	452	65
22	49	105	e120	e534	15	e49	e37	e724	2140	462	329	71
23	47	110	e123	e520	15	e36	e47	e724	2210	496	221	72
24	58	116	e118	e522	16	e41	e42	e716	2060	216	206	75
25	60	119	e120	e543	15	e36	e52	e732	1490	131	220	79
26	55	117	e123	e554	14	e32	e40	1910	1850	91	257	80
27	56	114	e123	e554	14	e31	e31	2350	2170	78	242	76
28	56	118	e120	e522	14	e30	e34	3000	2310	67	235	75
29	58	113	e115	e502	---	e28	e134	3400	1500	55	269	81
30	65	116	e107	e514	---	e30	e2110	3260	1340	55	314	87
31	78	---	97	e531	---	e31	---	2590	---	75	199	---
TOTAL	2097	3640	3389	11911	4549	1806	3428	104612	45919	13613	34198	2574
MEAN	67.6	121	109	384	162	58.3	114	3375	1531	439	1103	85.8
MAX	151	556	123	576	596	192	2110	19000	2870	3170	4340	172
MIN	47	71	97	89	14	12	31	716	86	54	99	63
AC-FT	4160	7220	6720	23630	9020	3580	6800	207500	91080	27000	67830	5110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, 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	1999	
MEAN	177	131	126	174	159	116	145	625	961	560	347	128														
MAX	1189	545	335	569	620	517	821	3375	4307	3634	1345	464														
(WY)	1985	1987	1987	1998	1985	1998	1998	1999	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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1975 - 1999

ANNUAL TOTAL	107284	231736	
ANNUAL MEAN	294	635	a305
HIGHEST ANNUAL MEAN			832
LOWEST ANNUAL MEAN			107
HIGHEST DAILY MEAN	2780	Mar 29	19000
LOWEST DAILY MEAN	34	Jun 26	12
ANNUAL SEVEN-DAY MINIMUM	42	Feb 21	13
INSTANTANEOUS PEAK FLOW			e,f30000
INSTANTANEOUS PEAK STAGE			g15.55
ANNUAL RUNOFF (AC-FT)	212800	459600	d,g15.55
10 PERCENT EXCEEDS	634	2080	634
50 PERCENT EXCEEDS	106	108	106
90 PERCENT EXCEEDS	53	35	23

e Estimated

a Average discharge for 61 years (water years 1913-73), 244 ft<sup>3</sup>/s; 176800 acre-ft/yr, prior to completion of Pueblo Dam.

b Maximum daily discharge for period of record, 61100 ft<sup>3</sup>/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 ft<sup>3</sup>/s, Jun 4, 1921, gage height, 18.40 ft, site and datum then in use, from rating curve extended above 15000 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

f Peak discharge (estimated) includes an estimated 7600 ft<sup>3</sup>/s overflow that bypassed the main channel.

g Gage height reflects the discharge flowing in the main channel.

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

LOCATION.--Lat 38°04'51", long 103°13'09", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>, of which 441 mi<sup>2</sup> 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.--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 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	114	184	158	595	77	39	6970	2640	1010	135	219
2	162	175	181	149	584	79	39	21700	2060	583	928	189
3	119	224	172	141	592	77	41	22600	1940	467	2250	161
4	125	161	171	129	585	77	41	11800	1780	500	998	159
5	102	126	178	127	562	77	50	6410	1310	441	1660	163
6	82	113	174	125	574	77	68	4750	850	258	3180	151
7	70	104	174	121	572	87	64	3810	696	178	4220	144
8	66	99	178	117	572	94	49	2920	584	173	3660	134
9	61	98	176	117	415	117	43	2330	343	310	3680	130
10	57	98	184	116	184	162	39	2350	210	249	3880	132
11	56	95	176	186	145	154	38	2480	140	171	4170	127
12	55	94	167	514	125	153	40	2710	612	151	3330	122
13	58	e93	177	593	114	182	38	2520	2490	137	1970	116
14	61	e93	171	617	107	245	40	2420	2670	127	1170	116
15	64	e270	171	632	102	195	44	2120	2310	120	774	114
16	64	e375	170	629	99	84	40	1970	2360	121	628	122
17	58	e270	168	622	98	67	38	2160	2140	854	484	117
18	57	e227	171	622	99	62	39	2020	2220	3190	348	112
19	60	216	161	601	96	60	40	1730	2570	1780	296	109
20	56	211	123	629	93	76	38	1250	2410	966	312	113
21	55	211	119	620	90	108	38	854	1940	568	365	114
22	56	201	e120	602	88	71	39	524	1830	478	546	116
23	56	188	e130	599	85	58	43	446	2040	443	386	115
24	57	187	e130	585	84	57	49	417	1860	397	290	112
25	64	191	e140	597	82	59	81	512	1720	234	253	110
26	65	192	e150	603	80	52	102	1240	1500	171	264	113
27	64	200	e160	586	79	48	77	2600	1990	143	285	116
28	61	197	e170	587	78	46	67	2690	2190	128	284	122
29	59	194	186	585	---	44	94	2910	1830	119	282	123
30	59	185	181	601	---	42	1150	3190	1340	110	309	127
31	74	---	173	612	---	41	---	2920	---	115	295	---
TOTAL	2175	5202	5086	13522	6979	2828	2608	125323	50575	14692	41632	3918
MEAN	70.2	173	164	436	249	91.2	86.9	4043	1686	474	1343	131
MAX	162	375	186	632	595	245	1150	22600	2670	3190	4220	219
MIN	55	93	119	116	78	41	38	417	140	110	135	109
AC-FT	4310	10320	10090	26820	13840	5610	5170	248600	100300	29140	82580	7770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, 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	1999
MEAN	166	152	144	194	197	125	136	634	948	520	326	116													
MAX	1092	810	398	641	761	422	877	4043	4263	3339	1343	373													
(WY)	1985	1998	1998	1998	1985	1998	1987	1999	1995	1995	1999	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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1975 - 1999

ANNUAL TOTAL	107481	274540	
ANNUAL MEAN	294	752	a305
HIGHEST ANNUAL MEAN			841 1995
LOWEST ANNUAL MEAN			84.1 1976
HIGHEST DAILY MEAN	2150	Apr 14	22600 May 3 b22600 May 3 1999
LOWEST DAILY MEAN	45	Jun 26	38 Apr 11 c3.0 Nov 30 1974
ANNUAL SEVEN-DAY MINIMUM	49	Jun 21	39 Apr 16 4.1 Sep 26 1977
INSTANTANEOUS PEAK FLOW			32900 May 2 d32900 May 2 1999
INSTANTANEOUS PEAK STAGE			14.02 May 2 f14.02 May 2 1999
ANNUAL RUNOFF (AC-FT)	213200	544600	221200
10 PERCENT EXCEEDS	681	2200	600
50 PERCENT EXCEEDS	166	171	120
90 PERCENT EXCEEDS	59	57	16

- e Estimated
- a Average discharge for 34 years (water years 1940-73), 203 ft<sup>3</sup>/s; 147100 acre-ft/yr, prior to completion of Pueblo Dam.
- b Maximum daily discharge for period of record, 25800 ft<sup>3</sup>/s, May 20, 1955.
- c Minimum daily discharge for period of record, 0.9 ft<sup>3</sup>/s, Jul 31, Aug 1 and 3, 1964.
- d Maximum discharge and stage for period of record, 44000 ft<sup>3</sup>/s, May 20, 1955, gage height, 15.03 ft, site and datum then in use, from current-meter measurement and slope-area measurement of over-flow channel.
- f From floodmark.





## ARKANSAS RIVER BASIN

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	17.7	12.6	14.4	8.1	7.1	7.5	10.7	6.5	8.5	3.5	1.4	2.5
2	17.6	12.4	14.7	8.5	7.2	7.8	11.7	7.8	9.5	3.9	1.4	2.5
3	21.2	15.2	17.4	9.7	7.4	8.4	10.3	6.6	8.5	2.9	.2	1.2
4	20.9	16.4	18.2	9.7	6.8	8.3	9.9	5.7	7.8	2.7	.2	1.0
5	19.3	13.4	16.2	11.9	6.0	8.6	8.9	5.7	7.1	4.3	.2	1.9
6	18.4	12.4	15.1	13.7	7.6	10.3	6.0	3.9	5.0	5.8	.6	3.0
7	19.3	8.9	13.7	10.9	6.7	9.2	5.7	2.8	4.1	2.9	1.4	2.2
8	20.4	9.9	14.8	11.6	5.3	8.1	4.4	.3	2.4	2.7	.5	1.6
9	21.6	11.5	16.0	7.9	4.1	6.3	3.4	.2	1.9	3.2	.4	1.5
10	21.4	10.9	15.7	8.1	2.2	4.9	4.6	1.1	2.5	4.7	.4	2.5
11	19.2	10.3	14.4	6.9	2.2	4.6	3.5	.0	1.5	5.8	1.5	3.4
12	19.5	9.1	14.0	9.7	3.2	6.2	4.7	.0	2.2	3.9	2.4	3.1
13	19.6	10.7	14.7	10.8	3.3	6.8	5.6	1.0	3.2	3.8	1.3	2.6
14	19.4	10.9	14.9	11.7	4.6	7.9	5.5	.9	3.2	4.2	1.6	2.9
15	19.8	11.6	15.1	10.8	5.3	7.8	5.6	1.0	3.2	5.1	1.7	3.3
16	18.4	11.1	14.0	10.3	6.5	8.3	5.3	1.0	3.1	5.9	3.1	4.6
17	15.1	9.7	11.8	---	6.6	---	5.9	1.1	3.4	5.2	3.4	4.3
18	16.9	6.5	11.2	---	---	---	5.8	1.7	3.7	5.2	2.1	3.6
19	17.0	7.3	11.9	8.2	5.7	6.9	3.4	.0	.7	6.4	2.8	4.5
20	13.5	9.5	11.3	8.3	4.1	6.0	.0	.0	.0	7.2	4.2	5.6
21	16.0	7.2	11.1	8.6	3.2	5.9	.0	.0	.0	5.9	4.4	5.2
22	18.7	9.3	13.5	11.4	5.6	8.4	.0	.0	.0	5.8	3.9	4.7
23	19.0	9.6	14.0	10.4	6.4	8.4	.0	.0	.0	5.7	2.4	4.0
24	19.1	10.4	14.2	10.0	5.6	7.7	.0	.0	.0	6.9	3.9	5.1
25	16.2	9.7	12.8	9.9	5.4	7.6	.0	.0	.0	5.3	3.6	4.3
26	18.8	11.5	14.8	10.2	5.4	7.7	.0	.0	.0	5.8	2.7	4.0
27	18.3	13.0	15.3	10.2	5.8	7.9	.0	.0	.0	5.1	2.4	3.6
28	18.0	10.5	13.6	10.4	6.1	8.1	.0	.0	.0	4.3	2.3	3.3
29	16.4	8.4	11.9	10.0	7.7	8.6	1.1	.0	.2	3.4	2.5	3.0
30	11.4	9.2	10.3	10.3	5.8	8.1	3.7	.0	1.3	3.8	1.6	2.9
31	10.3	8.1	9.1	---	---	---	3.6	.1	1.7	6.7	3.7	5.0
MONTH	21.6	6.5	13.9	---	---	---	11.7	.0	2.7	7.2	.2	3.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.5	5.6	6.3	14.3	4.8	9.2	19.7	7.5	12.5	9.9	9.3	9.5
2	7.5	4.3	5.8	11.4	5.4	8.3	12.7	6.0	8.2	12.6	8.4	10.2
3	7.8	4.7	6.0	12.8	2.4	7.5	17.1	5.3	10.4	13.6	10.9	12.1
4	7.1	4.5	5.7	13.6	5.2	9.0	12.6	6.6	9.2	14.0	11.4	12.7
5	7.8	5.0	6.4	13.6	4.3	8.2	17.2	6.3	11.0	13.4	11.1	12.1
6	7.7	4.9	6.2	8.2	3.7	5.8	20.1	6.4	12.7	14.5	10.2	12.3
7	7.6	4.3	5.9	12.0	1.5	6.4	18.2	7.9	12.7	16.4	12.1	14.2
8	9.3	5.2	7.1	12.7	6.5	8.8	18.3	5.8	11.9	18.3	14.7	16.5
9	10.6	6.2	8.2	10.8	3.4	7.3	20.5	6.2	11.9	19.4	16.9	18.3
10	12.2	5.9	8.7	12.0	5.1	8.3	19.2	3.9	10.1	19.8	17.3	18.4
11	5.9	2.0	3.8	7.7	4.4	5.7	19.4	5.3	11.4	17.7	15.2	16.7
12	7.7	.0	3.5	4.4	.6	2.9	22.2	6.1	13.2	16.0	13.1	14.8
13	10.3	1.9	5.7	6.9	.1	3.2	15.0	10.6	12.7	17.7	14.2	16.0
14	11.4	2.9	6.9	10.1	2.1	6.1	12.4	6.5	10.0	19.0	15.6	17.2
15	---	---	---	14.2	6.0	9.7	12.2	4.4	7.6	19.7	16.1	17.9
16	---	---	---	16.9	7.1	11.6	11.9	2.3	6.9	19.7	16.4	17.8
17	8.8	3.4	6.2	15.5	6.1	10.3	17.1	2.9	9.4	18.3	15.6	16.7
18	9.9	3.1	6.3	8.9	3.7	6.5	20.5	6.0	12.9	19.4	15.2	17.2
19	11.6	3.6	7.1	12.9	3.5	7.6	22.9	9.4	15.9	19.4	16.7	17.8
20	10.7	5.5	7.6	16.1	4.0	9.8	22.1	9.9	15.6	19.0	15.7	17.3
21	9.9	2.4	5.9	17.0	7.0	11.5	18.1	11.7	14.3	22.0	16.1	18.7
22	8.1	3.3	5.7	18.6	8.1	12.1	17.3	10.5	13.1	23.3	17.4	19.9
23	11.3	1.0	5.8	17.1	6.3	10.8	10.5	7.9	8.9	22.9	17.4	19.8
24	13.2	3.8	8.3	11.4	7.2	9.0	9.2	7.3	8.2	23.9	17.5	20.2
25	12.3	4.8	8.4	17.4	5.4	10.5	12.5	7.7	9.9	19.0	17.0	17.8
26	13.2	4.9	8.8	19.9	6.5	12.2	15.2	9.7	12.2	19.0	15.7	17.0
27	12.7	4.0	8.1	20.4	9.4	13.8	23.4	11.4	16.1	18.6	16.1	17.3
28	13.5	3.0	8.0	18.3	7.1	11.7	20.2	10.7	14.4	20.4	17.1	18.6
29	---	---	---	19.6	5.7	11.8	12.7	10.2	11.2	21.0	18.4	19.6
30	---	---	---	19.2	8.0	13.1	10.4	9.6	10.1	20.8	18.1	19.4
31	---	---	---	19.4	8.2	13.0	---	---	---	20.3	17.9	18.9
MONTH	---	---	---	20.4	.1	9.1	23.4	2.3	11.5	23.9	8.4	16.5





## ARKANSAS RIVER BASIN

07124200 PURGATOIRE RIVER AT MADRID, CO

LOCATION --Lat 37°07'46", long 104°38'20", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 400 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	69	30	e28	19	16	14	838	400	216	191	106
2	69	56	31	e24	18	17	18	973	382	211	249	101
3	48	52	31	e22	20	15	18	1260	355	197	203	95
4	47	54	29	e20	19	16	17	1190	340	195	499	90
5	50	47	28	e21	21	15	20	838	331	204	371	85
6	45	43	27	e24	17	15	21	572	304	261	308	83
7	42	41	27	e24	19	14	23	560	279	196	280	79
8	41	39	27	e25	19	16	22	696	279	191	245	74
9	40	42	e24	e21	18	15	21	779	286	199	217	73
10	38	37	e24	e23	17	15	18	712	308	179	215	69
11	38	32	e23	e22	e17	15	18	587	307	159	240	65
12	37	45	e22	e22	e17	16	19	450	326	144	209	62
13	36	39	e23	e20	e17	15	20	404	303	145	191	60
14	36	39	e22	e21	e17	17	33	472	292	132	181	58
15	34	38	e23	e22	e16	17	31	484	370	119	186	78
16	32	38	e23	e24	e16	17	24	434	366	178	173	77
17	35	37	e25	e21	e16	15	25	384	370	188	186	66
18	35	35	e24	e23	e16	17	26	352	398	239	182	64
19	36	34	e21	e24	e16	19	25	348	417	180	227	62
20	36	31	e22	e21	e16	21	24	380	370	213	195	62
21	36	33	e12	e20	e15	19	28	373	363	215	175	66
22	36	39	e13	e21	e17	17	31	388	337	219	165	59
23	36	34	e13	e18	e14	17	37	403	332	306	166	57
24	34	33	e16	e25	e15	17	36	409	347	206	154	56
25	34	32	e17	e21	e16	17	36	417	316	250	143	55
26	37	32	e22	e20	e17	16	34	404	302	189	139	53
27	47	32	e28	e17	e16	16	31	356	283	182	148	53
28	45	32	e29	e18	e16	16	32	346	271	164	130	54
29	38	31	e29	e23	---	15	61	361	247	171	128	55
30	38	31	e29	e22	---	15	889	389	228	166	125	53
31	64	---	e30	e17	---	14	---	405	---	361	117	---
TOTAL	1287	1177	744	674	477	502	1652	16964	9809	6175	6338	2070
MEAN	41.5	39.2	24.0	21.7	17.0	16.2	55.1	547	327	199	204	69.0
MAX	69	69	31	28	21	21	889	1260	417	361	499	106
MIN	32	31	12	17	14	14	14	346	228	119	117	53
AC-FT	2550	2330	1480	1340	946	996	3280	33650	19460	12250	12570	4110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1999, 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	1999
MEAN	30.4	25.2	21.3	18.9	19.5	20.7	46.7	150	206	132	118	57.3																
MAX	78.5	39.2	40.3	36.6	37.2	55.9	204	547	589	313	342	232																
(WY)	1983	1999	1984	1984	1983	1987	1987	1999	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1972 - 1999
ANNUAL TOTAL	21721	47869	
ANNUAL MEAN	59.5	131	72.6
HIGHEST ANNUAL MEAN			145
LOWEST ANNUAL MEAN			21.6
HIGHEST DAILY MEAN	324	Jul 27	1260
LOWEST DAILY MEAN	12	Dec 21	12
ANNUAL SEVEN-DAY MINIMUM	16	Dec 19	15
INSTANTANEOUS PEAK FLOW			a2410
INSTANTANEOUS PEAK STAGE		6.66	Aug 4
ANNUAL RUNOFF (AC-FT)	43080	94950	52570
10 PERCENT EXCEEDS	115	368	186
50 PERCENT EXCEEDS	39	38	30
90 PERCENT EXCEEDS	22	17	13

e Estimated

a From rating curve extended above 830 ft<sup>3</sup>/s, on basis of timed-drift measurement, and slope-area measurements of peak flow.

b From rating curve extended above 300 ft<sup>3</sup>/s, on basis of timed-drift measurement, and slope-area measurements of peak flow.

c From floodmarks.

07124400 TRINIDAD LAKE NEAR TRINIDAD, CO

LOCATION.--Lat 37°08'27", long 104°33'03", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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.--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, 72,700 acre-ft, Aug. 7, 12, 1999, elevation, 6,230.29 ft; no contents prior to Aug. 19, 1977.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 72,700 acre-ft, maximum elevation, 6,230.29 ft, Aug. 7, 12; minimum contents, 13,600 acre-ft, Oct. 6-7; minimum elevation, 6,167.47 ft., Oct. 7.

Capacity table (elevation, in feet, and contents, in acre-feet, effective Nov. 1, 1994)

6,150.0	6,098	6,180.0	21,000	6,210.0	47,030
6,155.0	7,956	6,185.0	24,530	6,215.0	52,740
6,160.0	10,080	6,190.0	28,370	6,220.0	58,840
6,165.0	12,360	6,195.0	32,550	6,225.0	65,360
6,170.0	14,940	6,200.0	37,010	6,230.0	72,250
6,175.0	17,800	6,205.0	41,820	6,235.0	79,650

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13700	15700	18200	19600	20700	21500	22400	31400	67300	72300	72000	70000
2	13800	15900	18200	19600	20700	21500	22500	e35100	67600	72300	72200	69700
3	13900	16000	18300	19700	20700	21500	22500	39100	67800	72300	71400	69400
4	13900	16100	18300	19700	20800	21500	22600	42500	68100	72200	72100	69100
5	13800	16200	18400	19700	20800	21600	22600	44700	68200	72400	72200	e68700
6	13600	16300	18500	19800	20800	21600	22600	46200	68400	72500	e72300	e68400
7	13600	16400	18500	19800	20800	21600	22700	47600	68400	72400	72700	68100
8	13700	16500	18500	19900	20800	21600	22700	49300	68500	72300	72600	67700
9	13800	16600	18500	19900	20800	21700	22800	51000	68600	72400	72200	67400
10	13800	16600	18500	20000	20800	21700	22800	52700	68800	72300	72200	67100
11	13900	16700	18600	20000	20900	21700	22800	54000	68900	72200	72500	66700
12	14000	16800	18600	20000	20900	21800	22800	55000	69200	72000	72700	66400
13	14000	16900	18700	20000	20900	21800	22900	55900	69400	71900	72600	66000
14	14100	17000	18700	20000	21000	21900	23000	56900	69500	71700	72500	65700
15	14200	17100	18800	20100	21000	21900	23000	57800	69900	71500	72400	65500
16	14200	17100	18800	20100	21100	21900	23100	58700	70200	71500	72300	65300
17	14300	17200	18900	20100	21100	21900	23100	59500	70600	71500	72200	65000
18	14300	17300	18900	20100	21100	22000	23200	60200	71000	71700	72200	e64800
19	14400	17400	19000	20100	21100	22000	23300	60900	71500	71700	72400	e64600
20	14500	17400	19000	20100	21200	22100	23300	61600	71900	72000	72500	64300
21	14500	17500	19000	20200	21200	22100	23400	62300	72000	71800	72300	64100
22	14600	17600	19100	20200	21200	22100	23400	63000	71900	71700	72100	63800
23	14700	17600	19100	20300	21300	22200	23500	63700	71900	71900	72100	63600
24	14800	17700	19100	20300	21300	22200	23600	64400	71900	71800	72000	63500
25	14900	17800	19200	20400	21300	22200	23700	65100	72000	71700	e71800	63300
26	15000	17800	19200	20400	21400	22300	23800	65600	72200	71300	71600	63200
27	15100	17900	19300	20400	21400	22300	23800	65900	72300	71100	71400	63200
28	15200	18000	19300	20500	21400	22300	23900	66100	72400	71000	71100	63200
29	15200	18000	19400	20500	---	22300	24100	66400	72300	70900	70900	63200
30	15300	18100	19400	20600	---	22400	28100	66700	72300	70800	e70600	63200
31	15500	---	19500	20600	---	22400	---	67000	---	71800	e70300	---
MAX	15500	18100	19500	20600	21400	22400	28100	67000	72400	72500	72700	70000
MIN	13600	15700	18200	19600	20700	21500	22400	31400	67300	70800	70300	63200

CAL YR 1998 MAX 32300 MIN 13300  
WTR YR 1999 MAX 72700 MIN 13600

e Estimated

## ARKANSAS RIVER BASIN

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO

LOCATION.--Lat 37°08'37", long 104°32'49", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	.39	1.5	.27	.33	.11	.14	.05	250	195	337	254
2	18	.44	1.2	.27	.33	.11	.14	.03	250	203	403	254
3	18	.72	1.1	.27	.33	.11	.14	.02	236	208	715	246
4	48	.54	1.1	.27	.33	.11	.14	.01	230	208	691	242
5	92	.38	.99	.27	13	.11	.14	.02	230	206	703	241
6	113	.36	.99	.27	17	.11	.13	.03	231	261	462	239
7	54	.33	.99	.27	16	.09	.13	.03	231	291	256	234
8	7.4	.33	8.5	.27	15	.08	.09	.03	229	208	387	234
9	.58	.33	16	.27	14	.08	.10	.02	229	183	515	237
10	.58	.27	7.6	.27	5.1	.08	.11	.01	229	201	291	237
11	.56	.25	.33	10	.27	.08	.11	.00	221	210	163	235
12	.51	.22	.33	18	.27	.08	.11	.00	218	199	174	235
13	4.9	.22	.33	19	.27	.08	.11	.00	212	189	225	234
14	6.8	.22	.30	16	.28	.08	.11	.00	208	187	252	228
15	6.3	.22	.27	17	.27	.08	.11	.00	206	198	252	210
16	5.6	.22	.27	18	.27	.08	.11	.00	206	201	252	193
17	5.1	.22	.27	18	.26	.08	.11	.00	206	186	252	191
18	4.8	.22	.27	18	.22	.08	.11	11	197	186	221	187
19	4.0	.22	.27	18	.22	.08	.14	9.2	191	186	206	185
20	1.9	.22	.27	18	.22	.08	.14	11	192	204	217	184
21	.84	.22	.27	7.1	.20	.08	.14	58	305	302	267	182
22	.74	.22	.27	.44	.14	.08	.22	83	377	299	262	174
23	.68	.22	.27	.44	.14	.09	.22	85	366	275	155	163
24	.60	.22	.27	.44	.14	.08	.20	86	356	322	202	131
25	.54	.22	.27	.44	.14	.08	.16	119	283	347	237	106
26	.51	.22	.27	.44	.12	.08	.14	179	176	410	236	106
27	.48	.22	.27	.44	.11	10	.13	241	249	301	252	61
28	.41	.22	.27	.41	.11	5.9	.11	257	269	214	261	34
29	.38	.22	.27	.38	---	.22	.11	252	282	210	261	34
30	.38	.75	.27	.38	---	.18	.14	250	226	210	261	58
31	.38	---	.27	.34	---	.17	---	250	---	211	257	---
TOTAL	415.97	9.05	45.85	183.95	85.07	18.75	3.99	1891.45	7291	7211	9625	5549
MEAN	13.4	.30	1.48	5.93	3.04	.60	.13	61.0	243	233	310	185
MAX	113	.75	16	19	17	10	.22	257	377	410	715	254
MIN	.38	.22	.27	.27	.11	.08	.09	.00	176	183	155	34
AC-FT	825	18	91	365	169	37	7.9	3750	14460	14300	19090	11010

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1999, BY WATER YEAR (WY)

	MEAN	23.3	6.05	2.60	2.81	3.16	3.16	29.8	167	204	178	153	118
MAX	96.0	25.9	11.9	14.7	13.1	17.8	91.7	375	614	306	310	283	
(WY)	1984	1984	1979	1977	1977	1977	1982	1994	1983	1983	1999	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 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1977 - 1999

ANNUAL TOTAL		23896.81		32330.08									
ANNUAL MEAN		65.5		88.6						76.9			
HIGHEST ANNUAL MEAN										146			1983
LOWEST ANNUAL MEAN										42.8			1978
HIGHEST DAILY MEAN				408	Jul 11		715	Aug 3		917	Sep 11		1981
LOWEST DAILY MEAN				.06	Jan 1		.00	May 11		a.00	Aug 20		1977
ANNUAL SEVEN-DAY MINIMUM				.06	Jan 14		.00	May 11		.00	Nov 18		1979
INSTANTANEOUS PEAK FLOW							b928	Aug 3		b963	Sep 10		1981
INSTANTANEOUS PEAK STAGE							7.85	Aug 3		7.89	Sep 10		1981
ANNUAL RUNOFF (AC-FT)				47400			64130			55740			
10 PERCENT EXCEEDS				244			252			247			
50 PERCENT EXCEEDS				1.2			.75			11			
90 PERCENT EXCEEDS				.22			.09			.04			

a No flow at times most years.

b From rating curve extended above 920 ft<sup>3</sup>/s.

07126140 VAN BREMER ARROYO NEAR TYRONE, CO

LOCATION.--Lat 37°23'58", long 104°06'55", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, 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 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1985 to September 1998, October 1998 to September 1999 (seasonal records only). Water-quality data available May 1985 to April 1998.

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 ft<sup>3</sup>/s, which are fair, discharges greater than 50 ft<sup>3</sup>/s or less than 0.08 ft<sup>3</sup>/s, and Nov. 5, Apr. 29, which are poor. Natural flow affected by return flow from irrigation and storage in a small channel reservoir upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 511 ft<sup>3</sup>/s, Aug. 23, 1986, from rating curve extended above 45 ft<sup>3</sup>/s on basis of flow through culvert computation, gage height 10.02 ft; maximum gage height 11.64 ft Aug. 3, 1998. Minimum daily, no flow many days most years (some estimated).

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 203 ft<sup>3</sup>/s, Aug. 2, from rating curve extended above 90 ft<sup>3</sup>/s on basis of flow through culvert computation, gage height, 9.14 ft; minimum daily, no flow many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	.09	---	---	---	---	---	20	.00	.00	.80	.00
2	.61	.02	---	---	---	---	---	27	.00	.00	.76	.00
3	.01	.00	---	---	---	---	---	17	.00	.00	7.5	.00
4	.00	.00	---	---	---	---	---	19	.00	.00	5.3	.00
5	.00	e.00	---	---	---	---	---	9.8	.00	.00	4.6	.00
6	.00	---	---	---	---	---	---	3.7	.00	.00	2.7	.00
7	.00	---	---	---	---	---	---	1.3	.00	.00	2.7	.00
8	.00	---	---	---	---	---	---	.63	.00	.02	3.6	2.0
9	.00	---	---	---	---	---	---	.26	.00	.00	2.0	6.0
10	.00	---	---	---	---	---	---	.06	.00	.00	1.0	5.3
11	.00	---	---	---	---	---	---	.00	.00	.00	.55	5.0
12	.00	---	---	---	---	---	---	.00	.00	.00	.22	6.3
13	.00	---	---	---	---	---	---	.00	.00	.00	.10	7.5
14	.00	---	---	---	---	---	---	.00	.00	.00	.02	6.0
15	.00	---	---	---	---	---	---	.00	.00	.00	.00	5.7
16	.00	---	---	---	---	---	---	.00	.00	.00	.00	8.3
17	.00	---	---	---	---	---	---	.00	.00	.34	.00	9.1
18	.00	---	---	---	---	---	---	.00	.00	.46	.00	7.8
19	.00	---	---	---	---	---	---	.00	.00	.00	.00	6.6
20	.00	---	---	---	---	---	---	.00	.00	.00	.00	6.4
21	.00	---	---	---	---	---	---	.00	.00	.00	.00	6.1
22	.00	---	---	---	---	---	---	.00	.00	.00	.00	5.5
23	.00	---	---	---	---	---	---	.00	.00	.00	.00	6.5
24	.00	---	---	---	---	---	---	.00	.00	.13	.00	6.3
25	.00	---	---	---	---	---	---	.00	.00	.00	.00	6.7
26	.00	---	---	---	---	---	---	.00	.00	.00	.00	6.6
27	.00	---	---	---	---	---	---	.00	.00	.00	.00	6.0
28	.00	---	---	---	---	---	---	.00	.00	.00	.00	5.6
29	.00	---	---	---	---	---	---	e.00	.00	.00	.00	5.1
30	.00	---	---	---	---	---	---	.70	.00	.15	.00	5.7
31	.00	---	---	---	---	---	---	.00	---	3.4	.00	---
TOTAL	6.02	---	---	---	---	---	---	98.75	0.00	4.50	107.09	142.10
MEAN	.19	---	---	---	---	---	---	3.19	.000	.15	3.45	4.74
MAX	5.4	---	---	---	---	---	---	27	.00	3.4	.76	9.1
MIN	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
AC-FT	12	---	---	---	---	---	---	196	.00	8.9	212	282

e Estimated

## ARKANSAS RIVER BASIN

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. Records published for period of seasonal operation only (Oct. 1 to Nov. 5 and Apr. 29 to Sept. 30).  
Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--Maximum, 3.00 inches, Sept. 9, 1995.

EXTREMES FOR CURRENT SEASON.--Maximum, 1.63 inches, July 8.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.68	.79	---	---	---	---	---	1.31	.00	.00	.20	.00
2	.01	.00	---	---	---	---	---	.00	.00	.00	.03	.00
3	.00	.01	---	---	---	---	---	.00	.00	.00	.14	.00
4	.01	.02	---	---	---	---	---	.00	.00	.23	.53	.00
5	.00	e.00	---	---	---	---	---	.03	.00	.00	.00	.00
6	.00	---	---	---	---	---	---	.07	.00	.00	.04	.00
7	.00	---	---	---	---	---	---	.00	.00	.00	.01	.00
8	.00	---	---	---	---	---	---	.00	.00	1.63	.02	.00
9	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
10	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
11	.00	---	---	---	---	---	---	.06	.45	.00	.00	.00
12	.00	---	---	---	---	---	---	.00	.09	.00	.00	.01
13	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	.00	---	---	---	---	---	---	.00	.12	.00	.00	.05
15	.00	---	---	---	---	---	---	.00	.03	.00	.00	.85
16	.00	---	---	---	---	---	---	.00	.00	.04	.00	.01
17	.00	---	---	---	---	---	---	.00	.05	1.51	.00	.00
18	.00	---	---	---	---	---	---	.00	.01	.01	.00	.00
19	.00	---	---	---	---	---	---	.00	.00	.00	.04	.00
20	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
21	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
23	.00	---	---	---	---	---	---	.00	.00	.27	.00	.00
24	.00	---	---	---	---	---	---	.00	.00	.63	.00	.00
25	.18	---	---	---	---	---	---	.04	.01	.03	.00	.00
26	.22	---	---	---	---	---	---	.01	.00	.00	.00	.00
27	.09	---	---	---	---	---	---	.00	.00	.00	.00	.00
28	.00	---	---	---	---	---	---	.00	.00	.00	.00	.04
29	.00	---	---	---	---	---	e.00	.00	.00	.00	.03	.00
30	.16	---	---	---	---	---	1.44	.00	.00	1.25	.00	.00
31	.73	---	---	---	---	---	---	.00	---	1.27	.00	---
TOTAL	2.08	---	---	---	---	---	---	1.52	0.76	6.87	1.04	0.96

e Estimated

07126200 VAN BREMER ARROYO NEAR MODEL, CO

LOCATION.--Lat 37°20'45", long 103°57'27", in sec.13, T.31 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on right bank 3 mi upstream from mouth, 16 mi east of Model, and 33 mi northeast of Trinidad.

DRAINAGE AREA.--175 mi<sup>2</sup>, of which 11.8 mi<sup>2</sup> is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1966 to current year. Water-quality data available January 1983 to April 1998.

REVISIONS.--WDR CO-84-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gages. Elevation of gage is 4,960 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	.51	.17	.17	.16	.14	.14	50	.12	.10	8.2	.13
2	7.8	.27	.17	.17	.14	.14	.15	31	.12	.10	39	.13
3	1.7	.20	.17	.17	.15	.14	.17	9.2	.12	.10	283	.14
4	.48	.20	.17	.16	.15	.14	.16	13	.12	.10	42	.15
5	.27	.18	.17	.16	.14	.14	.14	8.0	.10	.10	31	.16
6	.20	.17	.17	.16	.14	.14	.14	3.9	.10	.10	5.9	.17
7	.17	.17	.17	.16	.14	.14	.14	.97	.10	.10	3.7	.17
8	.15	.17	.17	.16	.14	.14	.14	.26	.10	.10	1.2	.15
9	.14	.17	.17	.15	.14	.14	.14	.17	.10	.10	1.1	.12
10	.14	.17	.17	.16	.14	.14	.14	.15	.12	.10	1.3	.12
11	.14	.17	.17	.16	.14	.14	.14	.14	.12	.10	.70	.13
12	.12	.17	.17	.17	.14	.15	.14	.14	.39	.10	.40	.13
13	.12	.17	.17	.16	.14	.17	.16	.14	.12	.10	.28	2.8
14	.14	.17	.17	.16	.14	.17	.19	.14	.12	.10	.22	4.4
15	.14	.17	.17	.16	.14	.14	.17	.14	.11	.10	.19	4.3
16	.14	.17	.17	.16	.14	.14	.15	.14	.10	.10	.17	3.9
17	.14	.17	.17	.16	.14	.14	.14	.12	.10	.10	.15	5.5
18	.14	.17	.17	.15	.14	.15	.14	.12	.10	.11	.15	5.6
19	.14	.17	.17	.16	.14	.17	.14	.12	.10	.11	.19	4.5
20	.16	.17	.17	.17	.14	.15	.14	.12	.10	.10	.20	3.9
21	.17	.17	.17	.17	.14	.14	.14	e.12	.10	.10	.19	3.7
22	.17	.17	.15	.17	.14	.14	.15	e.12	.10	.10	.14	3.3
23	.17	.17	.15	.17	.14	.14	.17	e.12	.10	.10	.14	3.0
24	.17	.17	.15	.17	.14	.15	.17	e.12	.10	.10	.12	3.7
25	.17	.17	.15	.15	.14	.14	.18	.12	.10	.10	.12	3.5
26	.17	.17	.15	.15	.14	.14	.17	.12	.10	.10	.12	3.8
27	.19	.17	.17	.14	.14	.14	.14	.12	.10	.10	.12	3.7
28	.16	.17	.16	.14	.14	.14	.15	.12	.10	.10	.12	3.3
29	.14	.17	.17	.15	---	.14	.17	.12	.10	.10	.14	2.9
30	.17	.17	.17	.17	---	.14	.78	.12	.10	.10	.14	2.8
31	.26	---	.17	.17	---	.14	---	.12	---	25	.14	---
TOTAL	29.37	5.61	5.16	4.98	3.96	4.47	5.19	119.29	3.46	28.02	420.54	70.30
MEAN	.95	.19	.17	.16	.14	.14	.17	3.85	.12	.90	13.6	2.34
MAX	15	.51	.17	.17	.16	.17	.78	50	.39	.25	283	5.6
MIN	.12	.17	.15	.14	.14	.14	.14	.12	.10	.10	.12	.12
AC-FT	58	11	10	9.9	7.9	8.9	10	237	6.9	56	834	139

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1999, BY WATER YEAR (WY)

	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	1999			
MEAN	1.19	.19	.17	.18	.21	.18	.20	2.96	2.03	4.29	8.57	1.92																									
MAX	16.0	.74	.32	.43	.59	.40	.74	30.1	20.6	36.4	104	9.90																									
(WY)	1986	1998	1998	1973	1987	1973	1973	1981	1969	1977	1981	1972																									
MIN	.059	.067	.031	.064	.11	.072	.075	.072	.030	.039	.11	.041																									
(WY)	1992	1984	1984	1984	1992	1979	1979	1992	1968	1978	1991	1991																									

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1966 - 1999

ANNUAL TOTAL	527.86	700.35	
ANNUAL MEAN	1.45	1.92	1.85
HIGHEST ANNUAL MEAN			12.3
LOWEST ANNUAL MEAN			.11
HIGHEST DAILY MEAN	197	Aug 4	283 Aug 3
LOWEST DAILY MEAN	.10 Jun 3		.10 Jun 5
ANNUAL SEVEN-DAY MINIMUM	.10 Jul 10		.10 Jun 16
INSTANTANEOUS PEAK FLOW			a4770 Aug 3
INSTANTANEOUS PEAK STAGE			9.16 Aug 3
ANNUAL RUNOFF (AC-FT)	1050	1390	b6240 May 26 1967
10 PERCENT EXCEEDS	.32	1.2	c9.40 May 26 1967
50 PERCENT EXCEEDS	.17	.15	
90 PERCENT EXCEEDS	.12	.10	.08

e Estimated  
a From rating curve extended above 1150 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.  
b From rating curve extended above 65 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.  
c From floodmarks. Maximum gage height, 9.98 ft, Aug 9, 1979, from floodmark.

ARKANSAS RIVER BASIN

07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1983 to April 1998. May to September 1999 (peak flows only).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1983 to April 1998.

WATER TEMPERATURE: January 1983 to April 1998.

SUSPENDED SEDIMENT: May to September 1999 (peak flows only).

INSTRUMENTATION.--Pumping sediment sampler since May 1999.

REMARKS.--Records of daily sediment during period of seasonal operation (peaks only) are good except for July 31 to Aug. 4 and estimated days, which are poor.

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.

SEDIMENT CONCENTRATIONS: Maximum daily mean during May to September 1999 (peaks only), 1,720 mg/L, Aug. 5, 1999; minimum daily mean, 132 mg/L, June 12, 1999.

SEDIMENT LOAD: Maximum daily during May to September (peaks only), 4,000 tons (estimated), Aug. 3, 1999 ; minimum daily, 0.04 ton (estimated), Aug. 15, 1999.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,720 mg/L, Aug. 5; minimum daily mean, 132 mg/L, June 12.

SEDIMENT LOAD: Maximum daily during peak flows only, 4,000 tons (estimated), Aug. 3; minimum daily, 0.04 ton (estimated), Aug. 15.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					AUG				
05...	1505	.17	1770	11.6	04...	1535	5.8	--	21.7
MAY					06...	1530	3.0	--	24.3
20...	1500	.11	3010	20.8	06...	1535	3.0	--	24.3
JUN					25...	1430	.12	1740	28.5
30...	1515	.10	2170	30.9					

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
AUG					
04...	1535	5.8	21.7	191	3.0
06...	1530	3.0	24.3	291	2.4
25...	1430	.12	28.5	11	.00



07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
	OCTOBER			NOVEMBER			DECEMBER		
1	15	---	---	.51	---	---	.17	---	---
2	7.8	---	---	.27	---	---	.17	---	---
3	1.7	---	---	.20	---	---	.17	---	---
4	.48	---	---	.20	---	---	.17	---	---
5	.27	---	---	.18	---	---	.17	---	---
6	.20	---	---	.17	---	---	.17	---	---
7	.17	---	---	.17	---	---	.17	---	---
8	.15	---	---	.17	---	---	.17	---	---
9	.14	---	---	.17	---	---	.17	---	---
10	.14	---	---	.17	---	---	.17	---	---
11	.14	---	---	.17	---	---	.17	---	---
12	.12	---	---	.17	---	---	.17	---	---
13	.12	---	---	.17	---	---	.17	---	---
14	.14	---	---	.17	---	---	.17	---	---
15	.14	---	---	.17	---	---	.17	---	---
16	.14	---	---	.17	---	---	.17	---	---
17	.14	---	---	.17	---	---	.17	---	---
18	.14	---	---	.17	---	---	.17	---	---
19	.14	---	---	.17	---	---	.17	---	---
20	.16	---	---	.17	---	---	.17	---	---
21	.17	---	---	.17	---	---	.17	---	---
22	.17	---	---	.17	---	---	.15	---	---
23	.17	---	---	.17	---	---	.15	---	---
24	.17	---	---	.17	---	---	.15	---	---
25	.17	---	---	.17	---	---	.15	---	---
26	.17	---	---	.17	---	---	.15	---	---
27	.19	---	---	.17	---	---	.17	---	---
28	.16	---	---	.17	---	---	.16	---	---
29	.14	---	---	.17	---	---	.17	---	---
30	.17	---	---	.17	---	---	.17	---	---
31	.26	---	---	---	---	---	.17	---	---
TOTAL	29.37	---	---	5.61	---	---	5.16	---	---

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	.17	---	---	.16	---	---	.14	---	---
2	.17	---	---	.14	---	---	.14	---	---
3	.17	---	---	.15	---	---	.14	---	---
4	.16	---	---	.15	---	---	.14	---	---
5	.16	---	---	.14	---	---	.14	---	---
6	.16	---	---	.14	---	---	.14	---	---
7	.16	---	---	.14	---	---	.14	---	---
8	.16	---	---	.14	---	---	.14	---	---
9	.15	---	---	.14	---	---	.14	---	---
10	.16	---	---	.14	---	---	.14	---	---
11	.16	---	---	.14	---	---	.14	---	---
12	.17	---	---	.14	---	---	.15	---	---
13	.16	---	---	.14	---	---	.17	---	---
14	.16	---	---	.14	---	---	.17	---	---
15	.16	---	---	.14	---	---	.14	---	---
16	.16	---	---	.14	---	---	.14	---	---
17	.16	---	---	.14	---	---	.14	---	---
18	.15	---	---	.14	---	---	.15	---	---
19	.16	---	---	.14	---	---	.17	---	---
20	.17	---	---	.14	---	---	.15	---	---
21	.17	---	---	.14	---	---	.14	---	---
22	.17	---	---	.14	---	---	.14	---	---
23	.17	---	---	.14	---	---	.14	---	---
24	.17	---	---	.14	---	---	.15	---	---
25	.15	---	---	.14	---	---	.14	---	---
26	.15	---	---	.14	---	---	.14	---	---
27	.14	---	---	.14	---	---	.14	---	---
28	.14	---	---	.14	---	---	.14	---	---
29	.15	---	---	---	---	---	.14	---	---
30	.17	---	---	---	---	---	.14	---	---
31	.17	---	---	---	---	---	.14	---	---
TOTAL	4.98	---	---	3.96	---	---	4.47	---	---

## ARKANSAS RIVER BASIN

07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	.14	---	---	50	---	---	.12	---	---
2	.15	---	---	31	---	---	.12	---	---
3	.17	---	---	9.2	---	---	.12	---	---
4	.16	---	---	13	---	---	.12	---	---
5	.14	---	---	8.0	---	---	.10	---	---
6	.14	---	---	3.9	---	---	.10	---	---
7	.14	---	---	.97	---	---	.10	---	---
8	.14	---	---	.26	---	---	.10	---	---
9	.14	---	---	.17	---	---	.10	---	---
10	.14	---	---	.15	---	---	.12	---	---
11	.14	---	---	.14	---	---	.12	---	---
12	.14	---	---	.14	---	---	.39	132	.23
13	.16	---	---	.14	---	---	.12	---	---
14	.19	---	---	.14	---	---	.12	---	---
15	.17	---	---	.14	---	---	.11	---	---
16	.15	---	---	.14	---	---	.10	---	---
17	.14	---	---	.12	---	---	.10	---	---
18	.14	---	---	.12	---	---	.10	---	---
19	.14	---	---	.12	---	---	.10	---	---
20	.14	---	---	.12	---	---	.10	---	---
21	.14	---	---	e.12	---	---	.10	---	---
22	.15	---	---	e.12	---	---	.10	---	---
23	.17	---	---	e.12	---	---	.10	---	---
24	.17	---	---	e.12	---	---	.10	---	---
25	.18	---	---	.12	---	---	.10	---	---
26	.17	---	---	.12	---	---	.10	---	---
27	.14	---	---	.12	---	---	.10	---	---
28	.15	---	---	.12	---	---	.10	---	---
29	.17	---	---	.12	---	---	.10	---	---
30	.78	---	---	.12	---	---	.10	---	---
31	---	---	---	.12	---	---	---	---	---
TOTAL	5.19	---	---	119.29	---	---	3.46	---	---
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	.10	---	---	8.2	589	15	.13	---	---
2	.10	---	---	39	390	78	.13	---	---
3	.10	---	---	283	---	e4000	.14	---	---
4	.10	---	---	42	691	127	.15	---	---
5	.10	---	---	31	1720	220	.16	---	---
6	.10	---	---	5.9	408	7.1	.17	---	---
7	.10	---	---	3.7	182	2.2	.17	---	---
8	.10	---	---	1.2	---	e.80	.15	---	---
9	.10	---	---	1.1	---	e.70	.12	---	---
10	.10	---	---	1.3	---	e.90	.12	---	---
11	.10	---	---	.70	---	e.37	.13	---	---
12	.10	---	---	.40	---	e.16	.13	---	---
13	.10	---	---	.28	---	e.09	2.8	---	---
14	.10	---	---	.22	---	e.06	4.4	---	---
15	.10	---	---	.19	---	e.04	4.3	---	---
16	.10	---	---	.17	---	---	3.9	---	---
17	.10	---	---	.15	---	---	5.5	---	---
18	.11	---	---	.15	---	---	5.6	---	---
19	.11	---	---	.19	---	---	4.5	---	---
20	.10	---	---	.20	---	---	3.9	---	---
21	.10	---	---	.19	---	---	3.7	---	---
22	.10	---	---	.14	---	---	3.3	---	---
23	.10	---	---	.14	---	---	3.0	---	---
24	.10	---	---	.12	---	---	3.7	---	---
25	.10	---	---	.12	---	---	3.5	---	---
26	.10	---	---	.12	---	---	3.8	---	---
27	.10	---	---	.12	---	---	3.7	---	---
28	.10	---	---	.12	---	---	3.3	---	---
29	.10	---	---	.14	---	---	2.9	---	---
30	.10	---	---	.14	---	---	2.8	---	---
31	25	927	258	.14	---	---	---	---	---
TOTAL	28.02	---	---	420.54	---	---	70.30	---	---

e Estimated

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. Records published for period of seasonal operation only (Oct. 1 to Nov. 5 and Apr. 30 to Sept. 30).  
Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--Maximum, 2.67 inches, May 25, 1996.

EXTREMES FOR CURRENT SEASON.--Maximum, 2.10 inches, July 31.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	.90	---	---	---	---	---	1.33	.00	.00	.21	.00
2	.00	.00	---	---	---	---	---	.00	.00	.00	.01	.00
3	.00	.04	---	---	---	---	---	.00	.00	.00	1.00	.00
4	.00	.08	---	---	---	---	---	.00	.00	.00	.70	.00
5	.00	e.00	---	---	---	---	---	.13	.00	.00	.00	.00
6	.00	---	---	---	---	---	---	.05	.00	.00	.42	.00
7	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
8	.00	---	---	---	---	---	---	.00	.00	.17	.00	.00
9	.00	---	---	---	---	---	---	.00	.19	.00	.00	.00
10	.00	---	---	---	---	---	---	.00	.02	.00	.00	.01
11	.00	---	---	---	---	---	---	.05	.00	.00	.00	.00
12	.00	---	---	---	---	---	---	.00	.49	.00	.00	.00
13	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	.00	---	---	---	---	---	---	.00	.04	.00	.00	.00
15	.00	---	---	---	---	---	---	.00	.00	.00	.01	.85
16	.00	---	---	---	---	---	---	.00	.00	.34	.00	.01
17	.00	---	---	---	---	---	---	.00	.03	.08	.00	.00
18	.00	---	---	---	---	---	---	.00	.00	.32	.18	.00
19	.00	---	---	---	---	---	---	.02	.00	.00	.00	.00
20	.00	---	---	---	---	---	---	.00	.00	.00	.22	.00
21	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	---	e.00	.00	.00	.00	.00
23	.00	---	---	---	---	---	---	.00	.00	.13	.00	.00
24	.00	---	---	---	---	---	---	.00	.00	.27	.00	.00
25	.08	---	---	---	---	---	---	.10	.00	.00	.00	.00
26	.21	---	---	---	---	---	---	.00	.00	.00	.00	.00
27	.06	---	---	---	---	---	---	.00	.00	.00	.00	.00
28	.00	---	---	---	---	---	---	.00	.00	.00	.05	.01
29	.00	---	---	---	---	---	---	.00	.00	.00	.07	.00
30	.27	---	---	---	---	---	.20	.00	.00	.28	.00	.00
31	.54	---	---	---	---	---	---	.00	---	2.10	.00	---
TOTAL	1.71	---	---	---	---	---	---	1.68	0.77	3.69	2.87	0.88

e Estimated

ARKANSAS RIVER BASIN

07126300 PURGATOIRE RIVER NEAR THATCHER, CO

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 mi<sup>2</sup>.

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 2,000 ft<sup>3</sup>/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 ft<sup>3</sup>/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	237	38	e30	40	29	22	4690	39	78	799	38
2	154	189	37	e29	38	29	24	2920	35	35	659	28
3	88	174	37	e29	35	29	31	e1600	33	25	1060	27
4	56	98	37	e28	34	29	40	e790	31	23	983	35
5	50	71	37	e28	33	29	51	435	26	45	1590	28
6	79	61	37	e29	33	28	51	296	21	392	806	26
7	102	55	38	e29	34	28	40	237	22	408	659	31
8	83	52	37	e30	35	28	31	194	25	249	375	29
9	44	71	35	e30	35	26	25	140	24	210	635	23
10	38	76	e36	e30	34	25	22	121	23	165	571	21
11	35	73	e35	e29	e32	26	18	100	76	69	344	22
12	34	63	e35	e30	e31	26	17	90	293	48	234	24
13	32	56	e34	e30	e31	30	18	77	93	49	227	30
14	31	52	e34	e30	e30	31	75	64	51	40	262	39
15	31	50	e33	e31	e30	30	153	53	41	31	269	51
16	30	47	e33	e31	e29	29	77	45	46	25	264	126
17	29	45	e31	e32	e29	29	54	41	56	112	265	133
18	32	44	e30	e32	29	29	45	37	56	109	249	83
19	33	42	e29	33	28	32	39	33	54	50	182	75
20	34	42	e28	33	28	32	32	34	47	33	369	71
21	33	41	e26	34	29	32	27	44	48	32	280	79
22	35	42	e23	37	29	29	24	31	102	64	207	74
23	35	41	e24	42	29	27	28	27	199	108	195	77
24	35	39	e26	41	28	28	81	32	173	262	125	74
25	32	38	e27	44	29	28	79	35	171	165	82	71
26	35	39	e27	43	29	28	66	298	162	182	41	62
27	40	38	e28	40	29	26	53	111	56	225	33	57
28	55	38	e29	38	29	25	42	82	71	145	34	54
29	46	38	e29	37	---	24	43	51	102	64	33	52
30	42	39	e29	39	---	22	388	46	94	45	35	49
31	71	---	e30	40	---	21	---	50	---	982	44	---
TOTAL	1646	1991	989	1038	879	864	1696	12804	2270	4470	11911	1589
MEAN	53.1	66.4	31.9	33.5	31.4	27.9	56.5	413	75.7	144	384	53.0
MAX	172	237	38	44	40	32	388	4690	293	982	1590	133
MIN	29	38	23	28	28	21	17	27	21	23	33	21
AC-FT	3260	3950	1960	2060	1740	1710	3360	25400	4500	8870	23630	3150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, 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	1999	
MEAN	33.9	32.3	28.9	28.1	30.2	37.7	86.6	142	101	91.1	148	61.2													
MAX (WY)	84.0	66.4	44.3	43.2	53.3	143	467	592	764	547	910	302													
MIN (WY)	.73	3.71	12.1	10.6	11.5	5.97	1.38	6.22	6.69	8.80	9.10	.64													

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR WATER YEARS 1976 - 1999
ANNUAL TOTAL	28257.4	42147	
ANNUAL MEAN	77.4	115	a68.7
HIGHEST ANNUAL MEAN			181
LOWEST ANNUAL MEAN			12.3
HIGHEST DAILY MEAN	1110	Jul 27	10000 Jul 3 1981
LOWEST DAILY MEAN	3.7	Jun 30	b.00 Jun 28 1976
ANNUAL SEVEN-DAY MINIMUM	5.6	Jun 25	.00 Jun 28 1976
INSTANTANEOUS PEAK FLOW		c14600	May 1 d42400 Jul 3 1981
INSTANTANEOUS PEAK STAGE		13.28	May 1 22.00 Jul 3 1981
ANNUAL RUNOFF (AC-FT)	56050	83600	49770
10 PERCENT EXCEEDS	188	226	116
50 PERCENT EXCEEDS	42	38	30
90 PERCENT EXCEEDS	15	27	6.5

e Estimated

a Average discharge for 10 years (water years 1967-76), 37.9 ft<sup>3</sup>/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 1700 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

d From rating curve extended above 2100 ft<sup>3</sup>/s, on basis of two slope-area measurements of peak flow.

07126300 PURGATOIRE RIVER NEAR THATCHER, CO--Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.--April to September 1999 (seasonal records only).

GAGE.--Tipping-bucket rain gage with satellite telemetry. Elevation of gage is 4,790 ft above sea level, from topographic map.

REMARKS.--Records good. Records published for period of seasonal operation only (Apr. 29 to Sept. 30). Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--Maximum, 1.68 inches, July 31.

EXTREMES FOR CURRENT SEASON.--Maximum, 1.68 inches, July 31.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	1.31	.00	.00	.18	.00
2	---	---	---	---	---	---	---	.00	.00	.00	.01	.00
3	---	---	---	---	---	---	---	.00	.00	.00	.93	.02
4	---	---	---	---	---	---	---	.06	.00	.00	.51	.00
5	---	---	---	---	---	---	---	.10	.00	.00	.00	.00
6	---	---	---	---	---	---	---	.05	.00	.00	.28	.00
7	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
8	---	---	---	---	---	---	---	.00	.00	.08	.05	.00
9	---	---	---	---	---	---	---	.00	.09	.00	.00	.00
10	---	---	---	---	---	---	---	.00	.01	.00	.00	.00
11	---	---	---	---	---	---	---	.13	.00	.00	.00	.00
12	---	---	---	---	---	---	---	.00	.90	.00	.00	.00
13	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	---	---	---	---	---	---	---	.00	.02	.00	.00	.00
15	---	---	---	---	---	---	---	.00	.00	.00	.00	.79
16	---	---	---	---	---	---	---	.00	.00	.36	.00	.01
17	---	---	---	---	---	---	---	.00	.06	.08	.00	.00
18	---	---	---	---	---	---	---	.00	.00	.18	.08	.00
19	---	---	---	---	---	---	---	.07	.00	.01	.00	.00
20	---	---	---	---	---	---	---	.00	.00	.00	.14	.00
21	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
22	---	---	---	---	---	---	---	.02	.00	.00	.00	.00
23	---	---	---	---	---	---	---	.00	.00	.04	.00	.00
24	---	---	---	---	---	---	---	.00	.00	.15	.00	.00
25	---	---	---	---	---	---	---	.28	.00	.07	.00	.00
26	---	---	---	---	---	---	---	.01	.00	.00	.00	.00
27	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
29	---	---	---	---	---	---	---	e.01	.00	.00	.00	.00
30	---	---	---	---	---	---	---	1.16	.00	.00	.26	.00
31	---	---	---	---	---	---	---	.00	---	1.68	.00	---
TOTAL	---	---	---	---	---	---	---	2.03	1.08	2.91	2.20	0.82

e Estimated

ARKANSAS RIVER BASIN

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO

LOCATION.--Lat 37°25'26", long 103°55'09", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1983 to September 1998, October 1998 to September 1999 (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry, concrete control, and crest-stage gages. Elevation of gage is 4,982 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those above 40 ft<sup>3</sup>/s, which are poor.

EXTREMES FOR PERIOD RECORD.--Maximum discharge, 9,090 ft<sup>3</sup>/s, Sept. 30, 1998, from slope-area measurement of peak flow, gage height, 13.71 feet; minimum daily, no flow most days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 972 ft<sup>3</sup>/s, Oct. 1, stage falling, peak occurred Sept. 30, 1998; maximum peak discharge during period of seasonal operation, 523 ft<sup>3</sup>/s, May 1, from rating curve extended above 330 ft<sup>3</sup>/s, on the basis of slope-area measurements of peak flow, gage height, 7.23 feet; minimum daily, no flow most days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	---	---	---	---	---	---	141	.00	.00	.28	.00
2	6.9	---	---	---	---	---	---	10	.00	.00	.03	.00
3	.37	---	---	---	---	---	---	.51	.00	.00	62	.00
4	.05	---	---	---	---	---	---	.09	.00	.00	28	.00
5	.02	---	---	---	---	---	---	.03	.00	.00	14	.00
6	.01	---	---	---	---	---	---	.02	.00	.00	.38	.00
7	.01	---	---	---	---	---	---	.01	.00	.00	1.8	.00
8	.01	---	---	---	---	---	---	.00	.00	.00	.14	.00
9	.01	---	---	---	---	---	---	.00	.00	.00	.03	.00
10	.00	---	---	---	---	---	---	.00	.00	.00	.01	.00
11	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
12	.00	---	---	---	---	---	---	.00	5.5	.00	.00	.00
13	.00	---	---	---	---	---	---	.00	.09	.00	.00	.00
14	.00	---	---	---	---	---	---	.00	.01	.00	.00	.00
15	.00	---	---	---	---	---	---	.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	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
21	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
23	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
24	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
25	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
26	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
27	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
28	.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
29	e.00	---	---	---	---	---	---	.00	.00	.00	.00	.00
30	---	---	---	---	---	---	e9.3	.00	.00	.00	.00	.00
31	---	---	---	---	---	---	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	---	151.66	5.60	0.00	106.67	0.00
MEAN	---	---	---	---	---	---	---	4.89	.19	.000	3.44	.000
MAX	---	---	---	---	---	---	---	141	5.5	.00	62	.00
MIN	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	---	301	11	.00	212	.00

e Estimated

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1983 to April 1998.

WATER TEMPERATURE: March 1983 to April 1998.

SUSPENDED SEDIMENT DISCHARGE: March 1983 to October 1998. May to September 1999 (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since Aug. 5, 1983.

REMARKS.-- Daily suspended sediment records are fair except for estimated days, which are poor. Daily mean suspended-sediment concentrations published for days of partial flow might not reflect concentrations during the flow event, including Aug. 1, 4.

EXTREMES FOR PERIOD OF DAILY SEASONAL RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,520 microsiemens, Aug. 20, 1984; minimum, 37 microsiemens, July 28, 1997.

WATER TEMPERATURE: Maximum, 32.0°C, Aug. 11, 1987; minimum, 0.0°C, Apr. 2, 1988.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 15,300 mg/L, Aug. 22, 1984; no flow most of the time.

SEDIMENT LOAD: Maximum daily, 12,700 tons (estimated), Sept. 30, 1998; minimum, 0.0 ton, many days; no flow most of the time.

EXTREMES FOR CURRENT SEASON.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,020 mg/L, June 12; minimum daily mean, 13 mg/L, Aug. 5.

SEDIMENT LOAD: Maximum daily, 1,900 tons (estimated), May 1; minimum, 0.0 ton, many days; no flow most of the time.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					AUG				
01...	1300	18	1310	13.5	04...	1100	4.8	--	19.7
07...	1800	.01	--	17.5					
MAY									
03...	1915	.30	1230	15.7					

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
01...	1300	18	13.5	1080	51
AUG					
04...	1100	4.8	19.7	224	2.9





07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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			MAY			JUNE		
1	---	---	---	141	---	e1900	.00	---	---
2	---	---	---	10	---	e43	.00	---	---
3	---	---	---	.51	---	e.55	.00	---	---
4	---	---	---	.09	---	e.04	.00	---	---
5	---	---	---	.03	---	e.01	.00	---	---
6	---	---	---	.02	---	e.01	.00	---	---
7	---	---	---	.01	---	e.00	.00	---	---
8	---	---	---	.00	---	---	.00	---	---
9	---	---	---	.00	---	---	.00	---	---
10	---	---	---	.00	---	---	.00	---	---
11	---	---	---	.00	---	---	.00	---	---
12	---	---	---	.00	---	---	5.5	1020	29
13	---	---	---	.00	---	---	.09	108	.04
14	---	---	---	.00	---	---	.01	---	e.00
15	---	---	---	.00	---	---	.00	---	---
16	---	---	---	.00	---	---	.00	---	---
17	---	---	---	.00	---	---	.00	---	---
18	---	---	---	.00	---	---	.00	---	---
19	---	---	---	.00	---	---	.00	---	---
20	---	---	---	.00	---	---	.00	---	---
21	---	---	---	.00	---	---	.00	---	---
22	---	---	---	.00	---	---	.00	---	---
23	---	---	---	.00	---	---	.00	---	---
24	---	---	---	.00	---	---	.00	---	---
25	---	---	---	.00	---	---	.00	---	---
26	---	---	---	.00	---	---	.00	---	---
27	---	---	---	.00	---	---	.00	---	---
28	---	---	---	.00	---	---	.00	---	---
29	---	---	---	.00	---	---	.00	---	---
30	e9.3	---	e39	.00	---	---	.00	---	---
31	---	---	---	.00	---	---	---	---	---
TOTAL	---	---	---	151.66	---	---	5.60	---	---

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)
	JULY			AUGUST			SEPTEMBER		
1	.00	---	---	.28	50	.17	.00	---	---
2	.00	---	---	.03	---	e.01	.00	---	---
3	.00	---	---	62	564	540	.00	---	---
4	.00	---	---	28	235	22	.00	---	---
5	.00	---	---	14	67	4.6	.00	---	---
6	.00	---	---	.38	13	.02	.00	---	---
7	.00	---	---	1.8	32	.19	.00	---	---
8	.00	---	---	.14	---	e.08	.00	---	---
9	.00	---	---	.03	---	e.01	.00	---	---
10	.00	---	---	.01	---	e.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	.00	---	---	.00	---	---	.00	---	---
28	.00	---	---	.00	---	---	.00	---	---
29	.00	---	---	.00	---	---	.00	---	---
30	.00	---	---	.00	---	---	.00	---	---
31	.00	---	---	.00	---	---	---	---	---
TOTAL	0.00	---	---	106.67	---	---	0.00	---	---

e Estimated

## ARKANSAS RIVER BASIN

07126325 TAYLOR ARROYO BELOW ROCK CROSSING, CO--Continued

## PRECIPITATION RECORDS

PERIOD OF RECORD.--May to September 1999 (seasonal records only).

GAGE.--Tipping-bucket rain gage with satellite telemetry. Elevation of gage is 4,982 ft above sea level, from topographic map.

REMARKS.--Records good. Records published for period of seasonal operation only (May 4 to Sept. 30). Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--Maximum daily rainfall, 2.55 inches, Aug. 3, 1999.

EXTREMES FOR CURRENT SEASON.--Maximum daily rainfall, 2.55 inches, Aug. 3.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.00	.00	.87	.00
2	---	---	---	---	---	---	---	---	.00	.00	.02	.05
3	---	---	---	---	---	---	---	---	.00	.02	2.55	.07
4	---	---	---	---	---	---	---	e.09	.00	.00	.27	.00
5	---	---	---	---	---	---	---	.07	.00	.00	.00	.00
6	---	---	---	---	---	---	---	.02	.00	.00	.46	.00
7	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
8	---	---	---	---	---	---	---	.00	.00	.33	.02	.00
9	---	---	---	---	---	---	---	.00	.51	.00	.01	.00
10	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
11	---	---	---	---	---	---	---	.08	.04	.00	.00	.00
12	---	---	---	---	---	---	---	.00	1.39	.00	.00	.00
13	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
15	---	---	---	---	---	---	---	.00	.00	.00	.00	.95
16	---	---	---	---	---	---	---	.00	.00	.07	.00	.01
17	---	---	---	---	---	---	---	.00	.09	.07	.00	.00
18	---	---	---	---	---	---	---	.00	.01	.01	.02	.00
19	---	---	---	---	---	---	---	.12	.00	.00	.00	.00
20	---	---	---	---	---	---	---	.00	.00	.01	.00	.00
21	---	---	---	---	---	---	---	.00	.00	.01	.00	.00
22	---	---	---	---	---	---	---	.01	.00	.00	.00	.00
23	---	---	---	---	---	---	---	.00	.00	.16	.00	.00
24	---	---	---	---	---	---	---	.00	.00	.07	.00	.00
25	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
26	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
27	---	---	---	---	---	---	---	.00	.00	.00	.02	.00
28	---	---	---	---	---	---	---	.00	.00	.00	.02	.00
29	---	---	---	---	---	---	---	.01	.00	.00	.36	.00
30	---	---	---	---	---	---	---	.00	.00	.13	.00	.00
31	---	---	---	---	---	---	---	.00	---	1.19	.00	---
TOTAL	---	---	---	---	---	---	---	---	2.04	2.07	4.62	1.08

e Estimated

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO

LOCATION (REVISED).--Lat 37°37'06", long 103°35'35" in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 2,500 ft<sup>3</sup>/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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e450	155	37	e35	42	29	23	978	57	83	1460	46
2	e600	194	37	e36	42	29	24	4190	46	65	643	43
3	e190	197	36	e37	41	29	25	1650	41	37	736	37
4	e130	147	36	e37	38	29	27	1030	37	28	1360	35
5	86	94	36	e37	37	29	34	634	35	23	1820	40
6	74	74	37	e36	36	29	47	417	33	67	1060	37
7	106	64	37	e36	36	28	48	316	27	450	1050	33
8	121	57	37	e36	36	27	39	263	24	264	475	37
9	92	55	37	e36	37	27	32	209	26	206	554	36
10	57	75	34	e37	36	27	27	169	27	e180	694	33
11	47	77	37	e37	33	25	24	147	e46	119	565	30
12	42	73	32	e36	32	27	23	130	e94	66	307	31
13	40	64	35	e36	31	30	22	119	e270	49	263	31
14	38	57	36	e36	31	29	34	103	78	49	266	34
15	37	53	34	e36	32	30	108	90	47	40	300	46
16	35	48	e34	e35	32	29	114	79	37	35	293	60
17	35	46	e34	e35	32	29	79	65	37	71	289	141
18	34	45	e34	e36	30	29	59	59	47	101	302	116
19	36	44	e35	36	30	30	50	52	45	94	299	76
20	39	42	e35	38	29	30	44	47	43	48	368	72
21	39	41	e35	38	29	31	38	44	37	35	289	69
22	39	41	e35	41	29	31	33	54	37	30	250	76
23	38	40	e35	41	30	29	35	43	104	62	233	71
24	38	39	e34	44	30	30	32	38	169	189	192	74
25	38	38	e33	43	30	29	91	40	140	148	125	71
26	37	37	e33	45	29	28	85	156	146	177	84	68
27	38	38	e33	45	29	27	72	169	111	160	51	62
28	41	38	e35	44	29	27	60	115	49	210	44	58
29	58	38	e36	42	---	26	50	88	67	91	43	55
30	53	37	e36	43	---	25	154	61	86	59	42	e51
31	53	---	e36	43	---	24	---	54	---	48	40	---
TOTAL	2761	2048	1091	1193	928	878	1533	11609	2043	3284	14497	1669
MEAN	89.1	68.3	35.2	38.5	33.1	28.3	51.1	374	68.1	106	468	55.6
MAX	600	197	37	45	42	31	154	4190	270	450	1820	141
MIN	34	37	32	35	29	24	22	38	24	23	40	30
AC-FT	5480	4060	2160	2370	1840	1740	3040	23030	4050	6510	28750	3310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1999, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	42.8	41.0	34.3	32.3	35.2	47.1	89.3	144	112	80.6	132	46.8					
MAX	89.1	68.3	43.4	41.4	56.0	139	330	585	836	186	468	98.6					
(WY)	1999	1999	1998	1984	1988	1998	1993	1987	1983	1992	1999	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 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1983 - 1999

ANNUAL TOTAL	33465.2	43534		
ANNUAL MEAN	91.7	119		
HIGHEST ANNUAL MEAN			123	1987
LOWEST ANNUAL MEAN			29.6	1989
HIGHEST DAILY MEAN	1870	Aug 4	4190	May 2 1999
LOWEST DAILY MEAN	3.9	Jul 2	22	Apr 13 1990
ANNUAL SEVEN-DAY MINIMUM	6.4	Jun 26	25	Mar 28 1990
INSTANTANEOUS PEAK FLOW			b9310	May 2 1992
INSTANTANEOUS PEAK STAGE			16.26	May 2 1992
ANNUAL RUNOFF (AC-FT)	66380	86350	47820	
10 PERCENT EXCEEDS	187	219	128	
50 PERCENT EXCEEDS	44	41	36	
90 PERCENT EXCEEDS	21	29	15	

e Estimated

a Also occurred Jul 1-9, 1990.

b From rating curve extended above 5500 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

c From slope-area measurement of peak flow.

d From floodmarks.

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 1997 to current year (peak flows only).

INSTRUMENTATION.--Pumping sediment sampler since June 1997.

REMARKS.--Records for daily sediment during peak flows are fair except for estimated suspended-sediment discharges, which are poor. Daily sediment records are published for days when instantaneous discharge exceeds 100 ft<sup>3</sup>/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 287,000 tons (estimated), May 2, 1999; minimum daily, 0.0 ton (estimated), on several days during 1989 nad 1990.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 12,400 mg/L, Aug. 1; minimum daily mean, 228 mg/L, July 23.

SEDIMENT LOADS: Maximum daily during peak flows only, 287,000 tons (estimated), May 2; minimum daily, 19 tons, Sept. 16.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCTANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCTANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)
OCT					JUL				
06...	1110	68	2830	13.1	09...	1230	219	1280	23.0
DEC					15...	0900	120	1670	24.0
08...	1000	37	3510	1.6	28...	1000	221	--	24.6
MAR					28...	1010	221	--	24.6
02...	1220	29	3660	8.4	AUG				
APR					05...	1410	2300	--	22.4
28...	1135	61	3250	16.4	05...	1455	2300	--	22.4
MAY					24...	1030	180	--	22.6
19...	1025	53	2670	18.7	24...	1130	180	1290	22.6

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
06...	1110	68	13.1	499	92
JUL					
15...	0900	120	24.0	178	57
28...	1010	221	24.6	1860	1110
AUG					
05...	1455	2300	22.4	5120	31800
24...	1030	180	22.6	1250	608

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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)
	OCTOBER			NOVEMBER			DECEMBER		
1	e450	---	e4290	155	---	---	37	---	---
2	e600	---	e7380	194	---	---	37	---	---
3	e190	---	e846	197	---	---	36	---	---
4	e130	---	e412	147	---	---	36	---	---
5	86	---	---	94	---	---	36	---	---
6	74	---	---	74	---	---	37	---	---
7	106	---	e206	64	---	---	37	---	---
8	121	---	e323	57	---	---	37	---	---
9	92	---	e128	55	---	---	37	---	---
10	57	---	---	75	---	---	34	---	---
11	47	---	---	77	---	---	37	---	---
12	42	---	---	73	---	---	32	---	---
13	40	---	---	64	---	---	35	---	---
14	38	---	---	57	---	---	36	---	---
15	37	---	---	53	---	---	34	---	---
16	35	---	---	48	---	---	e34	---	---
17	35	---	---	46	---	---	e34	---	---
18	34	---	---	45	---	---	e34	---	---
19	36	---	---	44	---	---	e35	---	---
20	39	---	---	42	---	---	e35	---	---
21	39	---	---	41	---	---	e35	---	---
22	39	---	---	41	---	---	e35	---	---
23	38	---	---	40	---	---	e35	---	---
24	38	---	---	39	---	---	e34	---	---
25	38	---	---	38	---	---	e33	---	---
26	37	---	---	37	---	---	e33	---	---
27	38	---	---	38	---	---	e33	---	---
28	41	---	---	38	---	---	e35	---	---
29	58	---	---	38	---	---	e36	---	---
30	53	---	---	37	---	---	e36	---	---
31	53	---	---	---	---	---	e36	---	---
TOTAL	2761	---	---	2048	---	---	1091	---	---

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	e35	---	---	42	---	---	29	---	---
2	e36	---	---	42	---	---	29	---	---
3	e37	---	---	41	---	---	29	---	---
4	e37	---	---	38	---	---	29	---	---
5	e37	---	---	37	---	---	29	---	---
6	e36	---	---	36	---	---	29	---	---
7	e36	---	---	36	---	---	28	---	---
8	e36	---	---	36	---	---	27	---	---
9	e36	---	---	37	---	---	27	---	---
10	e37	---	---	36	---	---	27	---	---
11	e37	---	---	33	---	---	25	---	---
12	e36	---	---	32	---	---	27	---	---
13	e36	---	---	31	---	---	30	---	---
14	e36	---	---	31	---	---	29	---	---
15	e36	---	---	32	---	---	30	---	---
16	e35	---	---	32	---	---	29	---	---
17	e35	---	---	32	---	---	29	---	---
18	e36	---	---	30	---	---	29	---	---
19	36	---	---	30	---	---	30	---	---
20	38	---	---	29	---	---	30	---	---
21	38	---	---	29	---	---	31	---	---
22	41	---	---	29	---	---	31	---	---
23	41	---	---	30	---	---	29	---	---
24	44	---	---	30	---	---	30	---	---
25	43	---	---	30	---	---	29	---	---
26	45	---	---	29	---	---	28	---	---
27	45	---	---	29	---	---	27	---	---
28	44	---	---	29	---	---	27	---	---
29	42	---	---	---	---	---	26	---	---
30	43	---	---	---	---	---	25	---	---
31	43	---	---	---	---	---	24	---	---
TOTAL	1193	---	---	928	---	---	878	---	---

## ARKANSAS RIVER BASIN

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	23	---	---	978	---	e18500	57	---	---
2	24	---	---	4190	---	e287000	46	---	---
3	25	---	---	1650	---	e49600	41	---	---
4	27	---	---	1030	---	e20400	37	---	---
5	34	---	---	634	---	e8190	35	---	---
6	47	---	---	417	---	e3720	33	---	---
7	48	---	---	316	---	e2210	27	---	---
8	39	---	---	263	---	e1560	24	---	---
9	32	---	---	209	---	e1010	26	---	---
10	27	---	---	169	---	e679	27	---	---
11	24	---	---	147	---	e522	e46	---	---
12	23	---	---	130	---	e412	e94	---	e137
13	22	---	---	119	---	e305	e270	---	e1640
14	34	---	---	103	---	e187	78	---	---
15	108	---	e220	90	---	---	47	---	---
16	114	---	e264	79	---	---	37	---	---
17	79	---	---	65	---	---	37	---	---
18	59	---	---	59	---	---	47	---	---
19	50	---	---	52	---	---	45	---	---
20	44	---	---	47	---	---	43	---	---
21	38	---	---	44	---	---	37	---	---
22	33	---	---	54	---	---	37	---	---
23	35	---	---	43	---	---	104	---	e193
24	32	---	---	38	---	---	169	---	e679
25	91	---	e123	40	---	---	140	---	e476
26	85	---	---	156	---	e584	146	---	e515
27	72	---	---	169	---	e679	111	---	e241
28	60	---	---	115	---	e272	49	---	---
29	50	---	---	88	---	e110	67	---	---
30	154	---	e570	61	---	---	86	---	---
31	---	---	---	54	---	---	---	---	---
TOTAL	1533	---	---	11609	---	---	2043	---	---
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	83	---	---	1460	12400	79500	46	---	---
2	65	---	---	643	---	e8410	43	---	---
3	37	---	---	736	---	e10800	37	---	---
4	28	---	---	1360	---	e34500	35	---	---
5	23	---	---	1820	4940	25000	40	---	---
6	67	---	---	1060	8360	23800	37	---	---
7	450	---	e4290	1050	3860	11300	33	---	---
8	264	---	e1570	475	1430	1850	37	---	---
9	206	---	e986	554	---	e6350	36	---	---
10	e180	---	e764	694	---	e9710	33	---	---
11	119	---	e305	565	---	e6590	30	---	---
12	66	---	---	307	---	e2090	31	---	---
13	49	---	---	263	---	e1560	31	---	---
14	49	---	---	266	---	e1600	34	---	---
15	40	---	---	300	---	e2000	46	---	---
16	35	---	---	293	---	e1910	60	106	19
17	71	1280	494	289	---	e1860	141	208	86
18	101	626	198	302	---	e2030	116	134	45
19	94	---	e137	299	---	e1990	76	---	---
20	48	---	---	368	---	e2940	72	---	---
21	35	---	---	289	---	e1860	69	---	---
22	30	---	---	250	---	e1420	76	---	---
23	62	228	64	233	---	e1240	71	---	---
24	189	1840	1240	192	1300	704	74	---	---
25	148	2750	1150	125	542	186	71	---	---
26	177	1780	839	84	---	e94	68	---	---
27	160	1060	473	51	---	---	62	---	---
28	210	1650	956	44	---	---	58	---	---
29	91	398	103	43	---	---	55	---	---
30	59	---	---	42	---	---	e51	---	---
31	48	---	---	40	---	---	---	---	---
TOTAL	3284	---	---	14497	---	---	1669	---	---

e Estimated

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.--April to September 1999 (seasonal records only).

GAGE.--Tipping-bucket rain gage with satellite telemetry. Elevation of gage is 4,350 ft above sea level, from topographic map.

REMARKS.--Records good. Records published for period of seasonal operation only (Apr. 29 to Sept. 30). Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--Maximum daily rainfall, 1.83 inches, Apr. 30.

EXTREMES FOR CURRENT SEASON.--Maximum daily rainfall, 1.83 inches, Apr. 30.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.81	.00	.00	.52	.00
2	---	---	---	---	---	---	---	.00	.00	.02	.02	.14
3	---	---	---	---	---	---	---	.00	.00	.03	.08	.00
4	---	---	---	---	---	---	---	.07	.00	.42	.46	.00
5	---	---	---	---	---	---	---	.08	.00	.00	.00	.00
6	---	---	---	---	---	---	---	.00	.00	.00	.28	.00
7	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
8	---	---	---	---	---	---	---	.00	.00	.01	.04	.00
9	---	---	---	---	---	---	---	.00	.03	.08	.00	.00
10	---	---	---	---	---	---	---	.00	.00	.00	.01	.00
11	---	---	---	---	---	---	---	.11	e1.16	.00	.00	.00
12	---	---	---	---	---	---	---	.00	.13	.00	.00	.01
13	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	---	---	---	---	---	---	---	.00	.01	.00	.00	.00
15	---	---	---	---	---	---	---	.00	.00	.00	.00	.56
16	---	---	---	---	---	---	---	.00	.00	.01	.00	.00
17	---	---	---	---	---	---	---	.00	.26	.27	.00	.38
18	---	---	---	---	---	---	---	.00	.00	.00	.59	.00
19	---	---	---	---	---	---	---	.31	.00	.03	.00	.00
20	---	---	---	---	---	---	---	.01	.00	.01	.00	.00
21	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
22	---	---	---	---	---	---	---	.01	.00	.00	.00	.00
23	---	---	---	---	---	---	---	.00	.00	.37	.00	.00
24	---	---	---	---	---	---	---	.01	.00	.01	.00	.00
25	---	---	---	---	---	---	---	.34	.00	.02	.00	.00
26	---	---	---	---	---	---	---	.04	.00	.11	.00	.00
27	---	---	---	---	---	---	---	.00	.00	.00	.06	e.02
28	---	---	---	---	---	---	---	.00	.00	.00	.05	.08
29	---	---	---	---	---	---	---	e.58	.00	.00	.05	.14
30	---	---	---	---	---	---	---	1.83	.00	.00	.01	.03
31	---	---	---	---	---	---	---	.00	---	.67	.00	---
TOTAL	---	---	---	---	---	---	---	1.79	1.59	2.12	2.28	1.19

e Estimated

ARKANSAS RIVER BASIN

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°02'02", long 103°12'00", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 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. Instantaneous discharge and selected water-quality data collected as part of a basin-wide water-quality assessment of the lower Arkansas River basin in Colorado are published elsewhere in 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	90	49	45	43	28	32	769	89	82	191	61
2	1080	146	49	44	41	28	32	2400	82	89	1240	63
3	230	195	49	36	40	27	39	3890	77	80	816	74
4	183	196	49	33	42	28	38	2540	73	54	956	76
5	135	167	48	39	41	28	54	1070	65	38	1420	68
6	116	129	48	41	37	22	56	729	56	36	1800	56
7	97	107	50	40	36	24	63	548	55	19	1150	47
8	104	98	50	36	33	34	81	426	65	399	1080	38
9	125	101	49	32	31	31	87	347	62	406	754	33
10	113	100	49	37	33	31	80	296	55	234	826	31
11	94	103	47	53	36	27	82	231	51	205	655	30
12	83	112	44	50	38	31	61	200	73	166	515	38
13	76	112	47	45	38	34	34	180	149	109	344	44
14	75	105	42	44	39	32	45	161	299	77	314	47
15	73	74	43	42	37	51	62	e150	157	58	323	51
16	67	66	43	42	36	76	75	e130	120	48	344	69
17	72	63	41	38	36	55	110	e113	98	118	318	82
18	67	60	40	37	36	38	84	e98	67	111	309	137
19	67	58	40	38	36	38	75	e88	65	118	336	162
20	65	56	17	33	35	46	54	e81	50	125	302	128
21	64	55	33	30	29	49	44	78	46	93	395	112
22	68	54	30	32	26	45	43	71	43	98	322	92
23	62	52	36	35	28	41	44	77	33	55	280	89
24	51	51	33	37	30	46	50	73	69	40	265	86
25	48	51	33	35	32	60	60	67	150	136	231	79
26	49	51	30	41	31	53	73	63	147	140	187	77
27	57	50	32	42	26	46	96	157	156	153	147	81
28	58	50	36	43	24	41	85	208	140	148	108	77
29	56	50	40	44	---	38	92	157	79	199	94	75
30	57	49	45	46	---	35	217	141	56	105	90	79
31	75	---	45	45	---	34	---	109	---	63	76	---
TOTAL	3881	2651	1287	1235	970	1197	2048	15648	2727	3802	16188	2182
MEAN	125	88.4	41.5	39.8	34.6	38.6	68.3	505	90.9	123	522	72.7
MAX	1080	196	50	53	43	76	217	3890	299	406	1800	162
MIN	48	49	17	30	24	22	32	63	33	19	76	30
AC-FT	7700	5260	2550	2450	1920	2370	4060	31040	5410	7540	32110	4330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1999, BY WATER YEAR (WY)

	1978	1979	1998	1999	1978	1979	1998	1999	1978	1979	1998	1999
MEAN	37.5	37.8	30.2	32.4	32.6	43.7	82.9	146	111	76.0	142	50.3
MAX	125	88.4	57.5	57.4	61.9	169	418	614	724	263	761	224
(WY)	1999	1999	1998	1998	1998	1998	1983	1987	1983	1981	1981	1981
MIN	1.58	1.90	2.38	4.72	5.65	5.26	3.53	5.41	8.76	7.67	3.76	3.14
(WY)	1978	1979	1979	1979	1979	1978	1978	1991	1990	1994	1980	1978

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1978 - 1999
ANNUAL TOTAL	35532.2	53816	
ANNUAL MEAN	97.3	147	a68.8
HIGHEST ANNUAL MEAN			166
LOWEST ANNUAL MEAN			22.7
HIGHEST DAILY MEAN	1180	Jul 28	b3890
LOWEST DAILY MEAN	4.1	Jul 4	17
ANNUAL SEVEN-DAY MINIMUM	5.3	Jun 25	26
INSTANTANEOUS PEAK FLOW			d5200
INSTANTANEOUS PEAK STAGE		12.00	May 3
ANNUAL RUNOFF (AC-FT)	70480	106700	49860
10 PERCENT EXCEEDS	186	286	131
50 PERCENT EXCEEDS	57	61	30
90 PERCENT EXCEEDS	24	33	4.8

e Estimated

a Average discharge for 37 years (water years 1923-31, 1949-76), 116 ft<sup>3</sup>/s; 84040 acre-ft/yr, prior to completion of Trinidad Reservoir.

b Maximum daily discharge for period of record, 46300 ft<sup>3</sup>/s, May 20, 1955.

c No flow at times in 1924-25, 1927, 1949, and 1974.

d From rating curve extended above 5100 ft<sup>3</sup>/s.

f Maximum discharge and stage for period of record, 70000 ft<sup>3</sup>/s, May 20, 1955, gage height, 20.00 ft, from rating curve extended above 38000 ft<sup>3</sup>/s, at different datum.

g Maximum gage height for statistical period, 12.00 ft, May 3, 1999.



07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO

LOCATION.--Lat 38°04'05", long 102°56'13", in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, in north parapet 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 mi<sup>2</sup>, of which 785 mi<sup>2</sup> 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.--Records good except for estimated contents, 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, 450,000 acre-ft, May 6-15, 1999, maximum elevation, 3,860.45, May 9, 1999; no contents at times many years.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 450,000 acre-ft, May 6-15, maximum elevation, 3,860.45 ft, May 9; minimum contents, 242,000 acre-ft, Oct. 26-30, minimum elevation, 3,841.92 ft, Oct. 26, 29-30.

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 1998 TO SEPTEMBER 1999  
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	244000	244000	260000	272000	302000	315000	321000	329000	404000	346000	316000	341000
2	246000	244000	260000	273000	303000	315000	321000	359000	401000	346000	317000	341000
3	246000	245000	261000	273000	304000	315000	321000	406000	398000	346000	321000	340000
4	246000	246000	261000	274000	306000	315000	321000	431000	394000	345000	325000	339000
5	246000	246000	261000	274000	307000	315000	321000	443000	389000	345000	330000	338000
6	246000	247000	262000	275000	308000	315000	321000	450000	384000	344000	335000	337000
7	246000	248000	262000	275000	309000	315000	e321000	450000	379000	343000	343000	336000
8	246000	248000	263000	275000	310000	316000	e321000	450000	374000	342000	350000	335000
9	246000	248000	263000	276000	311000	316000	e321000	450000	368000	341000	354000	335000
10	246000	249000	264000	276000	312000	316000	e321000	450000	363000	339000	356000	334000
11	246000	249000	264000	276000	312000	316000	e321000	450000	358000	338000	357000	333000
12	245000	249000	264000	277000	312000	317000	e321000	450000	355000	336000	357000	332000
13	245000	250000	265000	279000	313000	318000	320000	450000	352000	335000	355000	331000
14	245000	250000	265000	280000	313000	318000	320000	450000	351000	333000	352000	330000
15	245000	251000	266000	281000	313000	319000	320000	450000	350000	332000	348000	330000
16	245000	252000	266000	282000	314000	319000	320000	449000	349000	329000	345000	330000
17	244000	253000	267000	283000	314000	319000	320000	446000	348000	327000	345000	330000
18	244000	253000	267000	285000	314000	320000	320000	444000	347000	329000	345000	329000
19	244000	254000	267000	286000	314000	320000	319000	441000	347000	331000	345000	329000
20	244000	254000	267000	287000	314000	320000	318000	437000	347000	332000	345000	329000
21	243000	255000	268000	288000	314000	321000	318000	433000	346000	331000	345000	329000
22	243000	255000	268000	289000	315000	321000	317000	429000	345000	331000	345000	329000
23	243000	256000	268000	290000	315000	321000	317000	424000	345000	330000	345000	329000
24	243000	256000	268000	292000	315000	322000	317000	419000	345000	328000	345000	328000
25	243000	257000	269000	293000	315000	321000	317000	416000	346000	327000	345000	328000
26	242000	257000	269000	294000	315000	321000	317000	412000	347000	326000	344000	328000
27	242000	258000	270000	295000	315000	322000	316000	409000	348000	324000	344000	327000
28	242000	258000	270000	296000	315000	321000	316000	408000	348000	321000	343000	327000
29	242000	259000	270000	298000	---	321000	317000	407000	348000	319000	344000	327000
30	242000	259000	271000	299000	---	321000	319000	406000	347000	317000	343000	327000
31	243000	---	272000	301000	---	321000	---	405000	---	316000	342000	---
MEAN	244000	252000	266000	284000	312000	318000	319000	428000	361000	333000	343000	332000
MAX	246000	259000	272000	301000	315000	322000	321000	450000	404000	346000	357000	341000
MIN	242000	244000	260000	272000	302000	315000	316000	329000	345000	316000	316000	327000
CAL YR 1998	MEAN 298000	MAX 347000	MIN 242000									
WTR YR 1999	MEAN 316000	MAX 450000	MIN 242000									

e Estimated



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 good except for Aug. 8-31, 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, several days in 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, 2,400 microsiemens, Feb. 18; minimum, 1,470 microsiemens, Sept. 19.

WATER TEMPERATURE: Maximum, 24.9° C, Aug. 15; minimum, 1.4° C, Dec. 21.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2090	2070	2080	---	---	---	2250	2240	2240	2300	2280	2290
2	2080	2070	2080	---	---	---	2250	2230	2240	2310	2290	2300
3	2100	2030	2080	---	---	---	2240	2230	2240	2320	2290	2310
4	2090	2050	2090	2130	2120	2130	2240	2220	2220	2340	2310	2320
5	2100	2090	2090	2160	2130	2140	2230	2210	2220	2320	2290	2310
6	2100	2100	2100	2170	2150	2160	2240	2220	2230	2300	2270	2290
7	2100	2090	2100	2200	2170	2180	2240	2220	2230	2280	2260	2270
8	2100	2090	2100	2200	2180	2190	2240	2220	2220	2290	2260	2270
9	2120	2090	2100	2200	2120	2170	2240	2200	2220	2290	2260	2280
10	2150	2110	2140	2140	2120	2130	2240	2200	2220	2280	2260	2270
11	2150	2120	2130	2140	2130	2140	2220	2190	2200	2280	2250	2270
12	2130	2120	2120	2160	2140	2150	2200	2180	2190	2270	2240	2260
13	2130	2120	2120	2170	2150	2160	2210	2150	2190	2260	2240	2250
14	2130	2120	2130	2170	2150	2160	2190	2170	2180	2260	2240	2250
15	2140	2120	2120	2170	2150	2170	2240	2170	2200	2260	2240	2250
16	2130	2120	2130	2190	2170	2180	2240	2210	2220	2320	2240	2260
17	2130	2120	2130	2210	2170	2190	2230	2210	2220	2310	2290	2300
18	2120	2110	2120	2220	2200	2200	2230	2210	2220	2290	2270	2280
19	2130	2110	2120	2210	2200	2210	2240	2220	2230	2330	2270	2290
20	2130	2100	2110	2230	2210	2210	2230	2210	2220	2340	2310	2320
21	2160	2100	2130	2240	2220	2230	2230	2210	2220	2320	2300	2310
22	2190	2160	2180	2250	2240	2240	2240	2220	2230	2370	2300	2340
23	2200	2180	2190	2250	2240	2250	2240	2230	2240	2340	2320	2330
24	2190	2190	2190	2250	2240	2240	2240	2230	2240	2340	2310	2320
25	2210	2190	2200	2240	2230	2240	2240	2230	2230	2330	2300	2320
26	2210	2200	2210	2240	2230	2240	2240	2220	2230	2340	2320	2330
27	2210	2200	2210	2230	2220	2220	2230	2210	2220	2340	2310	2330
28	2210	2200	2210	2250	2200	2220	2230	2210	2220	2330	2310	2330
29	2210	2200	2210	2240	2200	2220	2240	2210	2220	2340	2320	2330
30	2210	2210	2210	2240	2200	2220	2270	2240	2260	2320	2250	2300
31	2220	2180	2200	---	---	---	2290	2270	2280	2330	2240	2280
MONTH	2220	2030	2140	---	---	---	2290	2150	2220	2370	2240	2300

## ARKANSAS RIVER BASIN

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2350	2300	2320	2250	2240	2240	2240	2220	2230	---	---	---
2	2350	2310	2340	2250	2240	2250	2230	2210	2220	---	---	---
3	2360	2320	2340	2260	2240	2250	2210	2200	2200	2230	2090	2180
4	2360	2340	2350	2270	2260	2260	2200	2190	2190	2200	2040	2100
5	2360	2340	2350	2270	2250	2270	2200	2170	2190	2090	2000	2050
6	2350	2320	2340	2300	2260	2280	2200	2180	2190	2020	1940	1990
7	2350	2320	2340	2310	2280	2290	2190	2180	2180	2040	1980	2020
8	2370	2320	2350	2310	2270	2300	2200	2170	2190	2060	2030	2050
9	2370	2330	2350	2290	2260	2280	2210	2180	2190	2070	2050	2060
10	2370	2360	2370	2270	2250	2260	2220	2190	2200	2070	2010	2040
11	2390	2350	2370	2260	2240	2250	2220	2140	2190	2010	1970	1990
12	2370	2340	2360	2250	2230	2250	2230	2100	2180	1980	1920	1940
13	2360	2310	2340	2260	2230	2240	2250	2210	2240	2010	1950	1990
14	2360	2320	2340	2260	2250	2260	2250	2240	2240	2020	1980	2000
15	2370	2320	2340	2260	2230	2260	2270	2240	2250	1990	1970	1980
16	2380	2340	2360	2270	2240	2260	2280	2230	2250	1990	1970	1980
17	2390	2320	2360	2260	2240	2250	2260	2240	2250	1980	1950	1970
18	2400	2370	2390	2250	2220	2240	2280	2240	2250	1980	1940	1960
19	2390	2330	2370	2240	2220	2230	2260	2240	2250	1960	1930	1940
20	2390	2360	2370	2240	2210	2230	2280	2230	2250	1950	1910	1930
21	2360	2340	2350	2260	2220	2230	2240	2230	2230	1930	1910	1920
22	2360	2340	2350	2240	2230	2240	2240	2220	2230	1930	1900	1920
23	2360	2330	2340	2240	2210	2220	2240	2230	2230	1920	1900	1910
24	2350	2230	2300	2220	2190	2200	2240	2220	2230	1920	1910	1920
25	2250	2220	2230	2220	2180	2200	2240	2220	2230	1920	1900	1910
26	2250	2240	2240	2220	2180	2200	2240	2220	2230	1910	1900	1910
27	2250	2240	2240	2220	2200	2210	2220	2200	2220	1910	1890	1900
28	2250	2240	2240	2200	2170	2190	2230	2180	2200	1910	1900	1910
29	---	---	---	2210	2160	2190	2230	2220	2220	1910	1880	1900
30	---	---	---	2240	2180	2220	2230	2190	2210	1890	1880	1890
31	---	---	---	2240	2230	2230	---	---	---	1890	1880	1880
MONTH	2400	2220	2330	2310	2160	2240	2280	2100	2220	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1880	1870	1880	1890	1870	1890	1690	1650	1670	1640	1630	1640
2	1890	1880	1880	1900	1880	1890	1680	1650	1670	1640	1620	1620
3	1880	1870	1880	1890	1880	1890	1690	1660	1670	1630	1610	1620
4	1880	1860	1870	1890	1880	1890	1680	1660	1670	1630	1610	1610
5	1880	1850	1870	1900	1870	1880	1670	1640	1660	1620	1600	1610
6	1870	1850	1860	1890	1850	1880	1660	1650	1660	1600	1580	1590
7	1870	1860	1870	1890	1870	1880	1690	1650	1680	1580	1570	1570
8	1860	1850	1860	1890	1870	1880	1680	1630	1660	1580	1550	1570
9	1860	1860	1860	1870	1840	1850	1650	1560	1600	1570	1560	1560
10	1870	1860	1870	1870	1840	1850	1570	1530	1540	1570	1550	1560
11	1870	1860	1870	1880	1860	1870	1560	1540	1550	1620	1560	1600
12	1880	1860	1870	1870	1850	1860	1560	1560	1560	1620	1590	1600
13	1880	1870	1880	1860	1850	1850	1570	1560	1560	1600	1570	1580
14	1890	1870	1880	1850	1830	1840	1580	1570	1580	1580	1560	1570
15	1880	1870	1880	1850	1820	1830	1590	1570	1580	1610	1560	1590
16	1890	1850	1880	1840	1800	1810	1590	1580	1580	1600	1570	1580
17	1910	1860	1890	1800	1770	1780	1590	1580	1590	1590	1560	1570
18	1890	1880	1880	1790	1770	1780	1580	1570	1580	1570	1520	1540
19	1880	1870	1880	1780	1760	1770	1580	1560	1570	1530	1470	1520
20	1880	1840	1870	1790	1760	1770	1580	1560	1570	1540	1500	1510
21	1890	1850	1870	1760	1740	1760	1570	1550	1560	1540	1480	1520
22	1870	1830	1860	1760	1750	1750	1590	1560	1580	1540	1490	1510
23	1880	1840	1860	1750	1740	1750	1590	1570	1580	1540	1490	1520
24	1860	1840	1850	1750	1740	1740	1590	1570	1580	1560	1520	1530
25	1880	1850	1860	1740	1720	1730	1590	1570	1580	1600	1550	1580
26	1880	1860	1870	1730	1710	1730	1620	1570	1610	1600	1580	1590
27	1880	1880	1880	1720	1700	1710	1630	1610	1620	1660	1580	1620
28	1890	1870	1880	1710	1670	1690	1630	1620	1620	1650	1580	1610
29	1900	1890	1890	1670	1630	1660	1640	1610	1620	1670	1610	1650
30	1900	1890	1890	1690	1630	1660	1630	1620	1630	1670	1650	1660
31	---	---	---	1690	1660	1670	1640	1610	1630	---	---	---
MONTH	1910	1830	1870	1900	1630	1800	1690	1530	1610	1670	1470	1580

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	20.4	19.9	20.1	---	---	---	10.3	7.5	8.6	5.3	4.2	4.7
2	20.2	19.3	19.8	---	---	---	11.0	8.2	9.3	4.9	3.5	4.1
3	20.0	19.3	19.5	---	---	---	10.3	7.5	8.8	4.4	3.0	3.5
4	19.8	18.9	19.3	11.7	10.2	11.0	10.3	7.5	8.7	4.6	2.7	3.5
5	19.1	18.5	18.8	11.2	10.0	10.5	9.3	7.3	8.1	5.0	3.2	3.9
6	18.9	18.1	18.4	13.3	9.3	10.8	8.1	6.7	7.4	5.3	3.3	4.0
7	18.8	17.9	18.2	10.6	9.2	10.1	7.6	5.3	6.6	3.7	3.1	3.4
8	18.7	17.8	18.1	11.6	8.3	9.6	7.7	4.8	5.9	4.1	2.8	3.5
9	18.5	17.6	17.9	10.8	8.6	9.4	6.4	4.5	5.5	4.5	2.7	3.5
10	18.0	17.2	17.5	10.9	8.1	9.3	6.6	4.5	5.4	5.3	2.9	3.9
11	17.9	17.1	17.4	9.4	7.8	8.6	6.2	3.6	4.7	5.7	3.6	4.5
12	17.6	16.9	17.2	10.8	7.7	8.8	6.3	3.8	4.8	5.5	3.9	4.6
13	17.6	16.7	17.1	10.5	7.4	8.7	6.5	4.1	5.1	5.7	3.6	4.6
14	17.5	16.6	16.9	11.2	7.8	9.2	6.7	3.9	5.0	6.4	4.2	5.0
15	17.4	16.5	16.8	11.4	8.1	9.3	6.5	3.7	4.9	6.8	4.3	5.2
16	17.3	16.5	16.8	11.5	8.3	9.6	6.5	4.0	5.0	7.7	4.2	5.8
17	16.6	16.1	16.4	10.4	8.4	9.3	6.6	4.0	5.0	6.1	4.4	5.4
18	16.5	15.6	16.0	10.8	8.2	9.2	6.5	4.4	5.2	6.4	3.9	5.0
19	16.2	15.5	15.7	9.3	7.7	8.5	5.0	3.0	3.9	7.1	4.3	5.4
20	15.7	15.4	15.5	9.6	7.3	8.0	3.0	1.5	2.4	6.9	4.2	5.3
21	15.8	15.0	15.3	10.3	6.6	8.0	2.2	1.4	1.7	5.7	4.3	5.0
22	15.5	14.9	15.1	10.3	7.5	8.7	2.8	1.6	2.2	6.3	3.9	5.0
23	15.6	14.9	15.1	10.1	7.7	8.7	3.2	2.0	2.6	6.2	3.2	4.6
24	15.5	14.9	15.1	10.1	7.3	8.4	3.2	2.3	2.7	6.0	4.0	4.8
25	15.2	14.7	14.9	10.0	7.2	8.4	3.3	2.3	2.7	5.3	3.5	4.3
26	15.3	14.7	14.9	10.2	7.2	8.5	3.8	2.6	3.1	5.7	3.3	4.3
27	15.3	14.7	14.9	9.9	7.5	8.4	4.2	3.0	3.5	6.0	3.3	4.6
28	15.2	14.4	14.7	10.0	7.5	8.4	4.2	3.3	3.7	5.3	3.4	4.3
29	15.0	14.3	14.6	9.3	8.0	8.5	4.9	3.1	4.0	4.4	3.7	4.2
30	14.4	14.3	14.3	10.3	7.1	8.4	5.8	3.9	4.7	4.3	3.4	3.8
31	---	---	---	---	---	---	6.0	4.0	4.9	6.4	3.6	4.7
MONTH	---	---	---	---	---	---	11.0	1.4	5.0	7.7	2.7	4.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.2	4.5	5.2	6.0	4.0	4.8	9.1	7.7	8.3	---	---	---
2	7.1	4.0	5.1	5.6	4.2	4.8	8.4	7.6	7.9	---	---	---
3	7.7	4.5	5.6	6.8	3.9	5.1	9.1	7.7	8.3	11.8	10.1	10.9
4	7.3	4.4	5.6	7.1	4.7	5.6	8.6	8.0	8.2	11.6	11.1	11.4
5	7.5	4.8	5.9	8.3	4.5	6.1	9.2	8.0	8.4	11.3	11.0	11.1
6	7.7	5.1	6.2	6.6	4.6	5.6	10.0	7.9	8.8	11.1	10.8	11.0
7	8.0	4.5	6.0	8.6	3.7	5.8	10.1	8.0	8.8	11.3	10.9	11.1
8	8.8	5.2	6.4	8.2	5.4	6.3	9.9	7.9	8.9	11.3	11.0	11.1
9	9.3	5.3	6.9	6.8	5.0	5.7	10.7	8.5	9.3	11.3	11.0	11.1
10	9.3	5.5	7.2	6.8	4.8	5.6	10.4	8.3	9.1	11.4	11.0	11.1
11	6.3	3.4	4.8	5.1	4.6	4.9	10.6	8.5	9.3	11.7	11.2	11.4
12	6.7	2.7	4.5	4.8	3.8	4.4	10.2	8.6	9.3	12.1	11.4	11.8
13	7.8	3.4	5.3	5.4	3.6	4.4	9.5	9.1	9.2	11.9	11.4	11.5
14	8.3	4.0	5.7	7.0	4.0	5.3	9.1	8.7	8.9	11.7	11.3	11.5
15	6.9	4.5	5.6	7.7	4.8	6.0	9.2	8.3	8.7	11.9	11.5	11.7
16	8.7	4.5	6.4	7.3	5.6	6.3	8.9	7.9	8.3	11.9	11.6	11.7
17	7.5	4.7	5.9	7.0	5.1	5.8	9.4	7.6	8.4	12.3	11.7	12.0
18	8.3	4.4	5.9	5.6	4.5	5.2	10.2	8.4	9.2	12.2	11.6	11.9
19	8.7	4.4	6.2	7.0	4.6	5.6	9.5	8.7	9.0	12.6	12.1	12.3
20	8.1	5.4	6.5	8.2	4.9	6.2	9.4	8.7	8.9	13.0	12.2	12.6
21	7.8	4.4	5.9	8.7	5.5	7.0	9.2	8.6	8.8	13.2	12.8	13.1
22	6.4	4.2	5.2	7.2	5.8	6.6	9.2	8.6	8.9	13.4	12.7	13.0
23	8.7	3.5	5.6	7.0	5.6	6.0	9.0	8.6	8.8	13.5	13.0	13.2
24	5.4	3.9	4.5	6.1	5.7	5.8	8.8	8.6	8.7	13.4	13.1	13.2
25	4.5	3.7	4.1	7.3	5.6	6.3	9.5	8.6	8.9	13.5	13.1	13.3
26	5.3	3.8	4.4	8.3	6.0	6.9	9.7	8.7	9.1	13.8	13.3	13.5
27	5.4	3.7	4.3	8.4	6.8	7.3	9.9	8.9	9.3	13.9	13.5	13.7
28	5.8	3.8	4.5	8.3	6.7	7.3	9.6	8.9	9.2	13.9	13.6	13.7
29	---	---	---	8.1	6.6	7.3	9.6	9.1	9.3	14.9	13.6	14.0
30	---	---	---	8.7	7.0	7.8	9.7	9.4	9.5	14.9	14.1	14.4
31	---	---	---	9.0	7.5	8.1	---	---	---	15.2	14.1	14.4
MONTH	9.3	2.7	5.5	9.0	3.6	6.0	10.7	7.6	8.9	---	---	---

## ARKANSAS RIVER BASIN

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	15.3	14.8	15.1	19.3	18.8	19.1	23.1	22.6	22.8	24.7	23.8	24.2
2	15.0	14.5	14.7	19.6	18.9	19.2	23.0	22.3	22.7	24.4	24.0	24.2
3	15.9	14.6	15.2	19.5	18.9	19.2	23.1	22.3	22.5	24.5	23.8	24.1
4	17.0	15.4	16.0	19.7	19.1	19.3	22.7	22.0	22.3	24.4	23.7	24.0
5	17.9	15.9	16.7	19.6	19.0	19.3	23.1	21.9	22.3	24.3	23.7	23.9
6	18.0	17.4	17.8	19.6	19.1	19.3	23.3	21.6	22.3	24.1	23.5	23.8
7	17.7	16.8	17.1	19.7	19.0	19.3	23.5	21.8	22.5	24.0	23.3	23.6
8	17.9	16.9	17.4	19.8	19.0	19.3	22.9	22.0	22.4	23.7	23.1	23.4
9	17.5	17.0	17.3	21.0	19.4	20.3	23.1	22.6	22.9	23.6	22.8	23.2
10	17.6	17.1	17.4	20.9	20.3	20.6	23.8	23.0	23.5	23.3	22.8	23.0
11	17.8	17.1	17.5	20.6	20.3	20.5	23.6	23.3	23.4	23.3	22.7	22.9
12	18.0	17.4	17.7	20.7	20.2	20.5	23.6	23.2	23.4	22.7	22.3	22.5
13	17.9	17.4	17.6	20.8	20.4	20.6	23.9	23.3	23.7	22.6	22.1	22.3
14	17.7	17.3	17.5	21.2	20.5	20.9	24.3	23.3	23.7	22.5	21.6	22.0
15	18.1	17.6	17.8	21.7	20.9	21.3	24.9	23.8	24.3	21.7	21.6	21.6
16	17.8	17.5	17.6	22.1	21.3	21.8	24.5	24.0	24.2	21.8	21.2	21.5
17	17.9	17.5	17.7	22.5	21.9	22.2	24.3	23.6	24.0	21.7	21.2	21.3
18	18.5	17.8	18.1	22.3	21.9	22.1	24.3	23.7	24.0	21.6	20.9	21.2
19	18.6	18.0	18.2	22.3	21.8	22.0	24.1	23.6	23.8	20.9	20.7	20.7
20	18.3	18.0	18.1	22.3	21.9	22.0	24.3	23.6	23.9	20.7	20.3	20.5
21	18.5	18.0	18.2	22.4	21.9	22.1	24.3	23.7	23.9	20.9	19.6	20.3
22	18.7	18.0	18.4	22.4	21.9	22.1	24.4	23.8	24.0	20.6	19.5	19.9
23	18.6	18.3	18.4	22.6	22.0	22.2	24.4	23.8	24.0	20.0	19.2	19.5
24	19.3	18.5	18.8	22.7	22.2	22.3	24.5	23.8	24.1	19.6	18.9	19.2
25	19.1	18.6	18.8	22.7	22.2	22.5	24.5	23.8	24.1	19.6	18.7	19.0
26	19.1	18.6	18.9	22.6	22.3	22.4	24.6	23.8	24.1	19.4	18.5	18.9
27	19.0	18.7	18.8	22.6	22.3	22.4	24.6	24.0	24.2	18.6	18.3	18.4
28	19.5	18.8	19.1	22.7	22.4	22.5	24.7	24.0	24.2	18.5	17.8	18.2
29	19.1	18.8	19.0	22.7	22.3	22.5	24.5	23.9	24.1	18.0	17.2	17.7
30	19.2	18.8	19.0	22.7	22.3	22.5	24.7	23.9	24.2	18.0	17.2	17.5
31	---	---	---	22.8	22.4	22.6	24.6	23.8	24.2	---	---	---
MONTH	19.5	14.5	17.7	22.8	18.8	21.1	24.9	21.6	23.5	24.7	17.2	21.4







07134180 ARKANSAS RIVER NEAR GRANADA, CO

LOCATION.--Lat 38°05'44", long 102°18'37", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 at present site and datum.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,480 ft above sea level, from topographic map.

REMARKS.--Records good except June 4 to Sep 30, which are fair, and estimated daily discharges, which are poor. 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	281	147	184	198	118	136	532	2600	1410	1310	184
2	179	333	145	173	189	118	142	935	2570	1230	1510	151
3	189	257	145	166	176	119	136	1090	2590	851	779	123
4	180	224	145	153	157	121	97	2320	2640	559	465	117
5	170	208	144	161	155	112	106	4070	2720	476	416	131
6	166	206	143	166	150	107	116	2510	2690	409	353	132
7	170	203	143	170	146	106	127	2030	2780	316	285	121
8	166	196	143	164	145	112	127	2260	2770	257	262	121
9	159	193	142	158	145	111	106	2570	2720	381	470	114
10	155	219	141	161	145	110	87	2740	2700	634	1040	100
11	156	215	141	167	141	113	84	2670	2470	674	1450	111
12	154	196	140	167	136	114	93	2650	2440	654	1790	119
13	153	188	145	166	140	114	101	2660	2250	612	1910	115
14	160	183	171	164	143	138	144	2670	2070	558	1990	117
15	170	181	178	164	141	155	294	2590	1980	528	1970	126
16	164	177	180	164	141	139	230	2520	1910	630	1920	141
17	161	175	184	163	139	122	172	2560	1750	810	1620	155
18	152	172	190	160	139	115	146	2660	1640	760	822	176
19	172	169	185	161	138	121	128	2660	1590	695	486	176
20	172	167	169	162	136	142	146	2680	1570	625	386	169
21	176	167	e160	163	133	129	120	2670	1590	587	355	171
22	168	162	e155	163	136	117	108	2650	1580	579	345	157
23	159	154	e160	160	134	114	110	2650	1550	570	310	148
24	164	152	e160	161	135	119	112	2680	1480	586	273	146
25	160	150	161	157	129	129	109	2730	1380	608	252	143
26	160	150	166	158	128	164	143	2600	1210	618	232	140
27	164	148	176	155	122	177	144	2430	1050	615	220	129
28	162	147	183	155	120	164	121	2710	1010	657	210	126
29	157	145	185	155	---	151	106	2710	1220	721	199	127
30	147	146	188	165	---	141	143	2710	1420	730	193	124
31	155	---	188	183	---	136	---	2640	---	817	204	---
TOTAL	5065	5664	5003	5069	4037	3948	3934	76557	59940	20157	24027	4110
MEAN	163	189	161	164	144	127	131	2470	1998	650	775	137
MAX	189	333	190	184	198	177	294	4070	2780	1410	1990	184
MIN	145	145	140	153	120	106	84	532	1010	257	193	100
AC-FT	10050	11230	9920	10050	8010	7830	7800	151900	118900	39980	47660	8150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1999, BY WATER YEAR (WY)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	82.6	104	129	145	124	128	214	356	431	480	277	123							
MAX	184	306	479	886	495	608	1138	2470	2196	2144	775	430							
(WY)	1984	1998	1998	1998	1998	1998	1987	1999	1987	1995	1999	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 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1981 - 1999

ANNUAL TOTAL	151358	217511	
ANNUAL MEAN	415	596	224
HIGHEST ANNUAL MEAN			597
LOWEST ANNUAL MEAN			59.3
HIGHEST DAILY MEAN	2310	Aug 10	4070
LOWEST DAILY MEAN	75	Sep 10	84
ANNUAL SEVEN-DAY MINIMUM	86	Sep 7	104
INSTANTANEOUS PEAK FLOW			a4610
INSTANTANEOUS PEAK STAGE			12.28
ANNUAL RUNOFF (AC-FT)	300200	431400	162300
10 PERCENT EXCEEDS	907	2430	516
50 PERCENT EXCEEDS	238	167	102
90 PERCENT EXCEEDS	121	120	7.4

e Estimated

a From rating curve extended above 4050 ft<sup>3</sup>/s.

b Maximum gage height, 12.38 ft, May 27, 1996.

## ARKANSAS RIVER BASIN

07134990 WILD HORSE CREEK ABOVE HOLLY, CO

LOCATION.--Lat 38°03'24", long 102°08'16", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>, 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.--No estimated daily discharges. Records 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 ft<sup>3</sup>/s, May 26, 1996, from 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 ft<sup>3</sup>/s, Sept. 19, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 402 ft<sup>3</sup>/s, May 2, from rating curve extended above 200 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow, gage height, 6.12 ft; minimum daily, 6.7 ft<sup>3</sup>/s, Apr. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	105	---	---	---	---	7.1	127	38	97	122	15
2	47	73	---	---	---	---	7.0	197	45	163	126	14
3	45	90	---	---	---	---	7.3	59	35	81	86	18
4	40	55	---	---	---	---	7.2	37	27	64	69	24
5	40	---	---	---	---	---	10	46	23	105	106	48
6	92	---	---	---	---	---	8.3	32	20	77	84	54
7	108	---	---	---	---	---	7.9	40	20	78	147	62
8	65	---	---	---	---	---	11	34	20	93	82	76
9	44	---	---	---	---	---	23	31	17	34	36	87
10	41	---	---	---	---	---	36	35	17	36	28	70
11	49	---	---	---	---	---	34	41	17	20	25	56
12	53	---	---	---	---	---	19	42	40	20	24	52
13	52	---	---	---	---	---	9.4	32	37	19	26	49
14	44	---	---	---	---	---	10	27	30	19	28	59
15	34	---	---	---	---	---	11	24	18	20	25	94
16	33	---	---	---	---	---	16	22	17	22	24	109
17	34	---	---	---	---	---	15	21	19	30	21	116
18	33	---	---	---	---	---	12	20	15	21	20	108
19	30	---	---	---	---	---	14	25	15	16	19	54
20	33	---	---	---	---	---	17	34	14	15	18	54
21	39	---	---	---	---	---	14	30	14	16	20	106
22	34	---	---	---	---	---	80	49	13	15	21	122
23	32	---	---	---	---	---	45	42	14	18	18	120
24	29	---	---	---	---	---	9.7	19	33	33	17	114
25	23	---	---	---	---	---	8.4	22	34	31	13	65
26	16	---	---	---	---	8.2	29	45	36	14	15	55
27	16	---	---	---	---	8.0	15	50	39	13	17	50
28	18	---	---	---	---	7.3	6.7	46	37	16	18	60
29	16	---	---	---	---	7.4	8.1	23	38	17	19	53
30	17	---	---	---	---	7.4	11	26	62	18	25	60
31	39	---	---	---	---	7.2	---	82	---	22	20	---
TOTAL	1286	---	---	---	---	---	532.0	1386	801	1209	1322	2024
MEAN	41.5	---	---	---	---	---	17.7	44.7	26.7	39.0	42.6	67.5
MAX	108	---	---	---	---	---	80	197	62	163	147	122
MIN	16	---	---	---	---	---	6.7	20	13	13	15	14
AC-FT	2550	---	---	---	---	---	1060	2750	1590	2400	2620	4010

07135000 TWO BUTTE CREEK NEAR HOLLY, CO

LOCATION.--Lat 38°01'40", long 102°08'19", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1942 to September 1946. June 1995 to September 1999 (seasonal records only),(discontinued).

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 ft<sup>3</sup>/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, 351 ft<sup>3</sup>/s, Aug. 1 from rating curve extended above 9.0 ft<sup>3</sup>/s, on the basis of slope-area measurement of peak flow, gage height, 6.77 ft; minimum daily, no flow most of the time.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	.00	.00	.00	.00	90	.00
2	.00	.00	---	---	---	---	.00	.00	.00	.00	55	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.00	1.1	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
5	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
6	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
7	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
11	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
14	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
15	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
16	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
17	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
18	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
20	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
21	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
23	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
24	.00	---	---	---	---	.00	.00	.00	.03	.00	.00	.00
25	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
26	.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	---	.00	.00	---
TOTAL	0.00	---	---	---	---	---	0.00	0.00	0.03	0.00	146.10	0.00
MEAN	.000	---	---	---	---	---	.000	.000	.001	.000	4.71	.000
MAX	.00	---	---	---	---	---	.00	.00	.03	.00	90	.00
MIN	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	.00	---	---	---	---	---	.00	.00	.06	.00	290	.00

ARKANSAS RIVER BASIN

07137000 FRONTIER DITCH NEAR COOLIDGE, KS

LOCATION.--Lat 38°02'18", long 102°02'19", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 those 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 telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 84 ft<sup>3</sup>/sec Aug. 1, 1975; no flow many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e26	.34	30	.00	.00	.00	.00	.00	38	41	40	36
2	e7.6	.02	31	.00	.00	.00	.00	.26	32	32	13	33
3	e.46	.00	31	e.00	.00	.00	.00	.49	40	21	.97	32
4	e.04	.00	31	.00	.00	.00	.00	.26	41	3.8	.65	31
5	e.00	.00	31	.00	.00	.00	.00	.00	40	28	.38	27
6	e.00	.00	30	.00	.00	.00	.00	.00	40	41	.13	27
7	e.00	.00	27	.00	.00	.00	.00	.00	45	44	.00	29
8	.00	.00	26	.00	.00	.00	.00	.00	53	46	6.0	31
9	.00	.00	26	.00	.00	.00	.00	.00	52	45	32	33
10	.00	.00	26	.00	.00	.00	.00	.00	52	49	31	33
11	.00	.00	26	.00	.00	.00	.00	.00	46	48	32	24
12	.00	.00	26	.00	.00	.00	.00	.00	40	47	32	5.2
13	13	.00	9.8	.00	.00	.00	.00	.00	40	44	30	26
14	25	.00	.00	.00	.00	.00	.00	.00	40	43	33	26
15	26	.00	.00	.00	.00	.00	.00	.00	41	44	43	27
16	26	.00	.00	.00	.00	.00	.00	.00	41	44	49	27
17	17	.00	.00	.00	.00	.00	.00	.00	34	44	45	28
18	.39	.00	.00	.00	.00	.00	.00	.00	.92	42	27	26
19	.02	.00	.00	.00	.00	.00	.00	.00	.38	43	42	27
20	.00	.00	.00	.00	.00	.00	.00	.00	5.7	43	41	28
21	.00	.00	.00	.00	.00	.00	.00	.00	35	40	43	28
22	.00	.00	.00	.00	.00	.00	.00	.00	37	39	43	23
23	.00	.00	.00	.00	.00	.00	.00	.00	36	45	44	26
24	.00	.00	.00	.00	.00	.00	.00	.00	37	47	48	24
25	.00	.00	.00	.00	.00	.00	.00	.00	32	46	44	25
26	16	.00	.00	.00	.00	.00	.00	.00	42	45	45	26
27	26	.00	.00	.00	.00	.00	.00	.00	41	45	48	24
28	31	.00	.00	.00	.00	.00	.00	.00	19	44	45	23
29	36	.00	.00	.00	.00	.00	.00	.00	36	42	46	23
30	34	13	.00	.00	.00	.00	.00	.00	36	41	46	14
31	25	---	.00	.00	.00	.00	.00	.00	39	---	45	35
MEAN	9.98	.45	11.3	.000	.000	.000	.000	4.23	37.0	41.3	31.8	26.4
MAX	36	13	31	.00	.00	.00	.00	39	53	49	49	36
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.38	3.8	.00	5.2
AC-FT	614	26	696	.00	.00	.00	.00	260	2200	2540	1960	1570

CAL YR 1998 TOTAL 4580.63 MEAN 12.5 MAX 41 MIN .00 AC-FT 9090  
WTR YR 1999 TOTAL 4974.81 MEAN 13.6 MAX 53 MIN .00 AC-FT 9870

e Estimated



08217500 RIO GRANDE AT WAGON WHEEL GAP, CO

LOCATION.--Lat 37°46'01", long 106°49'51", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on right bank 250 ft upstream from private bridge, 0.4 mi upstream from Goose Creek, and 0.4 mi west of town of Wagon Wheel Gap.

DRAINAGE AREA.--780 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,430 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Santa Maria, Rio Grande and Continental Reservoirs, combined capacity, 121,400 acre-ft. Diversions upstream from station for irrigation. Transmountain diversions to drainage area upstream from station from Colorado River basin (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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	399	283	e150	e115	e112	e101	415	703	2440	2260	1140	1420
2	444	270	e150	e110	e112	e110	403	667	2700	2430	1200	1580
3	392	251	e150	e110	e112	e110	363	689	2620	2340	1380	1900
4	380	231	e150	e110	e113	e110	429	668	3400	2470	1650	1750
5	369	220	e150	e110	e113	e110	435	627	3150	2140	1840	1620
6	348	236	e150	e110	e115	e110	446	590	2790	1900	1880	1520
7	345	216	e127	e110	e115	e115	450	546	2810	2030	1630	1450
8	339	215	e101	e110	e115	e115	470	579	3200	2160	1030	1380
9	331	183	e111	e110	e116	e115	427	692	3500	2160	939	1340
10	337	151	e134	e110	e110	e115	307	803	3570	2050	1220	1300
11	321	147	e141	e110	e108	e115	313	873	2980	1850	1340	1260
12	316	e150	e139	e110	e112	e115	323	912	3190	1840	1010	1220
13	311	e145	e141	e110	e116	112	357	1090	3340	1870	893	1140
14	307	e145	e136	e110	e117	123	349	1640	3500	1960	819	855
15	303	e145	e135	e110	e115	142	353	2070	3390	2180	942	831
16	302	e145	e133	e110	e114	179	334	2460	3460	2150	920	828
17	302	e140	e145	e110	e112	262	342	2460	3510	2050	812	787
18	297	e140	e147	e110	e111	260	346	2460	3220	2030	785	825
19	298	e145	e140	e119	e109	269	391	2560	2730	2380	1180	860
20	318	e145	e130	e116	e109	290	455	2800	2720	2370	1480	850
21	315	e145	e119	e113	e110	304	525	2910	2830	2330	1480	836
22	326	e150	e120	e112	e107	337	538	3100	3150	2340	1420	802
23	317	e150	e120	e112	e108	336	558	3030	3100	2320	1380	793
24	316	e150	e120	e113	e108	314	692	2820	2800	2160	1390	777
25	327	e150	e120	e119	e108	323	751	2900	2610	2110	1400	741
26	416	e150	e120	e112	e108	337	720	2730	2800	2090	1370	716
27	423	e150	e120	e112	e108	336	641	2690	2720	1820	1310	693
28	427	e150	e120	e118	e100	344	642	2820	2690	1630	1390	654
29	403	e150	e120	e115	---	347	636	3310	2700	1520	1410	626
30	406	e150	e120	e113	---	388	710	3290	2420	1410	1430	545
31	361	---	e120	e112	---	411	---	2990	---	1070	1460	---
TOTAL	10796	5198	4079	3471	3113	6755	14121	58479	90040	63420	39530	31899
MEAN	348	173	132	112	111	218	471	1886	3001	2046	1275	1063
MAX	444	283	150	119	117	411	751	3310	3570	2470	1880	1900
MIN	297	140	101	110	100	101	307	546	2420	1070	785	545
AC-FT	21410	10310	8090	6880	6170	13400	28010	116000	178600	125800	78410	63270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1999, BY WATER YEAR (WY)

MEAN	277	153	110	100	104	132	365	1421	1944	1045	543	352
MAX	769	482	228	178	175	251	677	2384	3259	2248	1405	1063
(WY)	1998	1986	1987	1986	1986	1972	1987	1987	1979	1957	1957	1999
MIN	109	76.6	51.8	55.6	65.9	87.6	169	502	549	201	159	107
(WY)	1957	1957	1957	1957	1978	1977	1968	1977	1977	1977	1956	1956

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1951 - 1999
ANNUAL TOTAL	191309	330901	
ANNUAL MEAN	524	907	552
HIGHEST ANNUAL MEAN			907
LOWEST ANNUAL MEAN			219
HIGHEST DAILY MEAN	2750	3570	4970
LOWEST DAILY MEAN	e100	e100	46
ANNUAL SEVEN-DAY MINIMUM	107	106	49
INSTANTANEOUS PEAK FLOW		4000	a5190
INSTANTANEOUS PEAK STAGE		4.94	b6.10
ANNUAL RUNOFF (AC-FT)	379500	656300	399500
10 PERCENT EXCEEDS	1470	2690	1670
50 PERCENT EXCEEDS	303	388	219
90 PERCENT EXCEEDS	111	111	90

e Estimated

a From rating curve extended above 4,200 ft<sup>3</sup>/s.

b From floodmarks.

08219500 SOUTH FORK RIO GRANDE AT SOUTH FORK, CO

LOCATION.--Lat 37°39'25", long 106°38'55", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.3, T.39 N., R.3 E., Rio Grande County, Hydrologic Unit 13010001, on left bank near U.S. Highway 160, 0.1 mi downstream from Church Creek, 0.9 mi southwest of village of South Fork, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--216 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1910 to September 1922, May 1936 to September 1995, and October 1998 to September 1999. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1912, 1944(M). WSP 1632: 1956-58(P).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,221.79 ft above sea level. Aug. 9, 1910 to Mar. 28, 1915, nonrecording gage, and Mar. 29, 1915 to Sept. 30, 1922, water-stage recorder, at bridges 1 mi downstream at different datums.

REMARKS.--Records good except for estimated daily discharges, which are poor. Transmountain diversions from Colorado River Basin to drainage area upstream from station through Treasure Pass ditch. Natural flow of stream affected by a few small diversions for irrigation, slight regulation by Beaver Creek Reservoir, capacity, 4,760 acre-ft, and several smaller storage reservoirs.

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, exceeds all other observed floods at this location since at least 1873. Flood of June 29, 1927, reached a stage about 1 ft lower than that of Oct. 5, 1911, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	110	65	e47	e43	e54	150	339	1270	452	158	217
2	87	123	66	e45	e41	e56	139	309	1220	415	181	277
3	71	118	63	e44	e43	e54	125	323	1070	340	227	327
4	66	107	64	e45	e43	e56	123	300	1090	320	e278	281
5	63	87	66	e45	e43	e56	119	263	965	290	e322	243
6	60	68	62	e45	e42	e54	113	241	833	264	339	219
7	62	61	e56	e44	e43	e56	119	245	873	252	298	214
8	60	62	e50	e44	e44	58	133	296	1010	270	254	186
9	58	61	e48	e42	e44	58	129	381	1110	218	211	166
10	55	60	e50	e44	e42	57	117	425	1140	189	236	156
11	50	81	e49	e44	e38	57	118	417	1120	175	304	157
12	49	80	e49	e46	e37	57	139	402	1080	170	274	200
13	48	84	e50	e45	e39	56	181	481	1010	152	224	164
14	48	82	e50	e42	e41	58	167	664	995	156	201	147
15	47	85	e50	e42	e43	65	171	740	942	193	424	224
16	48	84	e54	e43	e41	70	159	772	989	196	372	243
17	50	81	e54	e44	e43	76	155	779	979	151	295	234
18	50	76	e54	e44	e45	75	160	811	960	168	260	307
19	50	70	e58	e46	e45	75	178	950	936	214	279	364
20	61	65	e56	e46	e44	86	213	1100	914	183	241	323
21	70	74	e50	e45	e45	104	269	1170	881	175	241	284
22	72	77	e41	e42	e45	121	255	1240	873	202	221	249
23	78	66	e43	e42	e43	127	227	1290	880	189	202	242
24	79	65	e40	e44	e45	131	226	1250	894	192	206	223
25	78	63	e43	e44	e46	140	265	1020	843	179	205	199
26	169	64	e45	e42	e49	160	244	935	785	156	213	181
27	178	64	e45	e42	e48	164	242	874	745	193	217	176
28	157	65	e44	e41	e50	149	268	905	659	160	267	163
29	121	65	e47	e41	---	144	269	1140	546	173	247	144
30	107	63	e45	e42	---	154	356	1200	488	183	229	136
31	108	---	e43	e43	---	157	---	1250	---	153	211	---
TOTAL	2364	2311	1600	1355	1215	2785	5529	22512	28100	6723	7837	6646
MEAN	76.3	77.0	51.6	43.7	43.4	89.8	184	726	937	217	253	222
MAX	178	123	66	47	50	164	356	1290	1270	452	424	364
MIN	47	60	40	41	37	54	113	241	488	151	158	136
AC-FT	4690	4580	3170	2690	2410	5520	10970	44650	55740	13340	15540	13180
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1999, BY WATER YEAR (WY)												
MEAN	91.9	58.7	44.4	37.8	40.8	64.0	217	695	848	262	114	88.2
MAX	569	152	106	88.6	78.3	131	479	1282	1746	794	264	358
(WY)	1912	1987	1912	1986	1986	1989	1962	1984	1979	1957	1957	1970
MIN	32.1	23.9	18.0	13.6	18.2	21.5	85.2	211	113	58.5	43.1	23.6
(WY)	1956	1961	1977	1977	1955	1955	1955	1977	1977	1940	1978	1956
SUMMARY STATISTICS FOR 1999 WATER YEAR WATER YEARS 1910 - 1999												
ANNUAL TOTAL	88977											
ANNUAL MEAN	244											
HIGHEST ANNUAL MEAN	214											
LOWEST ANNUAL MEAN	359											
HIGHEST DAILY MEAN	68.9											
LOWEST DAILY MEAN	1977											
ANNUAL SEVEN-DAY MINIMUM	1290											
INSTANTANEOUS PEAK FLOW	e37											
INSTANTANEOUS PEAK STAGE	May 23											
ANNUAL RUNOFF (AC-FT)	40											
10 PERCENT EXCEEDS	Feb 10											
50 PERCENT EXCEEDS	1450											
90 PERCENT EXCEEDS	Jun 1											
	4.94											
	Jun 1											
	a8000											
	b9.70											
	Oct 5 1911											
	Oct 5 1911											
	176500											
	155400											
	855											
	624											
	139											
	72											
	44											
	34											

e Estimated  
a Present site and datum, from rating curve extended above 1500 ft<sup>3</sup>/s.  
b From floodmarks.

08220000 RIO GRANDE NEAR DEL NORTE, CO

LOCATION.--Lat 37°41'22", long 106°27'38", in NW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>, 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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	438	520	291	e220	e210	236	639	1160	3910	2790	1480	1820
2	640	475	301	e210	e200	253	615	1080	4210	2930	1590	2080
3	528	460	301	e200	e200	248	556	1120	3740	2780	1830	2460
4	496	418	292	e200	e200	259	582	1090	4680	2870	2090	2310
5	485	389	296	e200	e210	259	592	996	4310	2590	2680	2090
6	454	379	285	e220	e210	248	605	933	3700	2270	2600	1950
7	444	357	205	e230	e200	246	620	883	3690	2310	2420	1880
8	441	352	e200	e220	e210	251	663	940	4220	2510	1630	1740
9	425	359	e210	e200	e210	236	621	1160	4690	2480	1460	1630
10	436	282	e190	e210	e200	235	479	1380	4960	2380	1720	1550
11	418	271	e200	e210	e180	240	469	1470	4210	2120	2090	1490
12	393	356	e240	e230	e180	252	486	1470	4380	2130	1690	1530
13	393	346	e230	e220	e190	224	560	1670	4510	2080	1450	1460
14	381	352	e230	e210	e200	228	551	2340	4690	2170	1310	1120
15	377	374	e240	e210	e200	259	550	2830	4570	2450	1600	1160
16	375	379	e250	e210	e200	273	521	3250	4670	2460	1660	1220
17	384	377	e240	e230	e200	361	533	3300	4770	2270	1410	1140
18	375	372	e250	e230	e210	379	533	3310	4550	2260	1270	1250
19	379	339	e280	e240	212	377	581	3490	3890	2650	1600	1340
20	438	296	e280	e240	199	405	696	4000	3810	2750	1940	1310
21	474	282	e200	e230	208	441	851	4200	3850	2630	1940	1240
22	480	336	e180	e200	209	491	863	4550	4300	2650	1860	1170
23	481	349	e190	e200	183	517	843	4700	4300	2720	1780	1130
24	478	324	e190	e230	208	504	929	4360	4020	2600	1790	1120
25	471	316	e190	e220	214	502	1080	4210	3620	2450	1820	1060
26	687	315	e200	e220	217	539	1050	3870	3820	2460	1800	1000
27	720	319	e200	e200	210	545	963	3740	3620	2240	1740	969
28	711	314	e200	e210	221	538	977	3800	3500	1970	1880	921
29	642	327	e210	e210	---	538	977	4680	3400	1870	1900	883
30	629	312	e210	e220	---	594	1150	4800	3080	1850	1920	800
31	602	---	e210	e210	---	638	---	4690	---	1470	1860	---
TOTAL	15075	10647	7191	6690	5691	11316	21135	85472	123670	74160	55810	42823
MEAN	486	355	232	216	203	365	704	2757	4122	2392	1800	1427
MAX	720	520	301	240	221	638	1150	4800	4960	2930	2680	2460
MIN	375	271	180	200	180	224	469	883	3080	1470	1270	800
AC-FT	29900	21120	14260	13270	11290	22450	41920	169500	245300	147100	110700	84940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1890 - 1999, BY WATER YEAR (WY)

MEAN	488	287	207	190	197	274	767	2516	3172	1447	801	521
MAX	2451	804	420	340	300	646	1999	4449	6240	3451	1800	2001
(WY)	1912	1917	1926	1912	1928	1910	1895	1922	1921	1927	1999	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 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1890 - 1999

ANNUAL TOTAL	291585	459680										
ANNUAL MEAN	799									911		
HIGHEST ANNUAL MEAN										1482		1987
LOWEST ANNUAL MEAN										311		1977
HIGHEST DAILY MEAN				4290	May 22	4960	Jun 10		14000	Oct 6	1911	
LOWEST DAILY MEAN				e180	Dec 22	e180	Dec 22		69	Aug 21	1902	
ANNUAL SEVEN-DAY MINIMUM				193	Dec 21	193	Dec 21		76	Dec 29	1976	
INSTANTANEOUS PEAK FLOW						5330	Jun 10		a18000	Oct 5	1911	
INSTANTANEOUS PEAK STAGE						4.52	Jun 10		6.80	Oct 5	1911	
ANNUAL RUNOFF (AC-FT)	578400	911800							659800			
10 PERCENT EXCEEDS	2190	3690							2480			
50 PERCENT EXCEEDS	436	560							368			
90 PERCENT EXCEEDS	210	210							166			

e Estimated

a From rating curve extended above 12900 ft<sup>3</sup>/s.





## RIO GRANDE BASIN

## CLOSED BASIN IN SAN LUIS VALLEY, CO

08227000 SAGUACHE CREEK NEAR SAGUACHE, CO

LOCATION.--Lat 38°09'48", long 106°17'24", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	51	29	e27	e22	e34	45	96	236	142	154	117
2	68	51	32	e26	e25	e32	44	86	234	144	161	131
3	53	50	33	e23	e27	e34	35	84	236	143	145	147
4	51	44	29	e24	e27	37	35	69	219	144	137	131
5	49	40	e25	e26	e28	e41	36	58	217	148	173	114
6	45	38	e18	e32	e27	37	38	55	205	143	171	106
7	42	45	e17	e30	e29	35	38	60	194	136	183	102
8	43	36	e17	e27	e33	e37	37	67	188	142	164	95
9	42	46	e17	e25	e34	32	36	94	199	154	147	91
10	40	25	e19	e26	e30	34	32	112	212	133	164	88
11	39	24	e21	e27	e20	34	30	108	223	119	203	87
12	37	52	e24	e27	e21	e38	32	100	217	120	205	86
13	37	48	e25	e26	e23	31	39	103	213	112	164	81
14	37	49	e27	e25	e25	34	39	131	208	106	153	77
15	37	48	e29	e26	e24	38	34	146	224	103	158	85
16	36	45	e31	e25	e23	42	29	140	229	107	167	93
17	43	43	e30	e27	e24	43	30	135	234	120	149	89
18	42	42	e30	e29	e27	45	36	132	225	117	140	87
19	38	33	e27	e31	e28	44	36	142	216	131	153	87
20	46	21	e26	e28	e27	46	41	159	211	138	150	95
21	51	28	e18	e25	e28	55	49	168	207	115	163	85
22	48	42	e14	e21	e26	61	53	182	208	110	156	75
23	48	42	e15	e24	e29	56	52	196	201	131	139	71
24	46	33	e16	e28	e32	53	46	212	189	128	128	73
25	45	36	e22	e26	e34	49	50	223	181	269	124	74
26	56	37	e25	e25	e30	55	50	226	189	134	126	64
27	67	34	e29	e23	e32	54	45	222	174	116	118	59
28	65	34	e34	e24	e32	47	48	220	168	111	117	57
29	55	39	e35	e26	---	44	54	223	156	117	134	59
30	50	35	e31	e29	---	47	103	239	148	151	133	61
31	52	---	e28	e26	---	46	---	238	---	155	128	---
TOTAL	1458	1191	773	814	767	1315	1272	4426	6161	4139	4707	2667
MEAN	47.0	39.7	24.9	26.3	27.4	42.4	42.4	143	205	134	152	88.9
MAX	68	52	35	32	34	61	103	239	236	269	205	147
MIN	36	21	14	21	20	31	29	55	148	103	117	57
AC-FT	2890	2360	1530	1610	1520	2610	2520	8780	12220	8210	9340	5290

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1999, BY WATER YEAR (WY)

MEAN	44.4	35.8	26.0	23.4	26.6	38.6	68.5	157	176	94.7	73.9	51.6
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 1998 CALENDAR YEAR FOR 1999 WATER YEAR (a) WATER YEARS 1910 - 1999

ANNUAL TOTAL	25105	29690		
ANNUAL MEAN	68.8	81.3	67.9	
HIGHEST ANNUAL MEAN			122	1924
LOWEST ANNUAL MEAN			28.0	1940
HIGHEST DAILY MEAN	227	May 30	269	Jul 25
LOWEST DAILY MEAN	e14	Dec 22	e14	Dec 22
ANNUAL SEVEN-DAY MINIMUM	19	Dec 6	19	Dec 6
INSTANTANEOUS PEAK FLOW			b1220	Jul 25
INSTANTANEOUS PEAK STAGE			5.53	Jul 25
ANNUAL RUNOFF (AC-FT)	49800	58890	49210	
10 PERCENT EXCEEDS	157	188	149	
50 PERCENT EXCEEDS	46	49	41	
90 PERCENT EXCEEDS	28	25	21	

e Estimated

a Water years 1983-1990 were published by Colorado Division of Water Resources.

b Present datum, from rating curve extended above 1090 ft<sup>3</sup>/s.

CLOSED BASIN IN SAN LUIS VALLEY

08231000 LA GARITA CREEK NEAR LA GARITA, CO

LOCATION.--Lat 37°48'48", long 106°19'04", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.9, T.41 N., R.6 E., Saquache County, Hydrologic Unit 13010004, on right bank 4.5 mi downstream from Little La Garita Creek and 4.5 mi southwest of La Garita.

DRAINAGE AREA.--61 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--April 1919 to September 1981, October 1998 to September 1999. No winter records prior to water year 1948 except water years 1926, 1941, and 1945-46. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1946(M).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 8,030 ft, from topographical map. Apr. 1, 1919 to June 23, 1927, nonrecording gages, and June 24, 1927 to Nov. 13, 1935, water-stage recorder, at sites within 0.2 mi downstream at different datums. Nov. 14, 1935 to Nov. 16, 1966, water-stage recorder at present site at datum 1.00 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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	10	e5.6	e5.0	e3.5	e6.0	9.9	18	60	19	40	39
2	11	10	e5.9	e4.5	e3.5	e5.5	8.1	17	60	19	50	50
3	7.7	7.8	e5.9	e4.0	e4.0	e6.0	7.4	18	58	17	41	51
4	6.2	8.1	e5.6	e4.0	e4.0	e6.5	5.6	16	54	16	60	39
5	5.6	6.6	e5.3	e5.0	e4.5	e6.0	8.7	15	50	16	72	35
6	5.3	8.2	e4.5	e5.0	e4.0	e6.5	8.2	14	46	15	91	35
7	5.6	6.9	e4.0	e4.5	e4.5	e6.0	7.8	15	43	14	101	31
8	5.3	7.3	e3.5	e4.0	e5.0	e5.0	9.5	23	43	16	77	28
9	5.0	9.0	e3.0	e3.5	e5.5	e5.5	8.5	38	41	17	102	26
10	4.7	5.5	e2.5	e4.5	e5.5	6.1	6.8	44	40	15	91	25
11	4.4	4.9	e3.5	e4.5	e3.5	e5.0	7.4	40	39	14	86	24
12	4.4	10	e4.0	e4.0	e4.0	6.0	8.3	34	38	15	77	23
13	4.7	10	e5.0	e4.0	e4.5	6.6	10	42	35	12	70	21
14	4.4	10	e5.0	e4.0	e4.5	e5.3	7.6	61	36	11	61	21
15	4.1	9.2	e5.0	e4.0	e4.0	6.4	8.2	56	40	11	64	30
16	3.8	8.6	e5.0	e4.0	e3.5	6.7	7.3	57	40	13	57	28
17	4.4	8.5	e5.0	e5.0	e3.5	7.3	8.4	63	41	28	49	27
18	3.6	7.9	e5.5	e5.0	e5.0	6.2	7.7	63	39	19	50	25
19	3.8	7.2	e5.5	e5.5	e5.0	5.8	8.8	69	33	22	54	24
20	4.7	6.0	e5.5	e5.0	e4.0	6.9	12	70	30	17	53	24
21	4.6	e7.0	e4.0	e4.5	e4.5	8.6	16	74	33	14	56	20
22	4.4	8.4	e2.5	e4.0	e4.0	9.3	20	78	35	13	40	17
23	4.9	9.2	e3.0	e4.0	e4.5	8.9	14	82	31	22	34	17
24	4.8	8.4	e3.0	e5.5	e5.0	8.8	12	81	27	39	34	17
25	4.2	8.0	e3.5	e5.0	e5.5	9.2	15	71	28	24	36	17
26	6.5	7.5	e3.5	e4.5	e5.0	12	13	68	25	18	38	15
27	9.6	7.3	e4.0	e4.0	e5.5	9.9	16	63	23	20	35	14
28	11	6.9	e4.5	e4.0	e6.0	8.2	25	64	23	22	32	13
29	8.7	7.4	e5.5	e4.5	---	8.3	17	66	22	41	38	12
30	11	6.4	e5.0	e5.0	---	11	22	64	20	35	55	12
31	10	---	e4.0	e4.5	---	10	---	64	---	37	43	---
TOTAL	186.6	238.2	137.3	138.5	125.5	225.5	336.2	1548	1133	611	1787	760
MEAN	6.02	7.94	4.43	4.47	4.48	7.27	11.2	49.9	37.8	19.7	57.6	25.3
MAX	11	10	5.9	5.5	6.0	12	25	82	60	41	102	51
MIN	3.6	4.9	2.5	3.5	3.5	5.0	5.6	14	20	11	32	12
AC-FT	370	472	272	275	249	447	667	3070	2250	1210	3540	1510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1999, BY WATER YEAR (WY)

MEAN	6.99	5.24	3.90	3.32	4.04	5.73	17.0	46.9	31.6	15.1	15.9	8.88
MAX	42.6	18.5	8.72	6.60	8.00	9.94	126	211	126	65.3	70.2	52.4
(WY)	1924	1970	1970	1966	1962	1972	1924	1924	1921	1921	1929	1923
MIN	1.46	1.80	.70	.50	.50	1.50	6.08	4.80	2.96	2.30	2.07	.85
(WY)	1957	1941	1964	1964	1964	1964	1978	1967	1963	1963	1940	1956

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1919 - 1999

ANNUAL TOTAL	7226.8	
ANNUAL MEAN	19.8	12.7
HIGHEST ANNUAL MEAN		30.8
LOWEST ANNUAL MEAN		4.12
HIGHEST DAILY MEAN	102	398
LOWEST DAILY MEAN	e2.5	.20
ANNUAL SEVEN-DAY MINIMUM	3.4	.43
INSTANTANEOUS PEAK FLOW	120	a530
INSTANTANEOUS PEAK STAGE	3.00	b4.00
ANNUAL RUNOFF (AC-FT)	14330	9210
10 PERCENT EXCEEDS	54	37
50 PERCENT EXCEEDS	9.2	6.6
90 PERCENT EXCEEDS	4.0	3.0

e Estimated

a From rating curve extended above 140 ft<sup>3</sup>/s.

b At present datum.

RIO GRANDE BASIN

CLOSED BASIN IN SAN LUIS VALLEY, CO

372833105455800 CLOSED BASIN PROJECT CANAL NEAR ALAMOSA, CO

LOCATION.--Lat 37°28'33", long 105°45'58", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec. 3, T.37 N., R.11 E., Alamosa County, Hydrologic Unit 13010002, on right bank of Closed Basin Project Canal, 400 ft north of State Highway 160, and 5.5 mi east of Alamosa.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1998 to September 1999.

GAGE.--Water-stage recorders with satellite telemetry, and 12 ft Parshall flume. Elevation of gage is 7531.15 ft (levels by U.S. Bureau of Reclamation).

REMARKS.--Records good except for estimated daily discharges, which are poor. The Closed Basin Project Canal delivers water from the Closed Basin in the San Luis Valley to the Rio Grande River just downstream from Alamosa. Shallow (unconfined) aquifer water is pumped into the canal by a system of pumps.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	34	28	42	45	36	39	37	37	45	30	28
2	29	32	28	40	46	37	39	29	31	46	29	28
3	24	40	34	40	45	33	41	33	36	42	26	29
4	25	34	37	40	43	29	44	35	33	39	30	32
5	27	41	33	43	38	31	38	28	39	39	33	34
6	27	40	e37	42	40	34	34	26	42	37	30	32
7	23	42	e36	42	39	25	29	27	37	38	30	32
8	23	37	e33	43	35	37	35	24	50	37	30	32
9	24	40	28	43	35	27	29	22	51	35	29	32
10	23	34	27	43	31	33	39	32	22	30	33	31
11	24	31	26	43	42	29	33	36	20	30	31	30
12	22	31	32	44	34	27	34	32	22	34	27	30
13	23	31	34	44	36	28	32	33	24	33	26	30
14	24	31	33	42	35	30	35	38	23	33	26	31
15	24	30	31	41	35	28	32	35	23	34	26	30
16	25	30	25	39	37	26	35	36	32	37	27	33
17	27	28	33	41	36	34	36	37	30	35	26	34
18	28	28	30	42	37	33	37	34	30	37	24	34
19	27	29	32	42	35	34	36	34	29	38	25	34
20	22	29	e42	41	38	35	35	38	28	39	24	35
21	26	29	e63	42	36	30	36	35	29	38	26	34
22	29	29	45	46	40	37	36	37	32	38	26	33
23	30	28	40	40	37	34	37	38	34	35	25	33
24	32	25	41	40	37	34	34	38	31	33	26	35
25	32	27	42	44	37	33	35	40	31	32	26	35
26	39	26	41	40	37	33	36	36	32	31	26	34
27	39	26	42	43	41	35	31	39	33	28	28	33
28	31	26	42	47	39	38	29	39	46	26	32	39
29	31	29	40	46	---	37	26	38	39	29	32	42
30	31	30	36	45	---	35	30	39	40	29	32	41
31	34	---	35	45	---	37	---	37	---	30	30	---
TOTAL	853	947	1106	1315	1066	1009	1042	1062	986	1087	871	990
MEAN	27.5	31.6	35.7	42.4	38.1	32.5	34.7	34.3	32.9	35.1	28.1	33.0
MAX	39	42	63	47	46	38	44	40	51	46	33	42
MIN	22	25	25	39	31	25	26	22	20	26	24	28
AC-FT	1690	1880	2190	2610	2110	2000	2070	2110	1960	2160	1730	1960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MEAN	27.5	31.6	35.7	42.4	38.1	32.5	34.7	34.3	32.9	35.1	28.1	33.0
MAX	27.5	31.6	35.7	42.4	38.1	32.5	34.7	34.3	32.9	35.1	28.1	33.0
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	27.5	31.6	35.7	42.4	38.1	32.5	34.7	34.3	32.9	35.1	28.1	33.0
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS FOR 1999 WATER YEAR

ANNUAL TOTAL	12334
ANNUAL MEAN	33.8
HIGHEST DAILY MEAN	e63 Dec 21
LOWEST DAILY MEAN	20 Jun 11
ANNUAL SEVEN-DAY MINIMUM	23 Oct 7
INSTANTANEOUS PEAK FLOW	101 Dec 21
INSTANTANEOUS PEAK STAGE	a1.70 Dec 21
ANNUAL RUNOFF (AC-FT)	24460
10 PERCENT EXCEEDS	42
50 PERCENT EXCEEDS	34
90 PERCENT EXCEEDS	26

e Estimated  
a Maximum gage height, 1.86 ft, Jan 27, 1990, due to submergence of flume.

08235250 ALAMOSA RIVER ABOVE WIGHTMAN FORK NEAR JASPER, CO

LOCATION.--Lat 37°24'09", long 106°31'17", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1995 to current year (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, and May 15-June 7, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 878 ft<sup>3</sup>/s, June 2, 1997, gage height, 5.32 ft, from rating curve extended above 457 ft<sup>3</sup>/s; minimum daily, 6.7 ft<sup>3</sup>/s, Aug. 19-20, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 473 ft<sup>3</sup>/s, June 2, gage height, 4.70 ft, from rating curve extended above 457 ft<sup>3</sup>/s; minimum daily, 11 ft<sup>3</sup>/s, Oct. 16.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	18	---	---	---	---	---	49	371	216	71	67
2	27	18	---	---	---	---	19	43	e360	192	65	83
3	22	16	---	---	---	---	18	40	e310	176	90	102
4	22	15	---	---	---	---	19	38	e320	168	134	78
5	17	---	---	---	---	---	17	35	e270	152	120	67
6	17	---	---	---	---	---	14	33	e230	139	115	60
7	20	---	---	---	---	---	15	36	e260	138	106	56
8	18	---	---	---	---	---	15	51	353	132	79	49
9	16	---	---	---	---	---	19	70	379	115	75	44
10	15	---	---	---	---	---	24	75	388	103	92	41
11	13	---	---	---	---	---	23	71	377	100	101	39
12	13	---	---	---	---	---	29	70	367	89	79	40
13	12	---	---	---	---	---	37	92	354	83	63	34
14	13	---	---	---	---	---	30	132	359	76	65	33
15	12	---	---	---	---	---	27	145	350	80	184	51
16	11	---	---	---	---	---	26	154	361	70	117	45
17	12	---	---	---	---	---	26	161	364	66	93	41
18	12	---	---	---	---	---	27	e170	e360	75	77	53
19	13	---	---	---	---	---	31	231	e360	86	72	57
20	15	---	---	---	---	---	43	e270	361	81	72	49
21	15	---	---	---	---	---	50	275	360	106	68	43
22	16	---	---	---	---	---	43	294	360	109	67	39
23	17	---	---	---	---	---	39	302	341	138	64	48
24	16	---	---	---	---	---	41	293	334	107	96	41
25	18	---	---	---	---	---	45	231	328	100	85	37
26	18	---	---	---	---	---	42	206	305	93	81	34
27	22	---	---	---	---	---	48	e195	312	101	96	32
28	18	---	---	---	---	---	54	230	277	89	91	30
29	19	---	---	---	---	---	50	272	239	93	87	29
30	20	---	---	---	---	---	56	312	226	77	78	27
31	19	---	---	---	---	---	---	353	---	61	66	---
TOTAL	521	---	---	---	---	---	---	4929	9936	3411	2749	1449
MEAN	16.8	---	---	---	---	---	---	159	331	110	88.7	48.3
MAX	27	---	---	---	---	---	---	353	388	216	184	102
MIN	11	---	---	---	---	---	---	33	226	61	63	27
AC-FT	1030	---	---	---	---	---	---	9780	19710	6770	5450	2870

e Estimated



08235250 ALAMOSA RIVER ABOVE WIGHTMAN FORK NEAR JASPER, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	161	151	157
2	---	---	---	---	---	---	184	159	172	176	161	169
3	---	---	---	---	---	---	190	171	182	182	169	175
4	---	---	---	---	---	---	174	152	161	187	169	180
5	---	---	---	---	---	---	207	156	180	203	164	185
6	---	---	---	---	---	---	207	181	194	212	169	196
7	---	---	---	---	---	---	213	191	205	280	187	221
8	---	---	---	---	---	---	218	192	207	292	199	222
9	---	---	---	---	---	---	228	182	211	199	155	173
10	---	---	---	---	---	---	235	190	208	155	144	149
11	---	---	---	---	---	---	257	205	241	150	143	146
12	---	---	---	---	---	---	302	221	240	157	134	149
13	---	---	---	---	---	---	229	182	195	142	109	131
14	---	---	---	---	---	---	223	173	203	116	101	109
15	---	---	---	---	---	---	223	192	207	112	96	104
16	---	---	---	---	---	---	224	177	203	106	93	100
17	---	---	---	---	---	---	218	198	209	101	87	95
18	---	---	---	---	---	---	222	201	209	97	75	88
19	---	---	---	---	---	---	207	182	199	87	68	78
20	---	---	---	---	---	---	182	152	172	77	61	71
21	---	---	---	---	---	---	152	146	148	73	61	67
22	---	---	---	---	---	---	159	149	153	69	63	66
23	---	---	---	---	---	---	176	158	166	70	60	65
24	---	---	---	---	---	---	179	160	171	74	61	67
25	---	---	---	---	---	---	167	162	164	83	74	79
26	---	---	---	---	---	---	178	165	170	87	82	85
27	---	---	---	---	---	---	172	145	163	86	81	83
28	---	---	---	---	---	---	149	143	146	84	62	77
29	---	---	---	---	---	---	160	148	152	70	57	64
30	---	---	---	---	---	---	157	127	145	66	54	60
31	---	---	---	---	---	---	---	---	---	64	53	59
MONTH	---	---	---	---	---	---	---	---	---	292	53	118
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	64	49	58	67	51	59	106	93	101	115	95	109
2	63	52	59	70	53	63	108	95	101	111	90	98
3	69	53	63	74	56	66	103	83	96	98	84	92
4	64	55	59	72	60	67	287	77	101	104	97	100
5	68	58	64	75	62	69	93	83	89	109	104	106
6	74	63	70	76	64	71	88	81	85	115	109	112
7	71	50	63	76	58	70	89	80	85	120	112	116
8	63	45	55	75	63	70	94	89	92	128	120	123
9	59	43	52	77	67	73	104	92	95	134	128	130
10	58	43	51	83	74	78	104	75	90	138	131	135
11	58	43	51	103	75	81	90	83	86	180	138	144
12	57	47	52	90	79	85	96	86	93	144	134	139
13	58	47	53	92	79	86	102	96	99	160	144	150
14	58	47	53	95	80	89	110	90	103	161	154	157
15	59	50	55	92	80	87	142	59	79	240	105	143
16	59	50	55	99	85	92	88	82	85	142	117	133
17	59	49	55	102	84	94	93	88	90	147	133	140
18	60	47	54	100	84	93	99	93	96	420	127	165
19	58	49	54	93	78	88	101	93	97	149	113	130
20	59	52	55	96	74	87	112	89	102	141	117	132
21	59	49	55	94	57	83	117	92	105	142	129	137
22	58	48	53	81	57	72	115	101	107	147	142	144
23	58	48	53	111	62	73	117	89	110	188	111	137
24	58	47	53	84	72	81	325	54	100	146	131	139
25	58	45	52	86	76	82	103	84	97	151	143	146
26	59	48	53	92	71	86	105	81	99	157	150	152
27	58	44	52	87	71	83	109	57	95	165	157	159
28	60	47	54	95	85	90	96	72	90	181	157	166
29	66	53	59	102	81	92	98	89	95	194	157	170
30	69	52	60	98	83	93	101	93	98	180	166	173
31	---	---	---	104	96	100	107	99	103	---	---	---
MONTH	74	43	56	111	51	81	325	54	96	420	84	136

RIO GRANDE BASIN

08235250 ALAMOSA RIVER ABOVE WIGHTMAN FORK NEAR JASPER, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
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	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	5.9	5.8	5.8
2	---	---	---	---	---	---	6.3	5.4	5.7	5.8	5.5	5.6
3	---	---	---	---	---	---	5.7	5.4	5.5	5.6	5.5	5.5
4	---	---	---	---	---	---	5.5	5.4	5.4	5.6	5.5	5.5
5	---	---	---	---	---	---	5.6	5.2	5.5	5.7	5.4	5.6
6	---	---	---	---	---	---	5.6	5.2	5.5	5.6	5.3	5.5
7	---	---	---	---	---	---	5.5	5.2	5.3	5.4	4.2	5.1
8	---	---	---	---	---	---	5.4	5.2	5.3	5.2	4.0	4.7
9	---	---	---	---	---	---	5.3	5.1	5.2	5.4	4.4	5.0
10	---	---	---	---	---	---	5.3	4.9	5.2	5.6	5.2	5.4
11	---	---	---	---	---	---	5.1	4.4	4.9	5.7	5.6	5.7
12	---	---	---	---	---	---	5.0	3.9	4.6	5.8	5.5	5.7
13	---	---	---	---	---	---	5.3	4.3	5.0	6.1	5.3	5.8
14	---	---	---	---	---	---	5.4	5.1	5.3	6.6	5.9	6.2
15	---	---	---	---	---	---	5.5	5.3	5.4	6.8	6.3	6.7
16	---	---	---	---	---	---	5.6	5.2	5.5	6.9	6.8	6.9
17	---	---	---	---	---	---	5.6	5.1	5.4	7.0	6.8	7.0
18	---	---	---	---	---	---	5.4	5.1	5.3	7.1	6.4	6.9
19	---	---	---	---	---	---	5.4	5.0	5.3	7.1	6.3	6.8
20	---	---	---	---	---	---	5.6	5.3	5.5	7.1	5.8	6.8
21	---	---	---	---	---	---	6.0	5.6	5.8	7.1	6.6	7.0
22	---	---	---	---	---	---	6.0	5.9	5.9	7.2	7.1	7.2
23	---	---	---	---	---	---	5.9	5.5	5.8	7.2	7.1	7.2
24	---	---	---	---	---	---	5.7	5.4	5.6	7.2	7.2	7.2
25	---	---	---	---	---	---	5.8	5.6	5.7	7.2	7.0	7.2
26	---	---	---	---	---	---	5.7	5.4	5.6	7.1	7.0	7.0
27	---	---	---	---	---	---	5.8	5.5	5.6	7.1	7.0	7.0
28	---	---	---	---	---	---	6.1	5.8	6.0	7.1	7.1	7.1
29	---	---	---	---	---	---	5.9	5.7	5.8	7.1	7.1	7.1
30	---	---	---	---	---	---	5.9	5.6	5.8	7.2	7.0	7.1
31	---	---	---	---	---	---	---	---	---	7.1	7.0	7.1
MONTH	---	---	---	---	---	---	---	---	---	7.2	4.0	6.3





## RIO GRANDE BASIN

08235250 ALAMOSA RIVER ABOVE WIGHTMAN FORK NEAR JASPER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	.0	.0	.0	2.4	.0	.9
2	---	---	---	---	---	---	.0	.0	.0	7.3	.0	2.7
3	---	---	---	---	---	---	.1	.0	.0	1.5	.0	.4
4	---	---	---	---	---	---	.0	.0	.0	4.6	.0	1.3
5	---	---	---	---	---	---	.7	.0	.1	4.2	.0	1.2
6	---	---	---	---	---	---	2.6	.0	.4	7.2	.0	2.5
7	---	---	---	---	---	---	5.5	.0	1.4	9.2	.0	3.5
8	---	---	---	---	---	---	4.6	.0	1.2	9.8	.0	3.9
9	---	---	---	---	---	---	1.9	.0	.2	8.7	.4	3.5
10	---	---	---	---	---	---	3.3	.0	.8	7.7	.1	2.9
11	---	---	---	---	---	---	4.3	.0	1.2	7.3	.3	2.6
12	---	---	---	---	---	---	7.6	.0	2.3	9.2	.0	3.5
13	---	---	---	---	---	---	1.8	.0	.5	9.1	.8	3.7
14	---	---	---	---	---	---	6.8	.0	2.3	6.9	.9	3.0
15	---	---	---	---	---	---	5.4	.0	1.6	7.8	.5	3.1
16	---	---	---	---	---	---	3.2	.0	.9	7.6	.6	3.0
17	---	---	---	---	---	---	7.0	.0	2.2	7.9	.1	2.8
18	---	---	---	---	---	---	7.4	.0	2.4	8.0	.1	2.9
19	---	---	---	---	---	---	8.1	.0	2.8	7.5	.8	2.9
20	---	---	---	---	---	---	8.0	.0	2.6	7.1	.5	2.7
21	---	---	---	---	---	---	6.2	.1	1.8	7.0	.5	2.8
22	---	---	---	---	---	---	2.1	.0	.8	5.3	1.0	2.8
23	---	---	---	---	---	---	6.1	.3	2.6	6.8	1.4	3.0
24	---	---	---	---	---	---	7.7	.5	2.8	2.7	1.3	2.0
25	---	---	---	---	---	---	5.5	.0	1.8	5.2	.8	2.5
26	---	---	---	---	---	---	9.3	.0	3.1	6.2	1.4	3.2
27	---	---	---	---	---	---	9.4	.0	3.6	5.1	1.0	2.8
28	---	---	---	---	---	---	3.8	.2	1.8	8.5	1.0	3.7
29	---	---	---	---	---	---	8.0	.4	3.3	7.2	1.3	3.3
30	---	---	---	---	---	---	3.1	.0	1.1	7.7	1.2	3.3
31	---	---	---	---	---	---	---	---	---	7.6	1.4	3.4
MONTH	---	---	---	---	---	---	9.4	.0	1.5	9.8	.0	2.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.1	1.2	3.4	14.5	4.3	8.2	11.3	8.1	9.9	11.0	7.3	9.4
2	4.6	1.0	2.6	10.9	4.3	7.0	12.7	8.4	10.2	12.0	7.3	9.5
3	8.3	1.3	3.7	14.8	4.6	8.5	11.1	8.0	9.7	12.1	6.3	8.8
4	7.1	1.2	3.3	12.9	5.8	8.7	11.1	8.5	9.8	12.5	3.9	7.9
5	5.9	.4	2.1	14.1	5.1	8.6	13.1	8.4	10.5	12.9	4.1	8.3
6	9.6	.7	4.0	14.5	6.1	9.2	14.1	8.2	10.5	12.7	4.5	8.3
7	10.0	1.1	4.1	11.3	5.7	8.3	14.5	6.5	10.4	13.2	5.0	8.9
8	9.3	1.2	3.9	12.8	6.5	9.0	15.5	6.0	10.4	13.4	5.0	9.0
9	9.0	1.2	3.8	9.7	6.5	8.2	11.8	8.2	10.4	10.4	5.0	8.6
10	8.7	1.2	3.8	12.2	5.2	8.8	11.9	8.4	10.2	13.9	6.6	9.7
11	9.1	1.1	4.0	9.9	6.7	8.4	13.8	8.4	10.5	12.1	5.2	8.3
12	7.9	1.6	3.9	12.3	5.6	8.8	14.9	5.4	9.8	12.4	4.6	8.0
13	8.0	1.6	4.3	13.1	5.9	9.2	15.2	5.3	10.0	13.3	4.5	8.5
14	7.4	2.4	4.1	12.3	5.7	9.1	12.4	6.1	9.5	11.3	5.2	7.9
15	8.3	2.1	4.4	12.5	7.2	9.8	11.7	8.0	9.7	10.0	5.5	7.1
16	8.3	2.6	4.6	13.3	6.3	9.8	13.4	6.5	9.6	10.1	3.6	6.4
17	8.7	2.5	4.6	12.2	7.8	10.3	15.3	6.8	10.5	10.5	4.2	7.2
18	9.6	2.0	5.0	10.8	8.0	9.4	14.3	7.1	10.5	10.1	5.4	7.1
19	9.1	2.4	5.0	13.2	7.5	9.8	15.1	8.5	11.4	8.1	3.3	5.5
20	7.8	2.9	5.1	12.7	5.9	9.2	12.9	7.9	10.4	9.1	3.3	6.0
21	8.6	3.2	5.4	11.3	5.8	8.5	15.0	7.9	10.9	10.0	2.4	6.0
22	9.5	3.1	5.6	12.5	6.9	9.3	11.6	7.1	9.8	10.1	2.2	5.9
23	11.7	2.3	5.9	12.6	6.9	9.6	13.5	7.7	10.3	7.9	5.6	6.8
24	11.1	3.1	6.2	15.1	7.4	10.8	12.3	6.9	8.5	9.5	3.9	6.5
25	12.3	3.0	6.4	15.9	7.2	11.2	13.1	5.5	9.0	12.0	3.6	7.3
26	12.1	3.4	6.6	14.2	7.1	10.4	11.7	6.8	9.2	12.1	4.0	7.6
27	12.4	4.5	7.2	13.5	7.7	10.3	11.8	6.7	9.0	10.7	4.5	6.9
28	12.5	3.3	6.8	11.9	7.9	9.9	11.8	7.6	9.6	8.8	1.6	4.7
29	13.1	3.0	7.0	13.4	7.8	10.4	15.0	8.5	11.3	9.1	.0	4.0
30	13.9	3.5	7.6	16.6	7.8	11.7	14.7	8.5	11.4	9.9	1.2	4.9
31	---	---	---	12.8	7.6	10.6	15.1	7.3	10.9	---	---	---
MONTH	13.9	.4	4.8	16.6	4.3	9.4	15.5	5.3	10.1	13.9	.0	7.4

08235270 WIGHTMAN FORK BELOW CROPSY CREEK AT SUMMITVILLE, CO

LOCATION.--Lat 37°25'45", long 106°35'03", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.29, T.37 N., R.4 E., Rio Grande County, Hydrologic Unit 13010002, on left bank about 200 feet downstream from Cropsy Creek, and 0.25 mi east of Summitville.

DRAINAGE AREA.--4.44 mi<sup>2</sup>.

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 ft<sup>3</sup>/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 ft<sup>3</sup>/s, June 1, 1997, gage height, 6.13 ft, from rating curve extended above 64 ft<sup>3</sup>/s; minimum daily discharge, 0.90 ft<sup>3</sup>/s, Aug. 19, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 132 ft<sup>3</sup>/s, July 26, gage height, 6.07 ft, from rating curve extended above 64 ft<sup>3</sup>/s; minimum daily discharge, 2.0 ft<sup>3</sup>/s, Oct.7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	---	---	---	---	---	---	---	66	21	8.8	9.2
2	3.1	---	---	---	---	---	---	---	48	16	9.9	9.9
3	2.2	---	---	---	---	---	---	---	52	16	14	10
4	2.7	---	---	---	---	---	---	---	50	15	18	6.9
5	e2.4	---	---	---	---	---	---	---	37	14	12	7.2
6	e2.2	---	---	---	---	---	---	---	49	14	12	6.7
7	e2.0	---	---	---	---	---	---	---	61	12	9.6	6.5
8	2.3	---	---	---	---	---	---	---	58	12	8.7	6.2
9	3.2	---	---	---	---	---	---	---	53	10	9.0	6.1
10	3.0	---	---	---	---	---	---	---	47	9.6	11	4.7
11	2.9	---	---	---	---	---	---	---	45	9.4	11	6.1
12	2.8	---	---	---	---	---	---	---	42	9.2	8.8	6.0
13	2.8	---	---	---	---	---	---	---	41	8.7	8.0	4.9
14	2.8	---	---	---	---	---	---	---	43	8.6	8.8	6.7
15	2.7	---	---	---	---	---	---	---	41	9.0	20	12
16	2.6	---	---	---	---	---	---	---	38	9.1	11	8.0
17	2.9	---	---	---	---	---	---	---	39	8.5	8.9	7.4
18	3.0	---	---	---	---	---	---	---	39	9.8	9.6	17
19	2.9	---	---	---	---	---	---	---	28	35	11	13
20	3.0	---	---	---	---	---	---	---	33	32	9.2	10
21	2.4	---	---	---	---	---	---	---	37	33	8.9	9.4
22	2.2	---	---	---	---	---	---	---	39	33	11	12
23	3.6	---	---	---	---	---	---	---	39	30	16	9.2
24	3.5	---	---	---	---	---	---	---	30	30	13	8.8
25	3.4	---	---	---	---	---	---	---	23	29	11	8.4
26	3.6	---	---	---	---	---	---	---	26	27	19	10
27	3.5	---	---	---	---	---	---	---	31	27	10	10
28	e3.2	---	---	---	---	---	---	---	42	24	8.6	8.8
29	---	---	---	---	---	---	---	---	56	22	11	10
30	---	---	---	---	---	---	---	---	63	22	8.8	8.3
31	---	---	---	---	---	---	---	---	61	---	7.6	7.6
TOTAL	---	---	---	---	---	---	---	---	1193	357.0	321.6	231.6
MEAN	---	---	---	---	---	---	---	---	39.8	11.5	10.4	7.72
MAX	---	---	---	---	---	---	---	---	66	21	20	17
MIN	---	---	---	---	---	---	---	---	22	7.6	7.6	4.7
AC-FT	---	---	---	---	---	---	---	---	2370	708	638	459

e Estimated

## RIO GRANDE BASIN

08235290 WIGHTMAN FORK AT MOUTH NEAR JASPER, CO

LOCATION.--Lat 37°24'14", long 106°31'16", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 confluence with Alamosa River, and 4.3 mi southwest of Jasper.

DRAINAGE AREA.--16.1 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1995 to current year (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.--Records fair except for estimated daily discharges, which are poor. Flow partially regulated by releases from Summitville Mine upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 431 ft<sup>3</sup>/s, June 1, 1997, gage height, 5.47 ft, from rating curve extended above 300 ft<sup>3</sup>/s; minimum daily, 1.2 ft<sup>3</sup>/s, Aug. 19, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 311 ft<sup>3</sup>/s, May 30 and June 1, gage height, 5.24 ft; from rating curve extended above 300 ft<sup>3</sup>/s; minimum daily, 3.7 ft<sup>3</sup>/s, Oct. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	4.8	---	---	---	---	---	15	205	34	14	16
2	7.2	4.5	---	---	---	---	e8.0	14	142	27	17	21
3	5.2	5.1	---	---	---	---	e7.0	13	161	26	27	22
4	5.1	5.6	---	---	---	---	e6.0	13	161	25	49	14
5	3.7	e6.0	---	---	---	---	e8.0	13	125	23	28	13
6	4.3	---	---	---	---	---	e10	12	142	22	26	12
7	5.2	---	---	---	---	---	11	13	175	24	20	12
8	4.4	---	---	---	---	---	10	20	142	24	16	11
9	5.0	---	---	---	---	---	6.9	30	110	20	17	10
10	4.6	---	---	---	---	---	8.1	31	106	18	23	8.5
11	4.2	---	---	---	---	---	7.8	26	94	17	20	9.7
12	4.2	---	---	---	---	---	8.0	24	81	16	15	12
13	4.1	---	---	---	---	---	9.4	34	78	14	13	8.8
14	4.1	---	---	---	---	---	8.3	52	81	14	14	11
15	3.9	---	---	---	---	---	8.1	57	79	15	50	23
16	3.9	---	---	---	---	---	9.5	57	76	15	24	16
17	4.6	---	---	---	---	---	8.6	62	75	14	20	14
18	5.0	---	---	---	---	---	8.5	81	73	15	21	31
19	5.1	---	---	---	---	---	10	119	67	18	23	27
20	5.2	---	---	---	---	---	14	132	64	14	21	19
21	4.7	---	---	---	---	---	16	149	67	12	19	15
22	4.1	---	---	---	---	---	14	158	64	14	21	13
23	6.7	---	---	---	---	---	12	164	57	34	17	18
24	6.5	---	---	---	---	---	13	122	54	29	16	15
25	6.7	---	---	---	---	---	14	79	52	18	21	14
26	7.4	---	---	---	---	---	13	82	47	26	21	12
27	7.5	---	---	---	---	---	16	105	46	23	20	11
28	6.1	---	---	---	---	---	19	140	40	16	18	10
29	7.2	---	---	---	---	---	17	184	35	20	20	9.5
30	6.9	---	---	---	---	---	18	192	34	17	16	9.5
31	6.1	---	---	---	---	---	---	191	---	13	15	---
TOTAL	165.1	---	---	---	---	---	---	2384	2733	617	662	438.0
MEAN	5.33	---	---	---	---	---	---	76.9	91.1	19.9	21.4	14.6
MAX	7.5	---	---	---	---	---	---	192	205	34	50	31
MIN	3.7	---	---	---	---	---	---	12	34	12	13	8.5
AC-FT	327	---	---	---	---	---	---	4730	5420	1220	1310	869

e Estimated



## RIO GRANDE RIVER BASIN

08235290 WIGHTMAN FORK AT MOUTH NEAR JASPER, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	198	153	163
2	---	---	---	---	---	---	207	180	187	184	156	168
3	---	---	---	---	---	---	191	174	181	179	158	168
4	---	---	---	---	---	---	175	94	124	237	163	174
5	---	---	---	---	---	---	123	57	92	460	237	349
6	---	---	---	---	---	---	148	47	106	466	348	384
7	---	---	---	---	---	---	225	110	167	521	211	412
8	---	---	---	---	---	---	253	205	227	423	214	368
9	---	---	---	---	---	---	258	151	221	393	272	305
10	---	---	---	---	---	---	---	---	---	322	271	293
11	---	---	---	---	---	---	244	203	216	376	283	322
12	---	---	---	---	---	---	252	195	223	477	265	366
13	---	---	---	---	---	---	219	173	200	475	232	375
14	---	---	---	---	---	---	219	183	203	316	247	286
15	---	---	---	---	---	---	237	194	215	365	242	269
16	---	---	---	---	---	---	215	197	205	297	231	263
17	---	---	---	---	---	---	228	160	204	351	202	249
18	---	---	---	---	---	---	227	188	202	247	165	211
19	---	---	---	---	---	---	217	173	196	202	126	169
20	---	---	---	---	---	---	203	154	178	212	135	174
21	---	---	---	---	---	---	184	150	169	190	135	154
22	---	---	---	---	---	---	190	157	172	206	125	166
23	---	---	---	---	---	---	191	163	177	209	116	172
24	---	---	---	---	---	---	198	156	171	206	125	164
25	---	---	---	---	---	---	188	157	170	357	117	221
26	---	---	---	---	---	---	234	160	212	416	300	327
27	---	---	---	---	---	---	232	146	191	384	289	342
28	---	---	---	---	---	---	186	141	159	330	129	254
29	---	---	---	---	---	---	171	150	160	191	144	158
30	---	---	---	---	---	---	209	149	163	217	147	183
31	---	---	---	---	---	---	---	---	---	217	101	178
MONTH	---	---	---	---	---	---	---	---	---	521	101	251
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	241	183	211	816	333	611	804	559	701	725	385	664
2	276	150	210	424	333	383	714	412	623	657	370	512
3	223	143	184	508	411	453	573	289	473	591	249	434
4	209	155	181	491	423	462	456	190	345	682	256	332
5	243	181	220	518	443	481	447	242	400	736	674	690
6	272	210	246	610	451	505	481	376	432	779	724	739
7	332	191	266	557	265	459	546	292	488	810	756	773
8	292	169	238	524	374	475	608	544	565	867	807	821
9	283	149	217	561	479	531	630	491	585	921	849	868
10	206	150	171	583	524	556	566	359	505	960	434	663
11	204	157	183	579	340	550	571	455	509	491	395	449
12	228	169	191	624	548	589	670	511	588	443	333	367
13	226	171	197	667	600	630	739	658	678	436	344	384
14	337	178	216	689	620	652	740	570	707	1070	436	950
15	391	166	272	653	418	612	639	238	385	773	390	622
16	243	177	202	730	485	627	560	347	453	784	525	662
17	293	166	206	688	578	645	577	432	511	799	673	745
18	361	169	264	668	581	643	593	344	526	844	415	560
19	235	166	205	608	520	568	532	374	455	624	443	527
20	229	171	198	678	564	616	597	383	514	662	485	600
21	215	167	194	655	330	545	626	394	509	723	350	654
22	251	173	209	676	508	600	696	368	537	777	723	745
23	270	181	235	645	265	475	616	455	546	789	506	673
24	278	221	255	634	298	461	641	577	600	761	654	705
25	378	254	311	628	516	567	614	295	533	795	670	739
26	334	259	290	954	362	627	623	446	520	844	787	802
27	315	251	285	619	362	509	599	454	535	891	831	848
28	354	263	323	691	584	632	563	432	516	968	862	901
29	383	313	345	721	360	574	595	281	520	969	393	846
30	705	331	403	675	406	583	670	571	595	927	818	884
31	---	---	---	743	668	706	671	601	626	---	---	---
MONTH	705	143	238	954	265	559	804	190	532	1070	249	672

08235290 WIGHTMAN FORK AT MOUTH NEAR JASPER, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
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	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	7.5	7.4	7.4	7.8	7.8	7.8
2	---	---	---	---	---	---	7.5	7.5	7.5	7.8	7.8	7.8
3	---	---	---	---	---	---	7.5	7.4	7.5	7.8	7.8	7.8
4	---	---	---	---	---	---	7.4	7.4	7.4	7.8	7.7	7.7
5	---	---	---	---	---	---	7.4	7.3	7.3	7.8	7.5	7.6
6	---	---	---	---	---	---	7.6	7.3	7.4	7.6	7.5	7.6
7	---	---	---	---	---	---	7.4	7.4	7.4	7.7	7.5	7.6
8	---	---	---	---	---	---	7.5	7.4	7.4	7.7	7.6	7.7
9	---	---	---	---	---	---	7.5	7.3	7.4	7.8	7.7	7.7
10	---	---	---	---	---	---	7.6	7.2	7.4	7.8	7.7	7.8
11	---	---	---	---	---	---	7.6	7.2	7.4	7.8	7.8	7.8
12	---	---	---	---	---	---	7.6	7.5	7.5	7.8	7.7	7.7
13	---	---	---	---	---	---	7.7	7.6	7.6	7.8	7.7	7.7
14	---	---	---	---	---	---	7.7	7.6	7.7	7.7	7.7	7.7
15	---	---	---	---	---	---	7.7	7.6	7.6	7.7	7.7	7.7
16	---	---	---	---	---	---	7.9	7.6	7.7	7.7	7.7	7.7
17	---	---	---	---	---	---	7.7	7.6	7.6	7.7	7.6	7.7
18	---	---	---	---	---	---	7.7	7.6	7.7	7.7	7.5	7.6
19	---	---	---	---	---	---	7.7	7.7	7.7	7.5	7.4	7.5
20	---	---	---	---	---	---	7.8	7.7	7.8	7.5	7.4	7.4
21	---	---	---	---	---	---	7.8	7.7	7.8	7.4	7.3	7.4
22	---	---	---	---	---	---	7.7	7.7	7.7	7.4	7.3	7.3
23	---	---	---	---	---	---	7.7	7.7	7.7	7.3	7.2	7.2
24	---	---	---	---	---	---	7.8	7.7	7.7	7.3	7.2	7.2
25	---	---	---	---	---	---	7.8	7.7	7.7	7.4	4.8	6.7
26	---	---	---	---	---	---	7.8	7.7	7.8	5.2	4.8	5.0
27	---	---	---	---	---	---	7.8	7.8	7.8	4.9	4.7	4.8
28	---	---	---	---	---	---	7.8	7.8	7.8	6.4	4.7	5.3
29	---	---	---	---	---	---	7.8	7.8	7.8	6.3	5.2	5.7
30	---	---	---	---	---	---	7.8	7.8	7.8	5.3	5.0	5.2
31	---	---	---	---	---	---	---	---	---	6.4	5.0	5.3
MONTH	---	---	---	---	---	---	7.9	7.2	7.6	7.8	4.7	7.1





08235290 WIGHTMAN FORK AT MOUTH NEAR JASPER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	.0	.0	.0	1.3	.0	.5
2	---	---	---	---	---	---	.0	.0	.0	5.2	.0	1.8
3	---	---	---	---	---	---	.0	.0	.0	1.0	.0	.3
4	---	---	---	---	---	---	.0	.0	.0	2.2	.0	.5
5	---	---	---	---	---	---	.0	.0	.0	2.7	.0	.5
6	---	---	---	---	---	---	.0	.0	.0	4.8	.0	1.3
7	---	---	---	---	---	---	.0	.0	.0	7.3	.0	2.3
8	---	---	---	---	---	---	.0	.0	.0	8.3	.0	2.7
9	---	---	---	---	---	---	.0	.0	.0	7.2	.3	2.6
10	---	---	---	---	---	---	.0	.0	.0	6.7	.3	2.4
11	---	---	---	---	---	---	.0	.0	.0	4.9	.3	1.8
12	---	---	---	---	---	---	2.3	.0	.5	8.2	.0	2.8
13	---	---	---	---	---	---	.6	.0	.1	8.6	1.0	3.2
14	---	---	---	---	---	---	3.6	.0	1.1	6.6	1.0	2.7
15	---	---	---	---	---	---	2.9	.0	.6	6.9	.6	2.6
16	---	---	---	---	---	---	.4	.0	.0	7.0	.6	2.6
17	---	---	---	---	---	---	3.5	.0	.9	7.2	.1	2.3
18	---	---	---	---	---	---	4.1	.0	1.3	7.1	.2	2.4
19	---	---	---	---	---	---	5.2	.0	1.7	6.8	.8	2.4
20	---	---	---	---	---	---	6.5	.0	1.9	6.4	.6	2.3
21	---	---	---	---	---	---	5.0	.3	1.5	6.5	.6	2.4
22	---	---	---	---	---	---	1.5	.0	.7	5.6	1.1	2.5
23	---	---	---	---	---	---	5.0	.2	2.1	5.8	1.3	2.7
24	---	---	---	---	---	---	4.6	.4	2.0	2.9	1.2	1.9
25	---	---	---	---	---	---	3.1	.0	1.1	4.1	.7	2.1
26	---	---	---	---	---	---	7.1	.0	2.4	5.3	1.2	2.8
27	---	---	---	---	---	---	7.1	.1	2.6	4.4	1.1	2.5
28	---	---	---	---	---	---	3.3	.3	1.6	7.6	1.1	3.0
29	---	---	---	---	---	---	6.9	.5	2.7	6.5	1.3	2.8
30	---	---	---	---	---	---	1.7	.0	.5	6.7	1.2	2.8
31	---	---	---	---	---	---	---	---	---	6.7	1.4	2.9
MONTH	---	---	---	---	---	---	7.1	.0	.8	8.6	.0	2.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.1	1.1	2.9	16.6	6.7	10.9	12.5	8.4	10.4	11.6	7.5	9.6
2	4.2	1.1	2.5	12.6	6.5	9.2	13.1	8.3	10.3	12.8	7.4	9.5
3	7.4	1.2	3.2	15.6	6.4	10.4	12.0	8.3	10.1	12.1	6.6	8.8
4	6.6	1.1	2.9	14.1	8.1	10.8	11.5	8.9	10.1	12.2	4.2	7.8
5	5.8	.3	2.0	15.9	7.2	10.8	13.2	8.9	10.6	12.6	4.6	8.2
6	7.9	.8	3.3	17.8	8.1	12.2	14.0	8.7	10.8	12.3	4.9	8.3
7	8.5	1.3	3.7	12.4	7.9	10.3	14.9	7.0	10.7	12.8	5.6	8.9
8	8.7	1.5	4.1	14.9	8.8	11.3	14.4	6.5	10.3	12.5	5.1	8.7
9	8.9	1.6	4.4	11.8	9.2	10.5	13.1	8.6	10.7	12.9	5.2	8.7
10	9.0	1.6	4.5	15.2	6.8	10.5	12.1	8.7	10.3	12.0	6.7	9.1
11	9.7	1.6	4.8	12.3	8.5	10.3	14.4	9.0	10.9	11.9	5.2	7.9
12	8.9	2.4	5.0	13.4	6.8	10.2	14.7	5.8	10.0	11.4	4.0	7.4
13	9.6	2.4	5.4	13.5	7.3	10.4	15.4	5.9	10.2	11.9	4.5	7.9
14	8.1	3.4	5.3	13.3	7.3	10.4	12.6	6.8	9.7	10.7	4.9	7.5
15	8.8	3.1	5.6	13.6	8.9	11.2	11.2	8.3	9.7	8.6	4.9	6.6
16	8.7	3.6	5.7	15.2	8.0	11.0	13.1	6.8	9.8	9.2	3.6	6.1
17	10.8	3.6	6.1	13.9	9.5	11.4	15.3	7.2	10.8	9.1	4.1	6.8
18	10.0	3.3	6.5	12.6	9.4	10.7	13.6	7.8	10.3	9.3	4.4	6.5
19	10.2	3.7	6.7	14.5	8.7	10.9	14.0	8.2	10.6	8.0	3.5	5.3
20	9.2	4.2	6.7	14.7	7.4	10.7	13.4	8.1	10.3	9.5	3.3	6.0
21	9.5	4.6	6.9	14.9	7.2	10.6	15.3	8.1	10.9	8.9	2.2	5.4
22	11.4	4.5	7.4	13.1	8.5	10.8	13.5	7.5	10.2	9.3	2.1	5.5
23	13.5	3.6	7.9	14.3	8.1	10.8	15.1	8.0	10.8	8.2	5.4	6.7
24	11.7	4.9	7.9	16.7	8.4	11.4	13.1	7.4	9.7	8.4	3.8	6.1
25	13.7	4.7	8.6	16.2	8.5	12.1	12.9	6.7	8.6	10.9	3.6	6.8
26	14.2	5.1	9.0	15.0	8.6	11.3	12.4	6.9	9.3	10.9	3.8	7.0
27	14.9	6.1	9.7	13.3	9.0	11.2	12.3	7.3	9.7	9.7	4.0	6.3
28	14.6	5.0	9.1	13.3	8.8	11.1	12.4	8.3	10.1	6.9	1.1	3.7
29	14.8	4.6	9.1	13.5	6.4	10.1	14.4	9.0	11.3	7.8	.0	3.3
30	15.6	5.2	9.8	16.6	7.9	11.5	14.7	9.1	11.6	8.3	1.2	4.3
31	---	---	---	13.9	8.0	11.1	14.2	8.0	10.8	---	---	---
MONTH	15.6	.3	5.9	17.8	6.4	10.8	15.4	5.8	10.3	12.9	.0	7.0

08235350 ALAMOSA RIVER ABOVE JASPER, CO

LOCATION.--Lat 37°25'03", long 106°29'30", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/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 ft<sup>3</sup>/s, June 1, 1997; gage height, 5.75 ft, from rating curve extended above 580 ft<sup>3</sup>/s; minimum daily, 11 ft<sup>3</sup>/s, Aug. 19-20, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 889 ft<sup>3</sup>/s, June 1; gage height, 5.47 ft, from rating curve extended above 580 ft<sup>3</sup>/s; minimum daily, 17 ft<sup>3</sup>/s, Oct. 15-17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	25	---	---	---	---	36	67	552	256	97	79
2	32	25	---	---	---	---	34	60	500	221	95	102
3	28	22	---	---	---	---	33	57	464	208	127	115
4	27	e21	---	---	---	---	e30	54	478	199	180	86
5	22	e20	---	---	---	---	e32	50	392	182	143	77
6	21	---	---	---	---	---	e31	48	359	170	138	70
7	26	---	---	---	---	---	e30	53	410	172	126	65
8	24	---	---	---	---	---	30	76	497	165	102	59
9	22	---	---	---	---	---	29	107	536	141	96	55
10	21	---	---	---	---	---	28	113	508	128	116	51
11	19	---	---	---	---	---	28	105	501	125	122	48
12	19	---	---	---	---	---	34	103	487	113	98	53
13	18	---	---	---	---	---	41	133	467	106	83	43
14	18	---	---	---	---	---	37	176	464	100	81	43
15	17	---	---	---	---	---	36	187	446	103	228	73
16	17	---	---	---	---	---	35	196	435	96	144	61
17	17	---	---	---	---	---	35	207	426	90	119	52
18	18	---	---	---	---	---	36	237	430	98	107	78
19	19	---	---	---	---	---	41	333	430	111	102	81
20	22	---	---	---	---	---	55	376	411	102	96	67
21	21	---	---	---	---	---	67	401	420	115	91	57
22	21	---	---	---	---	---	57	446	417	124	92	51
23	25	---	---	---	---	---	52	443	390	165	83	62
24	24	---	---	---	---	---	55	396	391	135	111	54
25	26	---	---	---	---	---	60	290	384	119	103	49
26	27	---	---	---	---	---	56	270	370	121	98	45
27	31	---	---	---	---	---	63	279	385	127	112	41
28	26	---	---	---	---	---	74	351	333	110	110	37
29	26	---	---	---	---	---	68	472	283	119	102	36
30	29	---	---	---	---	---	75	511	263	106	92	35
31	27	---	---	---	---	---	---	511	---	89	82	---
TOTAL	717	---	---	---	---	---	1318	7108	12829	4216	3476	1825
MEAN	23.1	---	---	---	---	---	43.9	229	428	136	112	60.8
MAX	32	---	---	---	---	---	75	511	552	256	228	115
MIN	17	---	---	---	---	---	28	48	263	89	81	35
AC-FT	1420	---	---	---	---	---	2610	14100	25450	8360	6890	3620

e Estimated

08235700 ALAMOSA RIVER BELOW CASTLEMAN GULCH NEAR JASPER, CO

LOCATION.--Lat 37°24'10", long 106°27'00", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/s, June 1, 1997; gage height, 5.96 ft, from rating curve extended above 1,200 ft<sup>3</sup>/s; minimum daily, 12 ft<sup>3</sup>/s, Aug. 19-20, 1996, Sept. 27-28 (estimated days), 1998.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 889 ft<sup>3</sup>/s, June 1; gage height, 5.46 ft; minimum daily, 20 ft<sup>3</sup>/s (estimated), Oct. 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	31	---	---	---	---	---	77	648	289	99	103
2	32	31	---	---	---	---	34	72	585	249	96	134
3	31	26	---	---	---	---	34	70	537	225	126	153
4	28	25	---	---	---	---	32	64	541	216	205	110
5	e24	23	---	---	---	---	34	58	461	194	189	95
6	e23	---	---	---	---	---	33	56	425	178	181	87
7	25	---	---	---	---	---	33	63	489	172	170	79
8	26	---	---	---	---	---	33	90	561	173	142	68
9	24	---	---	---	---	---	31	129	595	152	133	60
10	23	---	---	---	---	---	29	136	588	137	159	56
11	e23	---	---	---	---	---	31	124	574	132	165	e52
12	e22	---	---	---	---	---	38	116	554	120	136	e59
13	e22	---	---	---	---	---	48	150	536	112	115	e49
14	e21	---	---	---	---	---	43	206	556	105	112	e48
15	e20	---	---	---	---	---	41	219	542	106	282	e78
16	21	---	---	---	---	---	39	225	542	97	201	e68
17	e21	---	---	---	---	---	39	233	529	96	160	55
18	e22	---	---	---	---	---	40	270	531	107	150	83
19	22	---	---	---	---	---	45	357	527	123	148	90
20	25	---	---	---	---	---	57	443	503	110	134	74
21	25	---	---	---	---	---	72	491	508	118	128	63
22	24	---	---	---	---	---	65	516	508	140	129	54
23	27	---	---	---	---	---	60	525	473	184	113	68
24	27	---	---	---	---	---	63	492	464	166	137	60
25	30	---	---	---	---	---	68	381	454	138	140	53
26	33	---	---	---	---	---	63	351	429	131	131	48
27	37	---	---	---	---	---	69	360	430	155	143	46
28	32	---	---	---	---	---	80	430	385	124	156	43
29	30	---	---	---	---	---	76	559	327	133	141	42
30	34	---	---	---	---	---	86	627	299	117	130	41
31	33	---	---	---	---	---	---	639	---	92	113	---
TOTAL	814	---	---	---	---	---	---	8529	15101	4591	4564	2119
MEAN	26.3	---	---	---	---	---	---	275	503	148	147	70.6
MAX	37	---	---	---	---	---	---	639	648	289	282	153
MIN	20	---	---	---	---	---	---	56	299	92	96	41
AC-FT	1610	---	---	---	---	---	---	16920	29950	9110	9050	4200

e Estimated



08236500 ALAMOSA RIVER BELOW TERRACE RESERVOIR, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	290	286	289
2	---	---	---	---	---	---	318	312	314	289	285	286
3	---	---	---	---	---	---	312	311	312	286	283	285
4	---	---	---	---	---	---	312	310	311	285	276	282
5	---	---	---	---	---	---	312	309	311	281	278	280
6	---	---	---	---	---	---	311	309	310	279	271	276
7	---	---	---	---	---	---	311	309	310	278	271	276
8	---	---	---	---	---	---	310	309	309	276	273	274
9	---	---	---	---	---	---	310	308	309	274	271	273
10	---	---	---	---	---	---	310	308	308	272	270	271
11	---	---	---	---	---	---	309	307	308	270	267	268
12	---	---	---	---	---	---	309	307	308	268	261	265
13	---	---	---	---	---	---	308	304	307	263	258	261
14	---	---	---	---	---	---	311	306	308	262	254	258
15	---	---	---	---	---	---	311	308	310	260	257	259
16	---	---	---	---	---	---	309	308	309	258	231	241
17	---	---	---	---	---	---	309	307	308	243	221	228
18	---	---	---	---	---	---	309	308	308	227	205	222
19	---	---	---	---	---	---	308	307	308	208	181	199
20	---	---	---	---	---	---	307	305	306	203	164	180
21	---	---	---	---	---	---	306	304	305	177	158	169
22	---	---	---	---	---	---	304	303	304	174	145	162
23	---	---	---	---	---	---	304	302	304	170	145	158
24	---	---	---	---	---	---	304	301	303	167	141	153
25	---	---	---	---	---	---	302	300	301	145	136	140
26	---	---	---	---	---	---	301	295	298	147	139	144
27	---	---	---	---	---	---	295	292	294	151	145	148
28	---	---	---	---	---	---	294	291	293	162	151	155
29	---	---	---	---	---	---	291	289	290	168	159	163
30	---	---	---	---	---	---	290	284	289	163	137	156
31	---	---	---	---	---	---	---	---	---	150	133	145
MONTH	---	---	---	---	---	---	---	---	---	290	133	221
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	145	130	139	107	106	107	183	182	182	199	198	199
2	140	130	134	108	107	108	184	181	182	206	198	199
3	137	132	134	110	108	109	192	184	188	212	206	210
4	136	127	133	112	110	111	197	188	194	209	204	207
5	135	127	131	115	112	113	193	181	190	204	198	199
6	132	128	130	117	114	115	183	180	181	199	195	197
7	135	132	134	117	114	116	185	181	182	204	198	202
8	137	134	136	122	116	120	184	182	183	210	202	207
9	136	129	134	123	121	122	184	183	184	209	206	207
10	133	123	128	124	123	124	187	184	184	217	206	212
11	128	116	123	127	124	126	191	187	189	220	213	216
12	122	115	119	129	127	128	190	188	188	217	213	216
13	119	112	115	133	129	131	189	188	188	218	217	217
14	117	114	116	135	132	134	190	187	189	217	212	215
15	117	111	114	139	135	137	193	188	190	221	210	214
16	115	112	114	141	138	139	199	180	192	233	221	226
17	114	113	113	143	139	141	183	178	181	222	220	221
18	114	111	112	150	142	146	187	129	183	226	221	224
19	114	112	113	154	147	150	188	186	187	234	223	228
20	114	112	113	154	147	151	189	187	188	232	227	229
21	114	111	112	156	151	154	190	188	189	227	223	224
22	113	109	111	164	153	159	199	190	194	226	224	225
23	111	108	109	168	160	163	196	192	193	230	226	229
24	109	107	108	170	162	167	201	191	198	235	228	230
25	109	108	108	171	167	169	199	195	197	238	234	235
26	109	107	108	170	167	169	198	197	197	238	234	236
27	108	105	107	170	168	169	201	198	199	236	234	235
28	108	106	107	180	170	176	202	199	201	242	232	233
29	108	104	106	176	171	174	202	197	199	244	240	242
30	107	104	106	193	175	181	199	198	199	244	242	243
31	---	---	---	185	180	183	199	198	199	---	---	---
MONTH	145	104	119	193	106	142	202	129	190	244	195	219

RIO GRANDE RIVER BASIN

08236500 ALAMOSA RIVER BELOW TERRACE RESERVOIR, CO--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
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	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	7.0	6.9	7.0
2	---	---	---	---	---	---	---	---	---	7.1	7.0	7.0
3	---	---	---	---	---	---	---	---	---	7.1	7.0	7.0
4	---	---	---	---	---	---	---	---	---	7.2	7.0	7.1
5	---	---	---	---	---	---	---	---	---	7.2	7.0	7.1
6	---	---	---	---	---	---	---	---	---	7.2	7.0	7.1
7	---	---	---	---	---	---	---	---	---	7.3	7.0	7.2
8	---	---	---	---	---	---	---	---	---	7.2	7.1	7.1
9	---	---	---	---	---	---	---	---	---	7.1	7.0	7.1
10	---	---	---	---	---	---	---	---	---	7.2	7.1	7.1
11	---	---	---	---	---	---	---	---	---	7.2	7.1	7.1
12	---	---	---	---	---	---	---	---	---	7.3	7.1	7.2
13	---	---	---	---	---	---	---	---	---	7.3	7.2	7.2
14	---	---	---	---	---	---	---	---	---	7.3	7.2	7.3
15	---	---	---	---	---	---	7.0	6.8	6.9	7.3	7.2	7.3
16	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.2	7.3
17	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.3	7.3
18	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.3	7.3
19	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.3	7.3
20	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.2	7.3
21	---	---	---	---	---	---	7.0	6.9	6.9	7.2	7.2	7.2
22	---	---	---	---	---	---	7.0	6.9	6.9	7.2	7.2	7.2
23	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.2	7.2
24	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.2	7.3
25	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.3	7.3
26	---	---	---	---	---	---	7.0	6.9	6.9	7.3	7.2	7.3
27	---	---	---	---	---	---	7.0	6.9	6.9	7.2	7.1	7.2
28	---	---	---	---	---	---	7.0	6.9	7.0	7.2	7.0	7.1
29	---	---	---	---	---	---	7.0	6.9	7.0	7.1	7.0	7.0
30	---	---	---	---	---	---	7.0	6.9	7.0	7.0	7.0	7.0
31	---	---	---	---	---	---	---	---	---	7.0	7.0	7.0
MONTH	---	---	---	---	---	---	---	---	---	7.3	6.9	7.2



## RIO GRANDE RIVER BASIN

08236500 ALAMOSA RIVER BELOW TERRACE RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	5.8	4.8	5.5
2	---	---	---	---	---	---	5.0	3.5	3.9	6.7	5.3	5.7
3	---	---	---	---	---	---	5.3	3.3	4.0	6.3	5.3	5.6
4	---	---	---	---	---	---	4.5	3.5	3.7	6.6	5.3	5.7
5	---	---	---	---	---	---	5.5	3.1	3.9	6.3	5.1	5.5
6	---	---	---	---	---	---	5.6	3.3	4.1	6.6	4.9	5.5
7	---	---	---	---	---	---	5.9	3.6	4.3	6.8	4.8	5.6
8	---	---	---	---	---	---	5.9	3.4	4.3	7.0	5.3	6.0
9	---	---	---	---	---	---	5.7	3.4	4.2	6.5	5.5	5.9
10	---	---	---	---	---	---	5.6	3.3	4.1	6.5	5.7	6.0
11	---	---	---	---	---	---	6.0	3.4	4.3	7.1	6.1	6.4
12	---	---	---	---	---	---	6.2	3.7	4.6	7.2	6.0	6.5
13	---	---	---	---	---	---	5.2	4.0	4.4	7.2	6.1	6.6
14	---	---	---	---	---	---	5.8	4.1	4.6	7.1	6.2	6.7
15	---	---	---	---	---	---	5.9	3.8	4.5	7.8	6.9	7.3
16	---	---	---	---	---	---	5.1	3.6	4.2	7.4	6.7	7.1
17	---	---	---	---	---	---	5.8	3.6	4.4	7.4	6.7	7.0
18	---	---	---	---	---	---	6.0	4.0	4.7	7.4	6.6	7.0
19	---	---	---	---	---	---	6.4	4.3	5.0	7.1	6.2	6.6
20	---	---	---	---	---	---	6.4	4.4	5.2	7.0	6.1	6.4
21	---	---	---	---	---	---	6.4	4.8	5.3	6.7	6.1	6.3
22	---	---	---	---	---	---	5.9	5.0	5.3	6.8	6.0	6.3
23	---	---	---	---	---	---	6.4	5.0	5.4	6.9	6.0	6.4
24	---	---	---	---	---	---	6.1	5.0	5.3	6.9	6.1	6.5
25	---	---	---	---	---	---	6.2	4.9	5.3	6.4	5.9	6.1
26	---	---	---	---	---	---	6.2	5.0	5.5	6.2	5.8	6.0
27	---	---	---	---	---	---	6.7	5.2	5.7	6.4	5.8	6.1
28	---	---	---	---	---	---	6.0	5.3	5.6	6.7	6.0	6.2
29	---	---	---	---	---	---	6.5	5.4	5.8	6.8	6.1	6.4
30	---	---	---	---	---	---	6.0	4.7	5.6	6.8	5.9	6.4
31	---	---	---	---	---	---	---	---	---	6.6	5.9	6.3
MONTH	---	---	---	---	---	---	---	---	---	7.8	4.8	6.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	6.8	6.0	6.4	10.3	9.4	9.8	14.5	13.2	13.6	13.8	12.9	13.2
2	6.8	6.0	6.4	10.5	9.7	10.0	14.3	13.2	13.6	14.1	12.8	13.3
3	6.9	6.1	6.4	10.9	10.0	10.3	14.0	13.3	13.6	13.7	12.6	12.9
4	6.8	6.1	6.4	11.1	10.2	10.5	14.2	13.4	13.6	13.7	12.4	12.9
5	6.8	6.1	6.5	11.2	10.3	10.7	14.4	13.3	13.6	13.5	12.2	12.7
6	6.9	6.2	6.6	11.4	10.5	10.9	13.8	13.1	13.4	13.6	12.2	12.7
7	7.0	6.4	6.7	11.5	10.6	10.9	14.4	13.0	13.4	13.7	12.4	12.9
8	7.0	6.5	6.7	11.9	10.9	11.1	14.4	12.8	13.4	13.7	12.2	12.8
9	7.0	6.3	6.7	11.5	11.0	11.2	14.4	13.0	13.4	13.6	12.2	12.8
10	7.3	6.5	6.9	12.0	11.0	11.4	13.9	13.0	13.3	13.6	12.5	12.9
11	7.4	6.6	7.0	12.2	11.3	11.6	14.2	12.9	13.3	13.7	12.4	12.8
12	7.4	6.7	7.1	12.5	11.4	11.8	14.2	12.6	13.2	13.8	12.4	12.8
13	7.6	7.0	7.3	12.7	11.5	11.9	14.1	12.5	13.1	13.5	12.1	12.6
14	7.8	7.2	7.5	12.8	11.7	12.1	14.0	12.6	13.2	13.3	12.2	12.6
15	8.0	7.5	7.7	12.9	11.9	12.2	14.0	13.0	13.3	13.4	12.2	12.6
16	8.0	7.3	7.7	13.1	12.0	12.3	13.9	12.7	13.2	13.3	11.8	12.3
17	8.1	7.6	7.8	13.2	12.2	12.5	13.8	12.8	13.1	12.4	11.4	11.9
18	8.2	7.6	7.9	13.1	12.3	12.6	13.9	7.7	13.1	12.9	11.5	11.9
19	8.3	7.6	7.9	13.4	12.4	12.7	13.9	13.0	13.3	12.4	11.0	11.8
20	8.4	7.9	8.1	13.4	12.4	12.8	13.8	13.1	13.3	12.0	10.8	11.2
21	8.6	8.1	8.3	13.6	12.5	12.9	14.4	13.1	13.4	12.0	10.5	11.0
22	8.7	8.2	8.4	13.6	12.7	13.0	14.3	12.9	13.3	12.0	10.6	11.1
23	8.8	8.3	8.5	13.6	12.8	13.1	14.3	13.1	13.4	11.6	10.9	11.2
24	8.9	8.3	8.6	13.9	13.0	13.2	14.3	12.9	13.3	12.1	10.8	11.2
25	9.2	8.6	8.8	13.9	13.0	13.3	14.3	12.7	13.3	12.2	10.7	11.2
26	9.2	8.7	9.0	14.1	13.0	13.3	14.1	12.6	13.1	12.1	10.6	11.2
27	9.4	8.9	9.1	14.3	13.0	13.4	14.1	12.7	13.2	11.9	10.6	11.0
28	9.6	9.0	9.3	14.3	13.1	13.5	13.7	12.9	13.2	11.8	10.3	10.8
29	9.8	9.2	9.5	14.2	13.2	13.5	13.9	13.0	13.2	11.9	10.1	10.7
30	10.1	9.3	9.6	14.4	13.3	13.7	14.2	12.9	13.3	11.6	9.9	10.5
31	---	---	---	14.2	13.2	13.5	14.0	12.8	13.2	---	---	---
MONTH	10.1	6.0	7.7	14.4	9.4	12.1	14.5	7.7	13.3	14.1	9.9	12.1



08242500 UTE CREEK NEAR FORT GARLAND, CO

LOCATION.--Lat 37°26'50", long 105°25'30", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank 2,300 ft upstream from Newton ditch, 1.4 mi north of Fort Garland, and 5.7 mi upstream from mouth.

DRAINAGE AREA.--32 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--March to October 1916, May 1923 to September 1981, October 1998 to September 1999. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Datum of gage is 8,045 ft, from topographic map. Mar. 18 to Oct. 9, 1916, nonrecording gage and Cippoletti weir at different datum.

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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	e7.0	e4.4	e4.4	e6.8	8.8	20	68	53	31	17
2	14	16	e7.0	e4.3	e4.3	e7.0	7.4	21	68	51	41	16
3	11	14	e6.0	e4.2	e4.4	e6.8	5.0	27	67	47	37	16
4	11	13	e6.0	e4.4	e4.3	6.9	8.3	23	68	48	54	15
5	12	12	e6.0	e4.8	e4.5	6.6	9.8	20	63	43	60	13
6	11	13	e5.0	e4.8	e4.3	6.6	9.9	27	53	39	72	13
7	11	12	e5.0	e5.4	e4.8	6.6	9.7	20	55	42	53	15
8	11	12	e3.0	e5.0	e5.2	e6.6	9.7	18	63	90	38	13
9	11	11	e3.5	e5.0	e5.4	e5.7	9.0	27	68	76	32	12
10	12	e10	e3.4	e5.2	e5.0	6.5	7.5	32	73	34	31	12
11	12	e10	e3.3	e5.2	e4.5	6.4	7.0	32	68	28	41	11
12	12	e11	e3.5	e5.4	e4.5	e5.9	6.9	29	66	23	30	12
13	11	e11	e3.5	e5.0	e5.0	e5.7	8.3	28	67	16	26	11
14	10	e11	e3.5	e5.0	e5.2	e5.7	9.7	45	75	17	24	12
15	9.9	e10	e3.5	e5.4	e5.4	6.8	8.3	52	77	35	34	18
16	9.9	e10	e3.7	e5.4	e5.2	7.2	7.8	52	75	27	29	19
17	11	e9.0	e3.7	e5.6	e5.8	7.2	9.1	50	97	34	29	16
18	10	e9.0	e4.0	e5.6	e5.8	6.9	8.8	45	90	28	29	15
19	10	e8.0	e5.0	e5.8	e5.8	7.1	9.1	47	91	31	74	15
20	11	e8.0	e5.0	e5.6	e5.6	7.3	10	53	75	25	47	15
21	11	e8.0	e4.5	e5.2	e5.6	7.9	12	63	73	28	41	14
22	11	e8.4	e4.0	e5.0	e5.8	8.3	13	73	78	24	38	14
23	11	e8.0	e4.5	e4.7	e5.8	8.4	12	75	78	31	31	13
24	11	e8.4	e4.4	e5.0	e7.0	8.6	13	80	81	34	27	13
25	11	e8.4	e4.5	e4.8	e6.8	8.3	14	75	80	34	24	12
26	23	e7.8	e4.8	e4.8	e7.0	9.4	13	69	71	26	23	11
27	20	e7.6	e5.0	e4.5	e6.8	9.6	14	61	71	26	24	10
28	18	e7.8	e4.9	e4.3	e6.8	8.5	16	59	67	37	21	10
29	16	e8.0	e5.0	e4.5	---	8.1	16	68	57	31	19	11
30	16	e7.0	e4.9	e4.7	---	8.9	19	66	53	25	20	11
31	16	---	e4.5	e4.5	---	9.2	---	68	---	23	17	---
TOTAL	386.8	305.4	141.6	153.5	151.0	227.5	312.1	1425	2136	1106	1097	405
MEAN	12.5	10.2	4.57	4.95	5.39	7.34	10.4	46.0	71.2	35.7	35.4	13.5
MAX	23	16	7.0	5.8	7.0	9.6	19	80	97	90	74	19
MIN	9.9	7.0	3.0	4.2	4.3	5.7	5.0	18	53	16	17	10
AC-FT	767	606	281	304	300	451	619	2830	4240	2190	2180	803

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1999, BY WATER YEAR (WY)

MEAN	10.1	7.78	5.16	4.61	5.03	7.33	22.0	54.5	56.9	30.1	20.8	12.9
MAX	34.8	25.3	10.5	9.50	10.0	12.6	66.9	220	150	97.0	65.5	45.7
(WY)	1924	1924	1971	1962	1962	1960	1932	1941	1941	1941	1936	1929
MIN	.91	.78	.50	1.60	2.00	3.16	4.69	8.57	5.87	1.01	2.13	.070
(WY)	1957	1952	1957	1957	1956	1957	1955	1950	1963	1956	1956	1956

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1923 - 1999

ANNUAL TOTAL	7846.9											
ANNUAL MEAN	21.5									19.8		
HIGHEST ANNUAL MEAN										50.2		1941
LOWEST ANNUAL MEAN										5.12		1956
HIGHEST DAILY MEAN										630		May 15 1941
LOWEST DAILY MEAN	e3.0									.00		Jul 28 1956
ANNUAL SEVEN-DAY MINIMUM	3.4									.00		Sep 6 1956
INSTANTANEOUS PEAK FLOW	163									630		May 15 1941
INSTANTANEOUS PEAK STAGE	2.89											
ANNUAL RUNOFF (AC-FT)	15560									14360		
10 PERCENT EXCEEDS	64									53		
50 PERCENT EXCEEDS	11									8.8		
90 PERCENT EXCEEDS	4.8									4.0		

e Estimated

RIO GRANDE BASIN

08245000 CONEJOS RIVER BELOW PLATORO RESERVOIR, CO

LOCATION.--Lat 37°21'18", long 106°32'37", Conejos County, Hydrologic Unit 13010005, on left bank 1,100 ft downstream from valvehouse for Platoro Reservoir and 0.7 mi northwest of Platoro.

DRAINAGE AREA.--40 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--May 1952 to current year.

GAGE.--Water-stage recorder with satellite telemetry, and concrete control. Datum of gage is 9,866.60 ft above sea level, (levels by U.S. Bureau of Reclamation).

REMARKS.--Records good except for estimated daily discharges, which are fair. No diversion upstream from station. Flow completely regulated by Platoro Reservoir (station 08244500).

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	e7.3	e7.3	e7.3	e7.1	e7.0	42	e48	160	386	133	101
2	26	e7.3	e7.3	e7.2	e7.1	e7.0	42	48	162	369	136	129
3	26	e7.3	e7.3	e7.2	e7.1	e7.0	42	48	139	329	117	159
4	26	e7.3	e7.3	e7.2	e7.1	e7.0	42	48	125	296	119	193
5	26	e7.3	e7.3	e7.2	e7.1	e7.0	42	35	99	289	182	178
6	26	e7.3	e7.3	e7.2	e7.1	e7.0	27	29	160	306	189	162
7	34	e7.3	e7.3	e7.2	e7.1	e7.0	24	35	192	283	197	149
8	43	e7.3	e7.3	e7.2	e7.1	e7.0	31	45	223	280	178	147
9	38	e7.3	e7.3	e7.2	e7.1	e7.0	31	43	359	308	130	163
10	32	e7.3	e7.3	e7.2	e7.1	e7.0	31	63	475	244	70	169
11	41	e7.3	e7.3	e7.2	e7.1	e7.0	32	76	571	198	44	189
12	45	e7.3	e7.3	e7.2	e7.1	e7.0	40	53	611	238	44	187
13	45	e7.3	e7.3	e7.2	e7.1	e7.0	35	58	619	263	40	190
14	45	e7.3	e7.3	e7.2	e7.1	e7.0	35	75	621	231	38	203
15	49	e7.3	e7.3	e7.2	e7.1	e7.0	46	149	627	253	39	202
16	45	e7.3	e7.3	e7.2	e7.1	e7.0	30	175	540	289	39	164
17	40	e7.3	e7.3	e7.2	e7.1	e7.0	14	152	394	295	39	132
18	40	e7.3	e7.3	e7.2	e7.1	e7.0	20	145	324	272	39	110
19	46	e7.3	e7.3	e7.2	e7.1	e7.0	26	150	283	237	39	122
20	52	e7.3	e7.3	e7.2	e7.1	e7.0	34	201	267	235	39	96
21	55	e7.3	e7.3	e7.2	e7.1	e7.0	52	256	294	250	39	75
22	67	e7.3	e7.3	e7.2	e7.1	e7.0	35	274	314	281	39	69
23	87	e7.3	e7.3	e7.2	e7.1	e7.0	29	273	389	294	39	65
24	96	e7.3	e7.3	e7.2	e7.1	e7.0	42	275	603	294	39	73
25	121	e7.3	e7.3	e7.2	e7.1	e7.0	39	275	704	268	39	68
26	131	e7.3	e7.3	e7.2	e7.1	e7.0	44	129	546	229	92	63
27	94	e7.3	e7.3	e7.2	e7.1	e7.0	50	38	472	209	124	63
28	50	e7.3	e7.3	e7.2	e7.0	e7.0	49	42	474	181	151	53
29	23	e7.3	e7.3	e7.2	---	e7.0	48	44	540	198	162	40
30	e10	e7.3	e7.3	e7.1	---	e24	e48	104	473	205	162	47
31	e7.3	---	e7.3	e7.1	---	43	---	152	---	178	125	---
TOTAL	1492.3	219.0	226.3	223.1	198.7	270.0	1102	3538	11760	8188	2862	3761
MEAN	48.1	7.30	7.30	7.20	7.10	8.71	36.7	114	392	264	92.3	125
MAX	131	7.3	7.3	7.3	7.1	43	52	275	704	386	197	203
MIN	7.3	7.3	7.3	7.1	7.0	7.0	14	29	99	178	38	40
AC-FT	2960	434	449	443	394	536	2190	7020	23330	16240	5680	7460

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	40.7	62.6	10.9	11.2	12.0	10.5	52.7	239	338	220	92.1	46.9
MAX	158	406	50.0	50.0	102	27.5	252	492	609	610	429	164
(WY)	1958	1966	1986	1986	1983	1986	1995	1974	1982	1952	1952	1982
MIN	1.92	2.00	2.00	3.20	3.00	3.00	3.00	16.9	87.0	24.9	9.19	3.34
(WY)	1957	1957	1957	1991	1957	1957	1957	1958	1977	1972	1972	1956

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1952 - 1999

ANNUAL TOTAL	33467.5											
ANNUAL MEAN	91.7											
HIGHEST ANNUAL MEAN									93.9			
LOWEST ANNUAL MEAN									137			1986
HIGHEST DAILY MEAN	514				May 31		704	Jun 25	1150		Oct 28	1957
LOWEST DAILY MEAN	e7.3				Jan 1		e7.0	Feb 28	.00		Oct 16	1955
ANNUAL SEVEN-DAY MINIMUM	e7.3				Jan 1		e7.0	Feb 28	.16		Oct 15	1955
INSTANTANEOUS PEAK FLOW							723	Jun 25	1160		Nov 1	1957
INSTANTANEOUS PEAK STAGE							3.24	Jun 25	a4.02		Nov 1	1957
ANNUAL RUNOFF (AC-FT)	66380						67120		68030			
10 PERCENT EXCEEDS	295						275		320			
50 PERCENT EXCEEDS	26						39		17			
90 PERCENT EXCEEDS	7.3						7.1		6.2			

e Estimated

a Maximum gage height, 4.29 ft, Jun 15, 1958.

08246500 CONEJOS RIVER NEAR MOGOTE, CO

LOCATION.--Lat 37°03'14", long 106°11'13", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	108	64	e52	e45	89	164	365	1240	969	301	216
2	86	110	68	e50	e45	96	158	306	1310	902	318	260
3	79	94	63	e49	e48	95	140	320	1150	806	373	381
4	83	86	61	e48	e50	93	137	286	1160	773	468	364
5	78	78	64	e49	e46	83	130	253	1070	694	616	346
6	72	83	57	e49	e46	76	130	223	851	686	557	293
7	73	76	45	e49	e46	79	126	230	940	668	466	275
8	78	77	33	e48	e50	80	132	295	1110	636	429	250
9	85	60	e34	e44	e52	71	139	418	1310	618	368	253
10	80	46	e34	e44	e49	74	124	449	1540	580	324	247
11	72	72	e41	e44	e45	69	125	458	1640	466	306	261
12	79	92	e47	e44	e47	72	143	424	1710	441	245	271
13	83	82	e52	e43	e50	61	176	446	1600	478	214	259
14	83	84	e54	e40	e54	67	155	613	1680	466	195	267
15	82	88	e52	e43	e54	74	159	672	1720	424	346	315
16	87	91	e54	e44	e50	78	155	744	1670	468	350	305
17	86	90	e54	e44	e50	85	142	719	1580	480	270	237
18	84	85	e54	e44	e54	85	135	710	1400	511	246	230
19	84	75	e56	e46	e56	80	145	832	1450	490	237	222
20	95	65	e54	e44	e56	85	178	974	1270	436	221	228
21	107	63	e36	e44	e60	94	225	1090	1200	454	213	179
22	113	76	e36	e42	e58	109	261	1210	1230	457	202	166
23	127	70	e36	e40	e63	111	210	1250	1260	466	217	156
24	145	71	e37	e44	66	118	231	1340	1360	475	187	158
25	150	68	e39	e44	71	122	261	1170	1570	455	206	158
26	253	68	e44	e43	75	137	237	969	1560	414	183	142
27	266	71	e50	e40	74	135	258	704	1340	425	234	134
28	190	70	e54	e38	76	128	299	710	1310	379	276	129
29	134	74	e54	e40	---	128	283	894	1190	361	287	118
30	118	65	e56	e43	---	144	382	1080	1140	376	281	108
31	113	---	e54	e43	---	163	---	1210	---	333	272	---
TOTAL	3339	2338	1537	1379	1536	2981	5540	21364	40561	16587	9408	6928
MEAN	108	77.9	49.6	44.5	54.9	96.2	185	689	1352	535	303	231
MAX	266	110	68	52	76	163	382	1340	1720	969	616	381
MIN	72	46	33	38	45	61	124	223	851	333	183	108
AC-FT	6620	4640	3050	2740	3050	5910	10990	42380	80450	32900	18660	13740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1999, 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	1999
MEAN	117	95.3	51.8	48.0	51.8	80.3	317	1102	1298	482	210	132																																																																																					
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	1970	1977	1934	1904	1972	1956																																																																																					

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1903 - 1999
ANNUAL TOTAL	97431	113498	
ANNUAL MEAN	267	311	330
HIGHEST ANNUAL MEAN			592
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN	1640	May 30	4490
LOWEST DAILY MEAN	33	Dec 8	10
ANNUAL SEVEN-DAY MINIMUM	40	Dec 21	17
INSTANTANEOUS PEAK FLOW		1860	Jun 15
INSTANTANEOUS PEAK STAGE		5.18	Jun 15
ANNUAL RUNOFF (AC-FT)	193300	225100	239400
10 PERCENT EXCEEDS	789	971	1050
50 PERCENT EXCEEDS	113	134	98
90 PERCENT EXCEEDS	48	46	42

e Estimated  
a Present site and datum, from rating curve extended above 3100 ft<sup>3</sup>/s.  
b From floodmarks.





08249000 CONEJOS RIVER NEAR LASAUSES, CO

LOCATION.--Lat 37°18'01", long 105°44'47", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.2, and SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.10 (two channels), T.35 N., R.11 E., Conejos County, Hydrologic Unit 13010005, on left bank of main channel 125 ft downstream from bridge on State Highway 158 and on left bank of secondary channel 230 ft upstream from bridge on State Highway 158, 1.0 mi upstream from mouth, 2.1 mi north of Lasauses, and 13 mi southeast of Alamosa.

DRAINAGE AREA.--887 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1921 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1, 1966, published as "near La Sauses." Water-quality data available, April 1993 to September 1995.

REVISED RECORDS.--WSP 1312: 1934(M).

GAGE.--Two water-stage recorders with satellite telemetry. Datum of gage on main (north) channel is 7,495.02 ft above sea level, and on secondary (south) channel is 7,496.89 ft above sea level (levels by U.S. Bureau of Reclamation). Main channel: See WSP 1732 for history of changes prior to Oct. 1, 1937. South channel: Prior to Oct. 23, 1934, at bridge 230 ft downstream at datum 0.56 ft lower; Oct. 23, 1934 to May 3, 1936, at site 250 ft downstream, and May 4, 1936 to Oct. 13, 1965, at site 280 ft downstream, at datum 1.00 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 75,000 acres upstream from station.

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 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	.48	48	42	e71	e76	106	80	302	394	192	106	62	
2	.57	52	42	e67	e73	115	63	347	362	200	92	48	
3	.56	49	42	e69	e72	123	61	244	313	224	147	38	
4	8.5	e46	42	e71	e72	131	50	222	265	238	230	62	
5	9.7	e41	43	e73	91	135	49	180	243	229	e488	83	
6	1.3	e36	41	e70	81	131	47	147	227	182	590	69	
7	.26	e34	e39	e72	73	122	38	106	183	190	511	55	
8	.40	e36	37	e72	84	126	10	95	207	168	401	41	
9	.40	e43	e40	e66	87	124	7.5	139	329	132	344	35	
10	.43	e48	e41	e70	87	104	6.1	235	e487	137	303	36	
11	.47	41	e43	e71	82	113	6.5	283	e586	108	282	30	
12	.56	38	e47	e73	69	111	7.5	275	e540	72	254	29	
13	.71	42	e57	e69	65	115	9.5	227	e544	61	202	26	
14	.80	47	e61	e68	77	96	9.2	256	e480	55	159	e25	
15	.60	48	e64	e71	88	88	7.2	367	e546	55	125	e22	
16	.60	50	e65	e74	84	88	7.0	391	e660	48	240	e51	
17	.91	50	e66	e75	80	79	8.5	392	e674	41	228	e58	
18	.30	52	e69	e77	83	75	12	347	e683	68	195	e45	
19	.22	52	e70	e85	91	88	13	383	e632	168	180	e56	
20	.38	46	e72	e85	90	77	8.9	441	e609	182	154	e53	
21	.49	41	e64	e83	88	83	8.3	482	e563	180	116	e42	
22	.26	39	e62	e83	91	112	39	473	e480	168	97	e43	
23	.20	41	e64	e69	88	128	61	505	450	164	97	e46	
24	.08	43	e61	e82	84	126	54	596	446	160	107	e53	
25	.15	41	e63	e95	95	130	55	846	552	154	77	e47	
26	1.1	40	e66	e91	98	136	56	646	625	107	64	e38	
27	46	40	e67	e71	100	140	51	459	540	60	54	e32	
28	106	41	e66	e71	100	119	49	318	461	69	56	e29	
29	65	40	e67	e72	---	91	54	260	377	66	58	e30	
30	37	42	e66	e80	---	71	85	279	259	108	66	e41	
31	33	---	e67	e75	---	65	---	326	---	130	69	---	
TOTAL	317.43	1307	1736	2321	2349	3348	1013.2	10569	13717	4116	6092	1325	
MEAN	10.2	43.6	56.0	74.9	83.9	108	33.8	341	457	133	197	44.2	
MAX	106	52	72	95	100	140	85	846	683	238	590	83	
MIN	.08	34	37	66	65	65	6.1	95	183	41	54	22	
AC-FT	630	2590	3440	4600	4660	6640	2010	20960	27210	8160	12080	2630	
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1999, BY WATER YEAR (WY)													
MEAN	48.6	83.5	59.5	62.0	78.8	105	250	719	569	147	51.6	39.7	
MAX	307	424	140	146	186	261	1177	2642	1850	1132	413	425	
(WY)	1942	1976	1986	1986	1983	1989	1924	1924	1935	1957	1952	1927	
MIN	.11	8.92	16.7	24.0	29.6	24.9	1.49	1.39	.13	.027	.000	.000	
(WY)	1978	1978	1978	1964	1964	1957	1990	1972	1977	1972	1934	1976	
SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1921 - 1999													
ANNUAL TOTAL				40074.11				48210.63					
ANNUAL MEAN				110				132					
HIGHEST ANNUAL MEAN									184				
LOWEST ANNUAL MEAN									451				
HIGHEST DAILY MEAN				859	May 23				846	May 25	3820	May 15 1941	
LOWEST DAILY MEAN				.00	Sep 20				.08	Oct 24	a.00	Jun 27 1934	
ANNUAL SEVEN-DAY MINIMUM				.00	Sep 20				.25	Oct 19	b.00	Jul 21 1934	
INSTANTANEOUS PEAK FLOW										Not Determined		c3890	May 15 1941
ANNUAL RUNOFF (AC-FT)				79490				95630					
10 PERCENT EXCEEDS				287				371					
50 PERCENT EXCEEDS				72				72					
90 PERCENT EXCEEDS				.40				9.6					

e Estimated

a Also occurred Jun 28 to Jul 1, Jul 3, and Jul 21 to Sep 8, 1934, and some days during Aug 1994, Aug and Sep 1996, Sep 1998.

b Also occurred starting Aug 11, 1996, and Sep 20, 1998.

c Gage height not determined.







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 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE 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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV 17...	0915	188	322	8.0	4.5	9.6	100	31	6.3	27	4.3
FEB 18...	0930	320	218	8.1	.5	11.2	74	22	4.3	16	3.4
JUN 02...	1030	1540	231	8.0	16.5	7.2	67	20	4.4	18	3.4
SEP 15...	1100	1420	133	7.7	14.5	7.8	45	14	2.6	7.6	2.0

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)	NITRO-GEN, AM-MONIA + DIS-SOLVED (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)
NOV 17...	44	8.1	.4	26	218	<.01	.06	.02	.3	.2
FEB 18...	23	5.0	.2	29	159	<.01	.35	<.02	.3	.1
JUN 02...	39	4.3	.2	22	174	<.01	.16	<.02	.7	.3
SEP 15...	10	2.4	.1	21	99	<.01	<.05	<.02	.3	.1

DATE	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)	ALUM-INUM, DIS-SOLVED (MG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (MG/L AS SB) (01095)	ARSENIC DIS-SOLVED (MG/L AS AS) (01000)	BARIUM, DIS-SOLVED (MG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (MG/L AS BE) (01010)	CADMIUM, DIS-SOLVED (MG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (MG/L AS CR) (01030)
NOV 17...	<.05	.01	.01	1	<1	3	30	<1	<1	<1
FEB 18...	.11	.0487	.04	<1	<1	3	24	<1	<1	3
JUN 02...	.21	.061	.07	4	<1	1	26	<1	<1	<1.0
SEP 15...	.12	.051	.05	3	<1	<1	14	<1	<1	<1.0

DATE	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)	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)
NOV 17...	<1	<1	33	<1	8	2	<1	1	<1	<1
FEB 18...	<1	<1	25	<1	14	2	<1	<1	<1	1
JUN 02...	<1	1	43	<1	21	1	<1	<1	<1	1
SEP 15...	<1	<1	45	<1	12	<1	<1	<1	<1	<1

## TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO THAT ARE 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

09010000 Grand River Ditch  
 09012000 Eureka Ditch  
 09013000 Alva B. Adams Tunnel  
 09021500 Berthoud Pass Ditch  
 09022500 Moffat Water Tunnel  
 09046000 Boreas Pass Ditch  
 09047300 Vidler Tunnel  
 09050590 Harold D. Roberts Tunnel

## TO ARKANSAS RIVER BASIN

09042000 Hoosier Pass Tunnel  
 09061500 Columbine Ditch  
 09062500 Wurtz Ditch  
 09063700 Homestake Tunnel  
 09073000 Twin Lakes Tunnel  
 09077160 Charles H. Boustead Tunnel  
 09077500 Busk-Ivanhoe Tunnel  
 09115000 Larkspur Ditch

## TO RIO GRANDE RIVER BASIN

09118200 Tarbell Ditch  
 09121000 Tabor Ditch  
 09341000 Treasure Pass Ditch  
 09347000 Don LaFont Ditches 1 & 2  
 09348000 Williams Creek Squaw Pass  
 Ditch  
 09351000 Pine River-Weminuche Pass  
 Ditch  
 09351500 Weminuche Pass

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 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
PLATTE RIVER BASIN								
Lee Gulch at Littleton, CO (06709740)	Lat 39°35'47", long 105°00'57", in SW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> 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.	1980-99	8-04-99	11.04	102	a1983	16.00	444
Dutch Creek at Platte Canyon Drive, near Littleton, CO (06709910)	Lat 39°36'01", long 105°02'28", in NW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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.	1985-99	8-04-99	11.04	829	6-01-91	11.51	1,090
Littles Creek at Littleton, CO (06709995)	Lat 39°36'44", long 105°01'09", in SE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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.	1985-99	7-25-98 8-04-99	13.01 11.72	312 155	7-29-90	13.01	503
Weaver Creek near Lakewood, CO (06711305)	Lat 39°38'13", long 105°07'47", in NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> 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.	1982-99	8-04-99	11.77	151	a1985	13.93	1,010
Little Dry Creek near Arapahoe Road, CO (06711515)	Lat 39°35'38", long 104°54'23", in NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> 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). Drainage area not determined.	1985-99	7-30-99	8.19	128	a1985	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 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /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 <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> 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.	1985-99	4-30-99	11.00	356	a1985	14.28	3,470
Little Dry Creek above Englewood, CO (06711555)	Lat 39°38'57", long 104°58'42", in SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> 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 Village. Drainage area not determined. Prior to April 2, 1992, gage was located at a site 300 ft upstream from the present location.	1982-99	4-29-99	7.32	440	a1983	15.64	1,060
Harvard Gulch at Colorado Blvd., at Denver, CO (06711570)	Lat 39°40'08", long 104°56'32", in SE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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.	1979-99	5-20-99	13.06	529	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 <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> sec.26, T.4 S., R.68 W., Denver County, 200 ft, downstream from University Blvd., and 600 ft north of East Yale Ave., in Denver. REVISED RECORDS.--WDR-CO-92-1: 1989-91. Drainage area not determined.	1979-99	7-19-99	13.28	391	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 <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> 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.	1979-99	7-19-99	13.60	257	7-12-96	16.25	1,100
Sanderson Gulch tributary at Lakewood, CO (06711600)	Lat 39°41'19", long 105°04'54", in NE <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> sec.23, T.4 S., R.68 W., Jefferson County, 300 ft upstream from S. Wadsworth Blvd., 300 ft south of W. Florida Ave. in Lakewood. Drainage area is 0.38 mi <sup>2</sup> .	1969-99	8-04-99	12.88	71	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 <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> sec.21, T.4 S., R.68 W., Denver County, 200 ft south of Louisiana Ave., at Navajo St. Drainage area not determined.	1985-99	4-29-99	11.42	407	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 <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> sec.7, T.4 S., R.68 W., Denver County, 250 ft upstream from 1st Ave., in Denver. Drainage area not determined.	1985-99	9-28-99	10.93	256	8-01-91	11.91	523

## MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
PLATTE RIVER BASIN--Continued								
Dry Gulch at Denver, CO (06711770)	Lat 39°44'03", long 105°02'20", in SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> 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 Denver. Drainage area not determined.	1980-99	8-04-99	12.00	157	a1981	16.00	445
Lakewood Gulch at Denver, CO (06711780)	Lat 39°44'06", long 105°01'54", in SW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> sec.5, T.4 S., R.68 W., Denver County, 2,000 ft downstream from confluence with Dry Gulch, near intersection of Knox Ct., and West 12th Ave., in Denver. Drainage area not determined.	1980-99	8-04-99	13.55	670	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 <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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. Drainage area not determined.	1985-99	8-04-99	4.79	61	6-01-91	14.00	451
Westerly Creek at Aurora, CO (06714260)	Lat 39°44'43", long 104°52'48", in NW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> 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. Drainage area not determined.	1982-99	8-05-99	14.07	1,280	a1983	14.45	1,530
Lena Gulch at Lakewood, CO (06719560)	Lat 39°44'27", long 105°08'49", in SE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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 <sup>2</sup> .	1974-79 1986-99	6-25-99	12.06	206	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 <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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.	1985-99	8-09-99	5.87	26	7-31-97	2.58	26
Little Dry Creek at Westminster, CO (06719840)	Lat 39°49'34", long 105°02'25", in NW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> 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.	1982-99	8-09-99	11.58	431	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 1999 maximum		Period of record maximum		Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)!
			Date	Gage height (ft)	Date	Gage height (ft)						
ARKANSAS RIVER BASIN												
North Rockrimmon Creek above Delmonico Dr. at Colorado Springs, CO (07104050)	Lat 38°54'56", long 104°49'35", in SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> 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 downstream from Woodmen Road. Drainage area 1.82 mi <sup>2</sup> .	1998-99	5-25-99	4.95	414	5-25-99	4.95	414				
Big Arroyo near Thatcher, CO (07120620)	Lat 37°33'17", long 104°01'15", in NW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> 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 <sup>2</sup> .	1983-90b 1991-99	4-30-99	4.85	757	8-11-97	5.78	1,780				
Lockwood Canyon Creek near Thatcher, CO (07126390)	Lat 37°29'37", long 103°49'47", in SE <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> 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 <sup>2</sup> . (discontinued)	1983-92b 1993-99	4-30-99	7.48	439	5-22-87	c10.39	1,110				
Red Rock Canyon Creek at mouth, near Thatcher, CO (07126415)	Lat 37°30'54", long 103°43'25", in NW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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 <sup>2</sup> .	1983-90b 1991-99	4-30-99	7.47	378	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 <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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 Canyon Creek, and 21 mi southeast of Timpas. Drainage area is 424 mi <sup>2</sup> . (discontinued)	1983-92b 1993-99	4-30-99	7.75	952	7-08-92	16.22	11,800				
Bent Canyon Creek at mouth near Timpas, CO (07126480)	Lat 37°35'19", long 103°38'51", in SE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> 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 <sup>2</sup> .	1983-90b 1991-99	4-30-99	5.04	63	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 <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> 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 <sup>2</sup> .	1941-46b 1996-99	5-04-99	14.00	3,580	5-04-99	14.00	3,580				

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 1999.

## ARKANSAS RIVER BASIN

Station no	Station name	Location and drainage area	Date	Discharge (ft <sup>3</sup> /s)
07079195	East Fork Arkansas River at Highway 91 near Leadville, CO	Lat 39°17'09", long 106°16'45", in NW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , 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 <sup>2</sup> .	10-07-98	17
			11-04-98	12
			12-02-98	12
			1-09-99	12
			2-03-99	8.2
			3-10-99	13
			4-07-99	8.2
			5-05-99	8.8
			6-02-99	159
			7-07-99	129
			8-04-99	54
			9-01-99	39

## SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

## MISCELLANEOUS STATION ANALYSES

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)
06614800		MICHIGAN RIVER NEAR CAMERON PASS, CO (LAT 40 29 46N LONG 105 51 52W)							
OCT 1998					MAY				
01...	1340	.96	58	6.0	25...	1330	4.1	42	.5
NOV					JUN				
02...	1510	1.1	53	2.0	29...	1508	21	32	4.0
DEC					JUL				
01...	1315	.58	55	2.0	21...	1520	5.0	40	10.5
FEB 1999					AUG				
25...	1325	.34	54	1.5	12...	1430	2.9	47	9.0
APR					SEP				
20...	1405	.33	56	1.5	17...	1115	.99	57	5.5
06693800		MOSQUITO CREEK NEAR ALMA, CO (LAT 39 16 12N LONG 106 03 02W)							
OCT 1998					MAY				
02...	1447	12	247	4.5	07...	1413	7.2	307	4.0
NOV					25...	1154	80	163	6.0
02...	1035	9.5	265	1.0	JUN				
JAN 1999					08...	1055	88	133	5.0
26...	1300	3.9	296	.0	JUL				
FEB					20...	1350	46	151	12.5
24...	1310	4.1	303	.0	AUG				
MAR					10...	1315	36	164	11.5
16...	1400	4.2	300	1.0	SEP				
APR					14...	1340	14	221	9.5
16...	1230	7.3	315	.0					
06701970		SPRING CREEK ABOVE MOUTH NEAR SOUTH PLATTE, CO (LAT 39 23 37N LONG 105 11 01W)							
NOV 1998					JUN				
24...	1100	1.1	202	4.5	09...	1008	3.4	191	16.0
MAR 1999					JUL				
23...	1330	1.0	206	10.0	01...	1230	1.7	200	21.5
25...	1350	1.0	169	11.5	28...	1030	2.2	210	22.0
APR					SEP				
21...	1150	1.1	207	9.5	02...	1050	3.5	205	20.0
MAY									
05...	1200	5.7	173	11.5					
06706800		BUFFALO CREEK AT MOUTH AT BUFFALO CREEK, CO (LAT 39 23 27N LONG 105 16 15W)							
OCT 1998					JUN				
08...	1320	9.7	157	12.0	09...	1300	42	82	14.0
NOV					JUL				
24...	1255	6.8	160	16.0	01...	1509	27	97	21.0
MAY 1999					AUG				
05...	1435	43	90	8.5	17...	1415	26	103	17.5
19...	1315	30	89	12.5	SEP				
25...	1545	157	60	7.3	02...	1330	18	129	17.0
06708800		EAST PLUM CREEK BELOW HASKINS GULCH NEAR CASTLE ROCK, CO (LAT 39 25 28N LONG 104 54 27W)							
APR 1999					JUL				
21...	0828	16	323	8.00	15...	1050	12	329	25.0
26...	1040	38	277	9.00	AUG				
MAY					09...	1050	47	259	22.0
05...	1615	140	164	9.50	SEP				
JUN					01...	1020	12	333	21.5
01...	1050	90	181	15.0					
06709000		PLUM CREEK NEAR SEDALIA, CO (LAT 39 26 18N LONG 104 58 57W)							
OCT 1998					MAY				
06...	1025	8.4	429	10.0	12...	1655	205	165	16.0
NOV					JUN				
13...	1050	15	421	7.0	01...	1240	254	162	17.5
JAN 1999					JUL				
06...	1125	12	420	4.0	15...	1305	23	315	26.5
FEB					AUG				
24...	1425	16	430	12.0	09...	1223	68	291	25.5
MAR					SEP				
16...	1325	14	402	15.5	01...	1152	25	331	25.0
APR									
29...	1115	217	219	10.0					



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)	
06709530		PLUM CREEK AT TITAN RD NEAR LOUVIERS, CO (LAT 39 30 27N LONG 105 01 23W)								
OCT 1998					MAY					
06...	1235	6.3	449	13.5	12...	1300	224	176	12.5	
NOV					JUN					
13...	1355	14	446	10.0	01...	1515	249	189	20.5	
JAN 1999					JUL					
06...	1333	14	441	1.0	15...	1520	18	345	24.5	
FEB					AUG					
24...	1615	15	445	11.0	09...	1500	57	306	26.0	
MAR					SEP					
16...	1105	14	450	11.0	01...	1350	17	360	24.0	
APR										
29...	1350	277	256	12.0						
06710247		SOUTH PLATTE RIVER BELOW UNION AVE, AT ENGLEWOOD, CO (LAT 39 37 58N LONG 105 00 54W)								
OCT 1998					MAY					
23...	1128	64	513	12.5	20...	1405	159	386	17.0	
NOV					27...	1300	1330	298	15.0	
03...	1100	24	792	8.0	JUL					
JAN 1999					06...	1500	450	336	22.5	
11...	1550	11	1030	9.5	AUG					
FEB					02...	1425	255	335	22.5	
19...	1210	12	987	6.5	SEP					
MAR					08...	1155	36	567	20.5	
09...	1430	49	530	11.5						
06710385		BEAR CREEK ABOVE EVERGREEN, CO (LAT 39 37 58N LONG 105 19 59W)								
JAN 1999					JUN					
13...	1125	15	76	.0	25...	1133	180	43	10.5	
FEB					JUL					
23...	1055	10	89	.0	13...	1140	81	48	13.5	
MAR					AUG					
10...	1230	15	80	4.0	03...	0930	103	55	11.0	
APR					SEP					
08...	1525	17	79	10.0	09...	1245	53	57	11.5	
MAY										
19...	1255	111	68	8.0						
28...	1100	395	61	6.0						
06710605		BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO (LAT 39 39 08N LONG 105 10 23W)								
JAN 1999					JUN					
12...	1558	19	276	1.5	07...	1455	175	105	14.0	
FEB					JUL					
18...	1450	21	262	2.0	13...	1000	67	113	15.5	
18...	1610	23	248	1.5	AUG					
APR					03...	1350	85	115	17.0	
29...	1045	267	204	7.0	SEP					
MAY					09...	1510	37	134	16.0	
19...	1430	137	141	13.0						
19...	1543	137	142	13.0						
06710995		TURKEY CREEK AT MOUTH OF CANYON, NEAR MORRISON, CO (LAT 39 37 13N LONG 105 11 41W)								
JAN 1999					MAY					
12...	1447	1.5	491	.5	17...	1205	38	235	7.5	
FEB					26...	1025	101	178	8.0	
19...	0950	1.2	492	.0	JUN					
MAR					01...	1635	45	204	13.5	
10...	1425	2.5	461	2.5	AUG					
APR					03...	1145	1.2	403	16.0	
08...	1310	4.5	454	7.0	SEP					
29...	0905	173	245	3.5	09...	1115	.82	446	11.5	
30...	1040	166	243	4.0						
06712000		CHERRY CREEK NEAR FRANKTOWN, CO (LAT 39 21 21N LONG 104 45 46W)								
OCT 1998					MAY					
05...	1003	3.3	233	7.5	03...	1150	108	198	8.5	
NOV					27...	1525	72	221	16.5	
05...	1005	8.6	220	4.0	JUN					
JAN 1999					03...	1115	28	246	15.0	
08...	1357	8.5	218	.5	JUL					
FEB					14...	1105	22	246	20.0	
10...	1133	8.3	208	5.0	AUG					
MAR					11...	1325	26	237	21.5	
09...	0930	8.1	212	1.5	31...	1400	14	236	22.0	
APR										
06...	1133	12	229	7.0						

## 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)
393109104464500 CHERRY CREEK NEAR PARKER, CO (LAT 39 31 09N LONG 104 46 45W)									
OCT 1998					MAY				
05...	1212	6.0	653	14.5	03...	1500	173	260	13.5
NOV					14...	1200	36	399	17.0
05...	1245	10	518	7.5	JUN				
DEC					03...	1341	40	387	21.5
04...	1205	8.7	561	8.5	JUL				
FEB 1999					14...	1330	13	500	21.5
10...	1503	8.1	588	10.0	AUG				
MAR					11...	1550	29	390	25.0
09...	1035	13	549	6.0	31...	1120	12	470	19.5
APR									
06...	1405	18	454	14.5					
06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO (LAT 39 39 12N LONG 104 51 41W)									
NOV 1998					MAY				
06...	1015	6.9	770	9.0	13...	1400	36	742	13.5
JAN 1999					JUN				
06...	1615	23	867	2.5	03...	1610	53	719	17.5
FEB					JUL				
24...	1205	15	835	4.0	14...	1610	.12	710	27.5
MAR					AUG				
16...	1548	19	847	7.0	10...	1110	27	698	23.0
APR									
29...	1725	145	826	10.0					
06713300 CHERRY CREEK AT GLENDALE, CO (LAT 39 42 22N LONG 104 56 13W)									
OCT 1998					APR				
05...	1420	15	1190	14.5	05...	1305	39	1380	12.0
NOV					MAY				
06...	1228	14	1200	11.5	11...	1620	58	890	13.5
DEC					JUN				
03...	1425	16	1160	10.5	02...	1015	148	766	15.9
JAN 1999					JUL				
08...	1132	29	1030	3.5	13...	1140	16	1120	22.5
FEB					AUG				
11...	1620	60	1330	4.0	10...	1548	38	564	25.5
MAR					SEP				
09...	1225	11	1170	12.0	02...	1050	17	1190	20.0
06713500 CHERRY CREEK AT DENVER, CO (LAT 39 44 58N LONG 105 00 08W)									
OCT 1998					MAY				
07...	1113	33	960	13.0	11...	1033	72	910	11.0
NOV					JUN				
06...	1420	26	970	12.0	02...	1240	143	784	18.0
JAN 1999					JUL				
08...	0922	36	1100	3.5	13...	1345	24	970	26.5
FEB					AUG				
24...	1007	29	1050	7.0	10...	1341	46	934	24.0
MAR					SEP				
17...	1010	30	1050	8.5	02...	1430	27	1050	24.5
APR									
05...	1047	58	1120	8.5					
23...	1050	230	660	4.0					
27...	1020	162	900	9.0					
06714215 SOUTH PLATTE RIVER AT 64TH AVE. COMMERCE CITY, CO (LAT 39 48 44N LONG 104 57 28W)									
OCT 1998					MAY				
21...	1337	5.1	1600	15.0	03...	1405	2140	459	10.5
NOV					JUN				
03...	1620	15	1130	9.5	03...	1635	1760	333	18.0
JAN 1999					JUL				
11...	0857	138	1050	6.5	06...	1145	16	886	21.5
FEB					AUG				
22...	1530	19	1400	7.5	03...	1535	20	966	23.5
MAR					SEP				
09...	1600	22	1350	12.5	08...	1625	176	781	22.0
APR									
12...	1415	12	1030	15.5					

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)
394839104570300 SAND CREEK AT MOUTH NEAR COMMERCE CITY, CO (LAT 39 48 39N LONG 104 57 03W)									
OCT 1998					JUN				
21...	1555	18	1720	16.5	03...	1115	40	1170	18.5
NOV					24...	1155	72	1020	23.5
03...	1432	23	1440	9.5	JUL				
JAN 1999					07...	1010	32	1120	22.5
08...	1118	18	2110	4.5	16...	0900	128	530	19.0
FEB					29...	1040	176	574	22.5
22...	1230	16	1990	5.0	AUG				
MAR					02...	1535	83	942	24.5
17...	1010	12	1880	10.5	05...	1155	320	452	20.5
APR					17...	1635	205	993	24.5
12...	1230	30	1080	15.5	20...	1140	214	595	19.5
MAY					SEP				
03...	1255	77	1170	15.0	08...	1450	46	984	23.5
06714800 LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, CO (LAT 39 41 14N LONG 105 41 59W)									
OCT 1998					MAY				
06...	1035	7.4	103	.5	12...	1200	4.7	139	2.5
NOV					JUN				
16...	1035	4.2	122	1.0	01...	1145	39	76	5.0
30...	1040	3.3	128	1.0	JUL				
JAN 1999					08...	1145	58	53	7.5
15...	0905	2.3	136	.5	AUG				
FEB					25...	1025	26	79	7.0
10...	1040	2.1	145	1.0	SEP				
MAR					21...	1330	14	65	4.0
17...	1100	2.1	154	1.5					
30...	1350	2.4	155	4.0					
394308105413800 CLEAR CREEK ABOVE GEORGETOWN LAKE NEAR GEORGETOWN, CO (LAT 39 43 08N LONG 105 41 38W)									
OCT 1998					JUN				
06...	1150	36	139	4.0	01...	1305	230	120	6.0
NOV					JUL				
16...	1130	30	144	2.0	27...	0950	162	91	9.0
30...	1155	29	143	2.5	AUG				
FEB 1999					09...	1140	243	97	10.0
09...	1425	18	179	3.0	SEP				
MAR					13...	1250	77	121	7.5
09...	1110	21	198	.0					
MAY									
07...	0840	31	160	4.0					
394359105411900 CLEAR CREEK BELOW GEORGETOWN LAKE NEAR GEORGETOWN, CO (LAT 39 43 59N LONG 105 41 19W)									
OCT 1998					MAY				
06...	1300	35	132	5.0	07...	0905	26	180	1.0
NOV					JUN				
16...	1220	29	144	3.5	01...	1405	230	121	6.5
30...	1300	29	148	3.0	JUL				
JAN 1999					27...	1055	157	90	12.0
15...	1100	12	170	3.0	SEP				
FEB					13...	1330	86	120	10.0
09...	1520	15	178	4.5					
MAR									
09...	1225	14	191	3.0					
06715000 CLEAR CREEK ABOVE WEST FORK CLEAR CREEK NEAR EMPIRE, CO (LAT 39 45 07N LONG 105 39 41W)									
OCT 1998					APR				
08...	1015	58	144	5.5	20...	0925	33	225	4.0
NOV					MAY				
16...	0920	35	159	1.0	12...	1025	55	301	3.0
DEC					JUN				
01...	1025	21	168	1.5	01...	1550	230	125	1.5
14...	1425	26	173	2.0	AUG				
FEB 1999					09...	1055	252	101	12.0
09...	1615	26	195	5.5	SEP				
MAR					13...	1145	88	128	10.0
09...	1015	13	213	1.5					

## 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)
06716100 WEST FORK CLEAR CREEK ABOVE MOUTH NEAR EMPIRE, CO (LAT 39 45 32N LONG 105 39 34W)									
OCT 1998					MAY				
08...	0915	41	235	4.0	12...	1425	47	390	2.0
NOV					JUN				
16...	1350	26	216	2.0	01...	1500	255	150	4.5
DEC					JUL				
01...	1310	27	254	1.0	29...	1000	261	136	10.0
FEB 1999					AUG				
12...	0910	20	340	.0	27...	1055	107	158	10.0
MAR					SEP				
17...	1310	15	445	3.5	13...	1420	66	97	9.5
APR									
20...	1020	25	427	3.0					
06716500 CLEAR CREEK NEAR LAWSON, CO (LAT 39 45 57N LONG 105 37 32W)									
OCT 1998					APR				
08...	0750	98	181	5.0	20...	0815	47	295	2.5
NOV					MAY				
16...	0820	49	186	1.0	12...	0920	98	346	3.5
DEC					JUN				
01...	0850	42	163	1.0	15...	1120	741	96	.5
JAN 1999					JUL				
15...	1220	36	279	.5	28...	0950	338	109	11.5
FEB					AUG				
12...	1015	27	274	.0	26...	1100	209	133	11.0
MAR					SEP				
09...	0910	31	326	.5	14...	1225	153	161	9.0
06717400 CHICAGO CREEK BELOW DEVILS CANYON NEAR IDAHO SPRINGS, CO (LAT 39 42 58N LONG 105 34 15W)									
OCT 1998					APR				
08...	1115	11	60	4.0	20...	1100	2.3	83	2.5
22...	1130	3.3	65	2.5	MAY				
NOV					11...	1340	22	103	4.0
17...	1015	4.4	66	1.0	JUN				
DEC					02...	0945	126	59	4.5
01...	1150	5.2	64	.5	JUL				
14...	1545	3.8	68	.0	29...	1115	40	53	11.0
JAN 1999					AUG				
15...	1330	1.6	70	.5	27...	1210	38	56	10.5
FEB					SEP				
10...	1210	1.4	72	1.5	14...	1330	16	60	6.5
MAR									
10...	1140	1.2	75	1.5					
06718300 CLEAR CREEK ABOVE JOHNSON GULCH NEAR IDAHO SPRINGS, CO (LAT 39 44 47N LONG 105 26 08W)									
OCT 1998					MAY				
08...	1245	156	186	5.5	11...	0940	192	313	3.0
NOV					JUN				
17...	1155	71	247	1.5	18...	1050	1020	95	8.0
DEC					JUL				
14...	1230	60	304	.0	28...	1105	481	118	13.5
FEB 1999					AUG				
09...	1305	56	352	3.0	26...	1215	332	147	13.5
MAR					SEP				
09...	1335	50	383	3.5	14...	1030	211	182	8.5
APR									
20...	1210	72	313	6.5					
06718550 NORTH CLEAR CREEK ABOVE MOUTH NEAR BLACKHAWK, CO (LAT 39 44 56N LONG 105 23 57W)									
OCT 1998					APR				
07...	1300	9.7	465	8.0	20...	1330	9.4	467	9.5
NOV					MAY				
17...	1250	7.5	513	5.0	11...	1210	73	329	5.0
DEC					JUN				
14...	1310	5.2	607	2.0	02...	1320	119	143	9.0
JAN 1999					JUL				
15...	1445	3.8	548	2.0	08...	0835	26	206	12.5
FEB					AUG				
10...	1355	5.4	637	5.5	05...	0955	98	161	11.5
MAR					SEP				
10...	1340	6.5	660	7.0	21...	0930	13	312	5.5

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)
06719505 CLEAR CREEK AT GOLDEN, CO (LAT 39 45 11N LONG 105 14 05W)									
OCT 1998					MAY				
01...	1050	130	226	11.5	13...	0945	263	311	7.0
NOV					JUN				
17...	1415	71	277	3.5	22...	1000	1040	94	9.0
DEC					JUL				
14...	1100	56	324	.0	28...	1340	385	194	17.0
JAN 1999					AUG				
14...	1435	55	350	.5	25...	1350	321	161	15.0
MAR					SEP				
22...	1145	66	370	6.5	20...	1208	210	208	8.5
06720820 BIG DRY CREEK AT WESTMINSTER, CO (LAT 39 54 20N LONG 105 02 04W)									
OCT 1998					MAY				
21...	1038	3.1	1000	7.5	14...	1000	9.6	981	13.5
NOV					JUN				
05...	1448	2.2	1500	10.0	03...	1300	67	417	11.5
FEB 1999					JUL				
09...	1015	1.1	2220	4.0	06...	1100	89	460	9.5
MAR					AUG				
03...	1450	.89	1600	9.5	23...	0925	51	384	15.0
APR					SEP				
19...	1245	3.1	1590	13.5	15...	0850	39	384	13.5
30...	1115	110	540	8.5					
06720990 BIG DRY CREEK AT MOUTH NEAR FORT LUPTON, CO (LAT 40 04 09N LONG 104 49 52W)									
OCT 1998					APR				
07...	0930	48	1290	10.5	14...	1340	115	1090	10.0
NOV					JUN				
12...	0935	32	1420	4.0	09...	1445	14	831	23.0
JAN 1999					AUG				
13...	1145	28	1430	3.0	11...	1345	74	939	22.0
FEB					SEP				
10...	1210	22	1420	9.0	10...	1225	18	1090	19.0
MAR									
03...	1335	13	1620	10.0					
06725450 ST. VRAIN CREEK BELOW LONGMONT, CO (LAT 40 09 29N LONG 105 00 53W)									
OCT 1998					JUN				
06...	1220	70	924	12.5	14...	1115	420	410	14.0
NOV					JUL				
10...	1230	64	1010	6.5	06...	1305	190	320	9.0
MAR 1999					AUG				
03...	1330	35	1370	9.5	23...	1200	112	1020	19.5
31...	1155	35	1480	12.0	SEP				
APR					15...	1205	114	1070	15.5
28...	1210	78	1650	13.0					
MAY									
06...	1200	596	131	.5					
06730200 BOULDER CREEK AT NORTH 75TH STREET NEAR BOULDER, CO (LAT 40 03 06N LONG 105 10 42W)									
OCT 1998					MAY				
07...	1045	43	474	14.0	27...	0845	179	588	14.5
NOV					JUN				
12...	1045	39	532	10.5	16...	1100	506	103	10.5
JAN 1999					JUL				
14...	1245	50	695	13.0	07...	1105	217	439	18.0
FEB					AUG				
23...	1200	42	772	13.5	13...	1045	155	534	19.5
MAR					SEP				
23...	1045	35	771	15.0	15...	1450	67	660	21.0
APR									
28...	1425	133	718	13.5					

## 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)
06730400 COAL CREEK NEAR LOUISVILLE, CO (LAT 39 58 34N LONG 105 07 00W)									
OCT 1998					APR				
07...	1300	.96	1330	15.0	29...	1025	141	275	7.5
NOV					29...	1135	134	274	7.5
12...	1230	1.5	1160	10.5	29...	1230	140	263	7.5
JAN 1999					MAY				
14...	1045	1.7	1520	13.0	27...	1010	28	305	11.5
28...	1135	.99	1120	8.5	JUN				
FEB					16...	1215	23	230	12.5
23...	1020	1.4	998	13.0	JUL				
MAR					07...	0920	2.0	662	18.5
23...	1210	1.6	1240	13.5	AUG				
APR					13...	1145	13	331	17.0
28...	1325	36	340	9.0	SEP				
					15...	1320	2.2	1020	17.0
06730500 BOULDER CREEK AT MOUTH, NEAR LONGMONT, CO (LAT 40 09 08N LONG 105 00 52W)									
OCT 1998					JUN				
06...	0850	51	685	9.0	14...	1240	214	308	5.0
MAR 1999					JUL				
03...	1145	56	808	7.5	06...	1205	32	198	9.0
31...	1010	54	868	12.0	AUG				
APR					23...	1105	9.0	872	20.5
28...	1050	134	738	12.0	SEP				
MAY					15...	1105	31	764	15.5
06...	1020	371	151	.5					
06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO (LAT 40 32 24N LONG 105 52 56W)									
OCT 1998					JUN				
02...	0915	5.0	57	.0	30...	1032	79	40	4.5
NOV					JUL				
03...	0945	3.9	62	.0	21...	1330	21	46	11.0
DEC					AUG				
02...	0904	2.1	70	.0	13...	0920	10	52	6.5
APR 1999					SEP				
21...	1215	1.3	82	.5	16...	1520	.72	68	11.0
MAY									
25...	1520	24	49	.0					
06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO (LAT 40 33 43N LONG 105 52 09W)									
OCT 1998					JUN				
02...	1100	5.0	47	7.5	30...	1220	119	43	5.5
DEC					JUL				
01...	1550	2.0	48	1.0	22...	1130	28	42	7.5
FEB 1999					AUG				
26...	1035	2.2	55	1.5	13...	1048	14	42	7.5
APR					SEP				
21...	1407	2.2	64	3.0	16...	1332	52	45	10.5
MAY									
26...	1240	6.4	53	3.5					
06751150 NORTH FORK CACHE LA POUFRE RIVER BELOW HALLIGAN RESERVOIR NEAR VIRGINIA DALE, CO (LAT 40 52 42N LONG 105 20 15W)									
OCT 1998					MAR				
14...	1330	4.2	167	10.0	02...	1355	118	152	3.0
NOV					APR				
03...	1350	4.3	160	6.5	13...	1350	42	142	6.0
DEC					JUL				
08...	1300	3.5	168	3.5	13...	1524	126	110	15.5
JAN 1999					AUG				
12...	1320	51	155	3.0	10...	0855	134	124	17.5
FEB									
09...	1312	30	156	3.5					
07079195 EAST FORK ARKANSAS RIVER AT HWY 91 NEAR LEADVILLE, CO (LAT 39 17 09N LONG 106 16 45W)									
OCT 1998					APR				
07...	1215	17	182	5.0	07...	1505	8.2	207	7.5
NOV					MAY				
04...	1230	12	177	2.5	05...	1015	8.8	206	.5
DEC					JUN				
02...	1135	12	194	.5	02...	1715	159	122	8.5
JAN 1999					JUL				
06...	1320	12	193	.0	07...	1550	129	108	11.5
FEB					AUG				
03...	0820	8.2	200	.0	04...	1700	54	147	10.0
MAR					SEP				
10...	1405	13	197	2.5	01...	1535	39	151	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)
07079300 EAST FORK ARKANSAS RIVER AT US HWY 24, NEAR LEADVILLE, CO (LAT 39 16 21N LONG 106 18 21W)									
OCT 1998					APR				
07...	1230	22	263	8.5	07...	1550	13	382	11.0
NOV					MAY				
04...	1330	17	286	5.0	05...	1100	12	334	3.0
DEC					JUN				
02...	1240	17	291	3.0	03...	0735	185	138	2.0
JAN 1999					JUL				
06...	1420	11	359	3.0	07...	1655	139	129	11.5
FEB					AUG				
03...	0905	9.4	333	.0	05...	0730	74	174	8.0
MAR					SEP				
10...	1515	11	375	7.0	02...	0800	45	203	7.0
07081200 ARKANSAS RIVER NEAR LEADVILLE, CO (LAT 39 15 26N LONG 106 20 35W)									
OCT 1998					APR				
07...	1650	32	217	10.0	07...	1650	29	233	8.0
NOV					MAY				
04...	1100	26	222	2.5	05...	1400	31	205	6.0
DEC					JUN				
03...	1130	30	248	1.5	03...	0855	383	89	3.5
JAN 1999					JUL				
06...	1550	14	268	1.0	08...	0825	230	99	9.5
FEB					AUG				
03...	1030	12	248	.5	05...	0940	90	146	10.5
MAR					SEP				
10...	1630	17	268	3.0	02...	0930	69	168	9.0
07083000 HALFMOON CREEK NEAR MALTA, CO (LAT 39 10 20N LONG 106 23 19W)									
OCT 1998					APR				
06...	1645	17	87	6.5	08...	0845	3.7	94	.0
NOV					JUN				
04...	0915	6.1	88	.5	03...	1105	100	61	4.5
DEC					17...	1625	138	59	6.5
02...	1420	8.6	86	.5	JUL				
JAN 1999					08...	1000	126	53	6.5
07...	0910	4.6	94	.0	AUG				
FEB					05...	1120	56	73	9.0
02...	1455	4.2	95	.0	SEP				
MAR					02...	1040	33	81	7.5
11...	1100	3.1	93	.5					
07087050 ARKANSAS RIVER BELOW GRANITE, CO (LAT 38 59 42N LONG 106 13 11W)									
MAR 1999					JUN				
03...	1310	386	85	4.0	02...	1350	1050	121	10.0
15...	1500	286	86	5.5	17...	1405	1740	93	10.5
24...	1505	177	152	7.0	30...	1240	1910	86	13.0
APR					AUG				
07...	1135	156	156	4.0	04...	1400	679	125	15.0
MAY					SEP				
06...	1015	138	190	1.5	01...	1400	922	114	15.0
07091200 ARKANSAS RIVER NEAR NATHROP, CO (LAT 38 39 08N LONG 106 03 02W)									
OCT 1998					AUG				
08...	0900	354	191	7.5	04...	1100	1020	142	14.5
MAY 1999					SEP				
06...	1130	279	204	11.0	01...	1100	1140	125	15.5
JUN					14...	1600	508	159	13.5
01...	1525	1270	118	12.0					
JUL									
08...	1230	1420	109	14.5					
07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO (LAT 38 28 02N LONG 105 51 34W)									
NOV 1998					JUL				
12...	1550	7.1	1090	8.5	07...	1230	7.4	930	23.5
APR 1999					14...	1100	8.6	952	15.5
12...	1215	6.4	1090	14.0	AUG				
MAY					10...	1305	9.2	937	23.5
27...	1330	22	748	16.5	SEP				
					14...	1400	5.7	1020	20.5
					17...	1600	6.0	1000	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)	
		07094500 ARKANSAS RIVER AT PARKDALE, CO (LAT 38 29 14N LONG 105 22 23W)								
OCT 1998					JUL					
22...	1355	442	296	11.0	01...	1130	2780	145	16.0	
MAR 1999					15...	1000	1940	166	16.5	
17...	1525	424	235	8.5	AUG					
29...	1605	345	266	11.5	11...	0900	1480	202	16.5	
MAY					SEP					
18...	1210	478	283	15.0	14...	1000	750	286	14.5	
JUN										
22...	1155	3300	152	13.5						
		07096250 FOURMILE CREEK BELOW CRIPPLE CREEK NEAR VICTOR, CO (LAT 38 39 52N LONG 105 13 37W)								
NOV 1998					MAY					
04...	1325	8.8	372	8.5	05...	1300	141	340	7.5	
JAN 1999					JUN					
28...	1315	4.8	391	3.0	28...	1125	36	371	16.5	
FEB					AUG					
26...	1230	6.2	333	5.5	04...	1205	81	332	16.5	
MAR										
24...	1310	3.4	416	11.5						
		07099050 BEAVER CREEK ABOVE UPPER BEAVER CEMETERY NEAR PENROSE, CO (LAT 38 33 42N LONG 105 01 17W)								
OCT 1998					MAY					
21...	1510	18	90	9.0	03...	1400	219	101	12.5	
DEC					JUL					
03...	1600	9.6	94	6.5	02...	1050	71	74	16.0	
MAR 1999					15...	1140	34	80	18.5	
26...	1005	15	96	7.0						
		07099060 BEAVER CREEK ABOVE HIGHWAY 115 NEAR PENROSE, CO (LAT 38 29 21N LONG 104 59 49W)								
NOV 1998					MAY					
05...	1300	18	127	5.5	20...	1225	243	89	11.5	
MAR 1999					JUN					
26...	1400	.01	221	9.5	14...	1325	128	210	16.0	
		07099215 TURKEY CREEK NEAR FOUNTAIN, CO (LAT 38 36 42N LONG 104 53 39W)								
MAR 1999					JUN					
26...	1400	.13	221	15.0	04...	1235	12	146	12.5	
APR					10...	0935	6.8	175	10.5	
21...	1055	.39	228	13.0	JUL					
MAY					07...	1045	1.2	258	17.5	
03...	1120	70	190	6.5	AUG					
21...	1545	33	97	13.0	09...	1335	36	194	16.0	
					26...	1430	5.0	205	21.0	
		07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO (LAT 38 27 54N LONG 104 49 33W)								
JAN 1999					AUG					
15...	1405	.29	906	9.5	11...	1410	52	385	21.0	
MAY										
07...	1255	65	415	11.0						
		07099235 TURKEY CREEK NEAR STONE CITY, CO (LAT 38 26 22N LONG 104 49 34W)								
NOV 1998					MAY					
17...	1425	.32	745	12.1	07...	0940	.88	760	9.2	
					21...	1150	1.4	430	16.0	
		07103703 CAMP CREEK AT GARDEN OF THE GODS, CO (LAT 38 52 37N LONG 104 52 20W)								
APR 1999					JUL					
21...	1705	2.0	470	1.5	02...	0735	.74	260	11.5	
29...	1605	327	151	6.5	AUG					
MAY					03...	2035	2.2	291	13.5	
03...	1435	57	213	7.5						



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)	
07103797 WEST MONUMENT CREEK BELOW RAMPART RESERVOIR, CO (LAT 38 58 30N LONG 104 57 18W)										
OCT 1998					MAR					
02...	1230	3.6	71	11.0	11...	0930	4.0	70	3.0	
NOV					30...	1100	4.5	70	5.0	
05...	0900	3.7	71	7.0	JUN					
DEC					03...	1230	5.1	87	9.5	
15...	1405	3.9	68	4.0	AUG					
JAN 1999					03...	1430	7.2	74	9.0	
05...	1130	3.6	71	3.0	SEP					
FEB					01...	1435	4.3	78	10.5	
05...	0830	4.0	69	3.0						
07103800 WEST MONUMENT CREEK AT AIR FORCE ACADEMY, CO (LAT 38 58 14N LONG 104 54 08W)										
OCT 1998					APR					
06...	1025	2.7	89	6.5	30...	1320	105	72	4.5	
NOV					MAY					
17...	1455	3.8	81	4.0	19...	1220	43	65	7.5	
DEC					JUL					
16...	1310	2.6	81	1.0	08...	1115	1.7	92	13.0	
JAN 1999					AUG					
04...	1605	3.7	83	.0	04...	1120	9.2	85	14.5	
FEB					SEP					
09...	1540	4.3	81	4.0	08...	1455	1.9	93	11.5	
MAR										
30...	1540	.60	98	6.0						
07105000 BEAR CREEK NEAR COLORADO SPRINGS, CO (LAT 38 49 21N LONG 104 53 17W)										
NOV 1998					MAY					
04...	1240	2.3	90	5.0	04...	1225	27	111	7.5	
DEC					13...	1040	16	92	6.5	
08...	1335	1.7	93	.5	AUG					
JAN 1999					02...	1550	4.2	89	12.5	
05...	1535	1.8	88	1.5	SEP					
MAR					01...	1110	4.3	90	12.0	
10...	0835	1.3	89	1.0						
APR										
30...	1105	112	96	5.5						
07105490 CHEYENNE CREEK AT EVANS AVE AT COLORADO SPRINGS, CO (LAT 38 47 26N LONG 104 51 49W)										
OCT 1998					MAY					
02...	0840	5.8	87	8.5	04...	1120	112	94	7.0	
NOV					JUN					
04...	1325	4.9	114	5.0	24...	1520	15	90	15.5	
DEC					JUL					
07...	1355	3.8	110	1.0	14...	1545	5.0	115	15.0	
JAN 1999					AUG					
05...	1500	2.9	126	1.5	03...	0950	19	94	12.0	
FEB					SEP					
05...	1320	2.8	112	4.5	01...	0935	10	102	12.0	
MAR										
10...	1025	2.0	107	4.5						
07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO (LAT 38 41 04N LONG 104 41 17W)										
OCT 1998					MAY					
02...	1125	1.4	2820	17.0	06...	1050	4.5	2640	19.5	
DEC					JUN					
14...	1010	1.6	2240	5.5	03...	1255	2.5	2800	26.0	
JAN 1999					JUL					
06...	0925	1.6	2230	3.1	01...	1125	1.2	3020	21.0	
FEB					AUG					
05...	1305	1.3	2180	3.4	04...	0955	7.1	2180	17.7	
MAR					SEP					
04...	1025	1.2	2630	9.0	10...	1225	2.7	2620	25.8	
APR					22...	1600	2.4	2870	23.0	
05...	1435	1.9	2770	21.0						
23...	0955	8.3	2480	17.5						

## 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)
07105945      ROCK CREEK ABOVE FORT CARSON RESERVATION, CO (LAT 38 42 26N LONG 104 50 47W)									
OCT 1998					MAY				
02...	1335	.29	170	14.5	04...	0910	50	90	4.0
DEC					28...	1310	18	82	11.5
02...	1210	.44	139	6.0	JUL				
JAN 1999					07...	1320	1.7	154	19.5
06...	1150	.39	188	1.0	AUG				
MAR					02...	1335	4.7	141	13.5
04...	1250	.32	174	4.5					
APR									
01...	0950	.33	178	5.5					
07107900      GREENHORN CREEK NEAR RYE, CO (LAT 37 55 14N LONG 104 57 21W)									
OCT 1998					MAY				
09...	1620	3.3	83	8.5	03...	1205	22	73	6.5
DEC					24...	1425	31	48	8.5
04...	1455	3.0	81	2.5	JUN				
JAN 1999					24...	1630	12	57	12.5
25...	1445	2.7	78	1.5	JUL				
FEB					30...	1120	5.3	73	13.5
23...	1645	2.2	78	.0	AUG				
MAR					18...	1135	4.2	75	14.0
30...	1530	2.3	80	7.0	SEP				
APR					16...	1005	3.8	80	9.0
27...	1025	5.2	78	4.5					
07108100      GRANEROS CREEK NEAR RYE, CO (LAT 37 54 47N LONG 104 55 31W)									
OCT 1998					MAY				
02...	1330	.47	190	11.9	03...	1335	19	101	7.6
DEC					JUN				
04...	1320	.59	176	5.5	29...	1625	3.3	70	14.4
JAN 1999					JUL				
25...	1530	.53	134	3.3	30...	1200	.74	151	17.1
FEB					AUG				
23...	1525	.79	144	2.6	18...	1035	.55	121	15.5
MAR					SEP				
30...	1305	.51	161	11.5	16...	1040	.37	213	12.0
APR									
27...	1145	4.3	101	7.5					
07108900      ST. CHARLES RIVER AT VINELAND, CO (LAT 38 14 44N LONG 104 29 09W)									
OCT 1998					APR				
01...	0935	20	2170	13.5	05...	1430	16	1970	17.0
NOV					29...	1340	880	638	6.9
04...	1125	48	1250	11.0	MAY				
DEC					03...	1140	738	542	9.0
02...	1010	20	2120	8.0	JUN				
JAN 1999					03...	1340	119	862	20.0
06...	0920	15	2000	1.0	JUL				
FEB					08...	1430	24	1970	29.0
04...	0955	17	2010	3.0	AUG				
MAR					17...	1020	29	1740	20.5
04...	1145	11	2150	10.5	SEP				
					07...	1315	14	2420	24.8
07110400      CHICO CREEK NEAR PUEBLO CHEMICAL DEPOT, CO (LAT 38 21 40N LONG 104 23 15W)									
OCT 1998					MAY				
09...	1240	.02	1550	19.5	14...	1325	1.7	2130	23.5
NOV					28...	1235	2.8	1850	26.0
04...	1625	1.0	1600	10.0	JUN				
DEC					29...	1340	.04	2120	25.0
09...	1115	1.0	1540	1.5	JUL				
FEB 1999					22...	0900	81	954	--
17...	1315	1.9	1540	7.0	AUG				
MAR					02...	1435	112	442	22.5
26...	1610	2.0	1650	18.0					
APR									
23...	0950	21	1560	6.0					

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)
07119500 APISHAPA RIVER NEAR FOWLER, CO (LAT 38 05 28N LONG 103 58 52W)									
OCT 1998					APR				
07...	1230	23	1570	13.5	06...	1005	9.2	2390	8.5
NOV					MAY				
10...	1030	28	1630	5.0	06...	1240	174	697	11.5
DEC					JUN				
02...	1255	5.4	2970	12.0	02...	1410	45	950	22.5
JAN 1999					JUL				
05...	0945	4.1	3020	4.5	14...	1105	16	1830	22.0
FEB					AUG				
03...	1030	3.6	3060	7.4	16...	1135	31	1260	21.9
MAR					SEP				
03...	1145	3.1	3060	7.6	08...	0935	11	2140	17.0
07121500 TIMPAS CREEK AT MOUTH NEAR SWINK, CO (LAT 38 00 11N LONG 103 39 20W)									
OCT 1998					APR				
07...	1440	160	1550	14.5	07...	1200	64	1820	12.7
NOV					MAY				
10...	1300	150	1680	6.0	07...	1430	45	3160	16.8
DEC					JUN				
02...	1505	23	3090	13.0	02...	1240	106	1380	19.5
JAN 1999					30...	1250	50	1780	22.9
05...	1250	18	3090	7.5	AUG				
FEB					03...	1325	142	1540	21.4
03...	1420	13	3100	11.8	SEP				
MAR					08...	1335	51	2150	20.4
03...	1445	21	2620	12.0					
07124200 PURGATOIRE RIVER AT MADRID, CO (LAT 37 07 46N LONG 104 38 20W)									
OCT 1998					MAY				
05...	1350	48	352	11.5	03...	1345	832	345	9.8
NOV					21...	0850	395	265	10.8
16...	1035	36	410	5.3	26...	1655	413	273	11.4
DEC					JUN				
11...	1530	29	563	.1	16...	1740	395	316	12.0
JAN 1999					28...	1230	276	223	16.8
20...	1215	24	468	2.3	JUL				
MAR					08...	1030	188	304	17.3
04...	1005	15	642	4.2	15...	1745	118	337	22.4
					AUG				
					23...	1640	165	383	23.4
07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO (LAT 37 08 37N LONG 104 32 49W)									
OCT 1998					MAY				
05...	1530	108	367	11.0	26...	1815	205	356	10.3
NOV					JUN				
16...	1225	.22	389	7.5	28...	1515	264	336	12.7
JAN 1999					AUG				
20...	1020	18	480	3.8	23...	1520	133	330	16.4
MAR									
04...	0815	.12	429	1.8					
07126140 VAN BREMER ARROYO NEAR TYRONE, CO (LAT 37 23 58N LONG 104 06 55W)									
AUG 1999									
03...	1515	5.6	1270	23.8					
07126300 PURGATOIRE RIVER NEAR THATCHER, CO. AT 37 21 30N LONG 103 53 44W)									
NOV 1998					MAY				
05...	1220	69	3120	8.3	03...	1745	1560	901	11.2
APR 1999					JUL				
29...	1640	44	3160	14.7	01...	1245	80	1340	24.7

## SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

## MISCELLANEOUS STATION ANALYSES--Continued

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07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO (LAT 38 02 02N LONG 103 12 00W)									
OCT 1998					APR				
06...	1615	114	2420	15.5	06...	1430	55	2900	16.0
28...	1510	57	2860	15.0	MAY				
NOV					03...	1925	5020	1050	11.5
17...	1255	64	3330	8.0	12...	1145	198	2830	15.5
DEC					18...	1900	93	3370	23.0
17...	1415	46	3560	3.5	JUN				
29...	1220	40	4070	.0	08...	1700	58	2900	25.5
JAN 1999					JUL				
19...	1350	40	3700	6.0	13...	1540	101	1550	29.5
FEB					SEP				
09...	1315	31	3820	9.0	15...	1245	50	--	--
MAR									
04...	1115	28	3900	9.0					
07133000 ARKANSAS RIVER AT LAMAR, CO (LAT 38 06 21N LONG 102 37 05W)									
OCT 1998					MAY				
07...	1000	35	3080	13.5	19...	1145	2500	2020	14.5
NOV					JUN				
04...	1010	100	3680	9.5	10...	1450	2580	1890	20.5
DEC					30...	1355	1440	1900	22.0
16...	1605	50	4040	7.5	JUL				
JAN 1999					21...	1515	488	1960	25.5
20...	1020	44	4160	5.0	AUG				
FEB					17...	1450	931	1840	27.5
24...	1010	52	4160	7.0	SEP				
MAR					02...	1330	43	2570	24.5
23...	1615	14	3820	15.5					
APR									
21...	1835	69	2640	14.5					
07134100 BIG SANDY CREEK NEAR LAMAR, CO (LAT 38 06 51N LONG 102 29 00W)									
OCT 1998					APR				
20...	1800	15	4150	12.5	21...	1715	28	4090	15.5
NOV					MAY				
04...	1240	21	4220	10.5	05...	1145	1470	713	11.0
DEC					20...	1130	41	4190	16.0
16...	1055	65	3870	3.0	JUN				
JAN 1999					16...	1600	47	3770	20.0
20...	1210	52	4180	5.5	JUL				
FEB					21...	1900	21	4090	25.5
24...	1630	26	4280	11.0	AUG				
MAR					18...	1130	28	3830	22.0
23...	1415	32	4150	13.0					
07134180 ARKANSAS RIVER NEAR GRANADA, CO (LAT 38 05 44N LONG 102 18 37W)									
OCT 1998					APR				
07...	1400	176	3470	16.5	21...	1505	110	3500	18.0
NOV					MAY				
04...	1740	223	3780	9.5	04...	1945	3000	1600	13.0
DEC					JUN				
16...	1325	180	3940	6.5	09...	1200	2820	1980	19.5
JAN 1999					JUL				
20...	1440	159	4040	9.0	22...	0910	576	1280	23.0
FEB					AUG				
24...	1300	135	4160	10.5	18...	1630	712	2210	27.0
MAR					31...	1910	198	3120	24.0
24...	1415	122	4020	10.0					
07134990 WILD HORSE CREEK ABOVE HOLLY, CO (LAT 38 03 24N LONG 102 08 16W)									
OCT 1998					JUN				
21...	1135	69	3920	10.5	09...	1645	17	3250	24.0
NOV					JUL				
04...	1430	58	3910	10.5	27...	1440	13	3460	27.5
MAR 1999					AUG				
24...	1200	9.8	3680	9.5	03...	1450	88	2660	24.0
APR					SEP				
21...	1125	12	3600	15.0	01...	1845	14	3520	22.5
MAY									
19...	1645	27	3190	19.0					

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)
08217500		RIO GRANDE AT WAGON WHEEL GAP, CO (LAT 37 46 01N LONG 106 49 51W)							
OCT 1998					APR				
14...	1430	309	88	9.5	20...	1850	448	86	11.0
NOV					MAY				
05...	1130	217	103	2.0	11...	1415	886	85	8.0
DEC					JUN				
17...	1310	155	109	.0	02...	0805	2680	54	4.0
FEB 1999					JUL				
05...	1330	111	108	.0	09...	0915	2110	51	10.0
08235270		WIGHTMAN FORK BELOW CROPSY CREEK AT SUMMITVILLE, CO (LAT 37 25 45N LONG 106 35 03W)							
OCT 1998					AUG				
15...	1120	2.7	2370	6.0	03...	1340	9.7	1030	12.0
JUN 1999					20...	1035	9.2	1080	10.0
17...	0815	32	508	3.5					
JUL									
09...	1245	9.7	961	11.0					
08235350		ALAMOSA RIVER ABOVE JASPER, CO (LAT 37 25 03N LONG 106 29 30W)							
OCT 1998					JUL				
15...	1535	17	591	8.0	08...	1350	147	151	12.5
NOV					AUG				
05...	1600	31	400	1.0	04...	1205	121	198	10.0
APR 1999					SEP				
01...	1445	36	--	.0	08...	1140	63	305	9.0
MAY									
12...	1015	93	285	3.0					
25...	1530	291	119	5.5					
08235700		ALAMOSA RIVER BELOW CASTLEMAN GULCH NEAR JASPER (LAT 37 24 10N LONG 106 27 00W)							
OCT 1998					JUL				
15...	1630	20	578	7.5	08...	1050	163	162	9.5
NOV					AUG				
05...	1700	33	383	2.0	04...	1320	161	219	10.0
MAY 1999					SEP				
12...	1145	111	256	6.0	08...	0955	70	312	7.5
25...	1205	369	128	4.5					
JUN									
16...	1310	484	112	7.0					

ARKANSAS RIVER BASIN

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER

Water-quality data and discharges collected beginning July 1998 at selected sites between Pueblo Reservoir and Las Animas, Colorado. These data will be used to: 1) Provide water-quality data to evaluate spatial, temporal, and flow-related changes and trends throughout the lower Arkansas River basin between Pueblo and Las Animas; 2) to complement and help corroborate the reliability of data being collected by other data-collection programs and; 3) determine source areas for selenium and evaluate potential pathways of selenium through the aquatic ecosystem.

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°16'18", long 104°43'03", in SE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> 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 mile downstream from Pueblo Dam, and 7 mi west of Pueblo.

PERIOD OF RECORD.--October 1965 to September 1970 (chemical and sediment data), December 1985 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 WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 06...	1030	1860	428	8.2	18.2	8.6	48	14	100	.25	.04
AUG 03...	0945	1450	335	8.3	19.0	8.5	36	8.8	68	.26	.03

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 06...	<.01	.003	90	<10	20	<4	3	3	.23	.07	.3	
AUG 03...	.02	.006	270	<10	50	<4	2	2	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 26...	0850	240	490	8.1	15.2	9.4	51	16	--	.130	.020
MAR 01...	0930	256	517	8.4	6.0	11.2	60	18	140	.045	.060
APR 26...	0845	252	534	--	8.5	10.9	66	18	160	.246	.040
JUN 14...	1000	2670	557	8.2	12.5	9.5	60	20	150	.430	.050
AUG 09...	1000	3210	374	8.2	19.5	8.0	46	12	110	.330	.022
SEP 14...	0915	614	--	--	--	--	--	--	--	--	--

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 26...	<.050	.002	220	<60.0	100	60	4	5	.10	.17	.8	
MAR 01...	<.006	.053	290	<60	37	<7.0	4	5	.11	.15	.8	
APR 26...	.018	<.001	80	<60	<7	<7.0	7	6	--	--	--	
JUN 14...	.046	.020	210	<60	13	<7.0	7	6	--	--	--	
AUG 09...	.023	.018	320	<60	37	10	4	3	--	--	--	
SEP 14...	--	--	--	--	--	--	--	--	.1	.12	.6	

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

381628104381700 WILDHORSE CREEK AT THE MOUTH AT PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°16'28", long 104°38'17", in SE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub> sec.26, T.20 S., R.65 W., (Northwest Pueblo 1:24000 quad) Pueblo County, Hydrologic Unit 11020002, 20 feet downstream from Union Pacific Railroad, and 0.3 mi upstream from the Arkansas River.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)
JUL 06...	1250	1.8	4290	7.9	23.0	8.8	320	210	1900
AUG 03...	1120	1.5	4170	7.8	24.3	--	290	210	1700

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)
JUL 06...	27	5.2	.23	140	<30	120	500	410
AUG 03...	34	5.6	1.3	110	<30	110	400	415

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)
OCT 26...	1025	1.9	4080	7.9	15.0	9.6	280	220	--
MAR 01...	1045	1.9	4140	8.1	7.0	11.0	290	225	1600
APR 26...	1000	2.1	4030	8.0	8.4	7.9	280	210	1900
JUN 14...	1035	2.1	4610	8.1	18.7	9.2	320	240	2100
AUG 09...	1015	2.2	4320	8.0	21.5	6.6	340	240	2200

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)
OCT 26...	30.8	.900	.07	180	<60.0	120	110	460	510
MAR 01...	38.9	6.85	1.73	130	<60	110	110	630	600
APR 26...	29.0	9.33	1.69	180	70	100	96	530	550
JUN 14...	32.0	1.65	1.38	190	<60	90	80	530	550
AUG 09...	34.2	.594	1.45	190	<60	130	106	520	520

## ARKANSAS RIVER BASIN

## DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07099970 ARKANSAS RIVER AT MOFFAT STREET AT PUEBLO, CO

## WATER-QUALITY RECORDS

LOCATION.--Lat 38°15'13", long 104°36'02", in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.6, T.21 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, on right bank 10 feet 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.

PERIOD OF RECORD.--October 1988 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 WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUL 06...	1245	1730	438	8.4	18.5	8.5	50	14	110	.31	.03
AUG 03...	1200	1370	354	8.5	20.5	8.6	39	9.8	80	.35	.04

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 06...	<.01	<.0010	90	<10	20	<4	4	4	.87	.37	2.4	
AUG 03...	.02	.004	190	<10	40	4	3	4	--	--	--	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 26...	1105	243	596	7.9	15.6	9.7	65	20	--	.610	.020
MAR 01...	1145	104	694	8.4	7.5	11.6	80	26	200	1.25	.090
APR 26...	1130	212	641	8.8	8.5	12.5	68	20	180	.680	.020
JUN 14...	1130	2580	569	8.4	14.0	9.6	62	22	160	.45	.030
AUG 09...	1110	3210	390	8.2	21.0	7.5	42	12	120	.294	.041
SEP 14...	1545	572	--	--	--	--	--	--	--	--	--

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 26...	<.050	.008	210	<60.0	70.0	20	9	8	.92	.49	1.9	
MAR 01...	.013	.058	80	<60	26	21	22	18	.83	.91	2.7	
APR 26...	.033	.004	24	<10	11	6.2	13	10	--	--	--	
JUN 14...	.028	.021	166	<10	17	3.9	7	7	--	--	--	
AUG 09...	.033	.022	470	<60	41	11	4	4	--	--	--	
SEP 14...	--	--	--	--	--	--	--	--	.31	.15	.6	



DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07106500 FOUNTAIN CREEK AT PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°17'16", long 104°36'02", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.19, T.20 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, on left bank at upstream side of bridge on U.S. Highway 50 at Pueblo, and 2.6 mi upstream from mouth.

PERIOD OF RECORD.--February 1981 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 06...	1525	75	1160	8.3	26.0	7.2	92	36	340	2.6	.03
AUG 03...	1210	285	930	8.2	22.5	7.5	72	26	250	2.3	.03

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 06...	.19	.20	5200	<10	180	<4	19	21	.06	.11	.3	
AUG 03...	.14	.15	11000	<10	360	<4	11	11	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 26...	1140	155	1180	8.3	15.5	8.6	--	38	--	6.03	.010
MAR 01...	1230	188	1080	8.4	10.5	10.2	94	33	300	3.95	.020
APR 26...	1130	360	880	8.4	10.2	9.5	68	24	250	2.45	.020
JUN 14...	1145	855	745	8.3	20.5	7.6	62	22	210	1.94	.023
AUG 09...	1130	921	752	8.3	21.5	7.4	68	22	230	1.84	.024

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 26...	.290	.271	10000	<60.0	400	<7	18	16	.03	.05	.6	
MAR 01...	.209	.245	5100	<60	110	<7.0	16	13	.04	<.05	.5	
APR 26...	.314	.259	27800	<60	610	<7.0	14	9	--	--	--	
JUN 14...	.116	.090	30100	<60	740	<7	11	9	--	--	--	
AUG 09...	.105	.080	--	<60	--	13	12	7	.06	.06	.4	

ARKANSAS RIVER BASIN

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

381534104333201 ARKANSAS RIVER (SITE 10-A) NEAR PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°15'34", long 104°33'32", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.33, T.20 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, 0.9 mi downstream from the Pueblo Wastewater Treatment Plant outfall, 1.8 mi downstream from Fountain Creek and 3.0 mi southeast of courthouse in Pueblo.

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

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

DATE	TIME	STREAM WIDTH (FT) (00004)	TEMPERATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM HG) (00025)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	WEATHER (WMO CODE NUMBER) (00041)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	NUMBER OF SAM-PLING POINTS (00063)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)
JUL 06...	1400	E300	20.5	646	1028	9801	1	E1800	1	593	7.6
AUG 03...	1255	E200	22.5	650	1028	80020	1	E1660	1	637	7.4

DATE	TIME	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	PH WATER WHOLE LAB (STAND-ARD) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
JUL 06...	100	8.2	7.7	.69	.65	.11	.11	64	21	160	950	
AUG 03...	101	8.3	8.1	.62	1.1	.14	.14	53	19	170	5500	

DATE	TIME	IRON, DIS-SOLVED (UG/L AS MN) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SAMPLE PURPOSE CODE (71999)	SAM-PLING METHOD, CODES (82398)	SAMPLER TYPE (CODE) (84164)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (90095)	JULIAN DATE BOTTLE DIGEST-ION DDD (99870)
JUL 06...		<10	50	8	8	8	10.00	40	3044	591	195
AUG 03...		<10	160	8	8	9	10.00	30	3044	629	222

E Estimated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 26...	1200	383	600	7.9	17.0	8.7	82	29	--	1.46	.920
MAR 01...	1245	255	1080	8.2	13.5	9.4	98	38	320	3.10	2.49
APR 26...	1235	580	883	8.3	11.5	9.1	64	26	240	1.74	.590
JUN 14...	1300	E3430	708	8.3	17.9	8.4	42	24	210	1.21	.380
AUG 09...	1300	E4130	674	8.2	22.5	7.4	68	22	210	.964	.510

E Estimated.

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

381534104333201 ARKANSAS RIVER (SITE 10-A) NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 26...	.262	.240	3490	<60.0	140	20	14	14	.05	.10	.3
MAR 01...	.543	.547	1000	<60	120	16	19	17	.04	.15	.6
APR 26...	.294	.252	9700	<60	330	<7.0	15	12	--	--	--
JUN 14...	.142	.110	19000	<60	360	18	11	10	--	--	--
AUG 09...	.123	.116	--	<60	950	21	10	8	--	--	--

## ARKANSAS RIVER BASIN

## DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

381530104294600 ARKANSAS RIVER AT BAXTER ROAD NEAR BAXTER, CO

## WATER-QUALITY RECORDS

LOCATION.--Lat 38°15'30", long 104°29'46", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.6, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, at the upstream side of bridge on State Highway 233, 1.2 mi south of Baxter, and 2.6 mi upstream from St. Charles River.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)
JUL 06...	1600	2040	506	8.2	21.0	7.8	51	17	130	.55	.07
AUG 03...	1450	e1620	494	8.3	21.5	7.1	49	14	120	.76	.10

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM DIS- SOLVED FIELD <63U WS (UG/G) (34950)
JUL 06...		.02	.024	1000	<10	50	<4	7	5	.33	.35	1.4
AUG 03...		.05	.050	3800	<10	120	<4	6	6	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)
OCT 26...	1410	456	879	8.1	16.5	7.3	85	29	--	1.74	.230
MAR 01...	1515	242	955	8.2	12.5	8.6	96	33	300	3.10	.500
APR 26...	1420	641	870	8.0	13.0	8.3	68	28	250	1.78	.260
JUN 14...	1330	3430	629	8.3	16.0	8.4	64	22	180	.870	.106
AUG 09...	1310	4150	505	8.2	22.0	7.2	52	16	140	.712	.050

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM DIS- SOLVED FIELD <63U WS (UG/G) (34950)
OCT 26...		.230	.18	2040	<60.0	100	20	14	15	.06	.09	.4
MAR 01...		.238	.266	1600	<60	74	21	17	16	.09	.12	.4
APR 26...		.212	.196	12000	<60	290	<7.0	16	14	--	--	--
JUN 14...		.051	.050	5171	<60	180	<7.0	11	8	--	--	--
AUG 09...		.044	.043	--	<60	560	13	8	5	--	--	--

e Estimated.

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07109000 ST. CHARLES RIVER AT MOUTH NEAR PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat38°15'42", long 104°28'03", in SW 1/4SE 1/4 sec.32, T.20 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, 3.0 mi downstream from U.S. Highway 50 bridge, 1.4 mi north of Vineland and 0.1 mi west of State Highway 231 bridge over the Arkansas River.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)
JUL 07...	1240	27	1830	8.0	20.0	8.0	290	73	840	1.2	.03
AUG 03...	1545	79	824	7.9	25.5	6.8	99	28	300	.516	.038

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) AS FE (01045)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS MN (01055)	MANGA-NESE, DIS-SOLVED (UG/L) AS MN (01056)	SELE-NIUM, TOTAL (UG/L) AS SE (01147)	SELE-NIUM, DIS-SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM, BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 07...	.02	.024	2800	<10	200	130	23	22	.79	.35	1.4	
AUG 03...	.018	.011	8800	<10	340	9	8	9	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)
OCT 26...	1450	22	2000	8.3	16.5	9.2	300	80	1000	1.25	.010
MAR 01...	1545	18	1840	8.3	13.5	9.8	250	80	840	1.40	.004
APR 26...	1455	35	1500	8.0	16.1	8.9	180	65	800	1.12	.060
AUG 09...	1410	71	1130	8.1	27.0	6.7	150	44	480	.902	.032

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) AS FE (01045)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS MN (01055)	MANGA-NESE, DIS-SOLVED (UG/L) AS MN (01056)	SELE-NIUM, TOTAL (UG/L) AS SE (01147)	SELE-NIUM, DIS-SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM, BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 26...	.090	.002	230	<60.0	80.0	60	30	30	.81	.07	.4	
MAR 01...	.011	.014	240	<60	110	84	22	18.6	1.0	.21	.8	
APR 26...	.033	.006	3500	<60	200	95	22	17	--	--	--	
AUG 09...	.047	.033	7800	<60	340	23	19	12	1.5	.19	.4	

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 26...	1450	22	2000	16.5	APR 26...	1455	35	1500	16.1
MAR 01...	1545	18	1840	13.5	AUG 09...	1410	71	1130	27.0

## ARKANSAS RIVER BASIN

## DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

## WATER-QUALITY RECORDS

LOCATION.--Lat 38°14'53", long 104°23'55", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank 15 feet downstream from bridge on Sixmile Road, 0.3 mi upstream from Sixmile Creek, and 2.6 mi west of Avondale.

PERIOD OF RECORD.--April to October 1976, April 1979 to September 1980, December 1985 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	
JUL 07...	1015	1920	529	8.1	19.0	7.4	56	17	140	.65	.03	
AUG 03...	1705	1700	517	7.9	22.0	7.2	51	14	130	.892	.038	
DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 07...	.04	.028	1800	<10	80	<4	6	6	.86	.26	.7	
AUG 03...	.038	.048	3300	<10	130	<4.0	--	7	--	--	--	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	
OCT 26...	1600	521	929	8.2	16.0	8.2	93	30	--	1.88	.030	
MAR 01...	1710	345	1010	8.4	12.0	10.3	110	37	340	3.90	.041	
APR 26...	1630	685	916	8.1	14.5	8.4	92	30	280	1.78	.090	
JUN 14...	1515	3130	649	8.2	17.0	8.2	66	24	200	.680	.040	
AUG 09...	1530	4110	525	8.2	23.0	7.0	52	16	150	.523	.042	
DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 26...	.128	.00	1280	<60.0	80.0	10	14	13	.22	.14	.4	
MAR 01...	.157	.210	1800	<60	77	10	19	14	.17	.11	.4	
APR 26...	.198	.158	11000	<60	240	<7.0	16	13	--	--	--	
JUN 14...	.051	.040	6140	<10	240	12	10	8	--	--	--	
AUG 09...	.046	.043	--	<60	540	13	8	6	--	--	--	

## MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 26...	1600	521	929	16.0	JUN 14...	1515	3130	649	17.0
MAR 01...	1710	345	1010	12.0	AUG 09...	1530	4110	525	23.0
APR 26...	1630	685	916	14.5					

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07110000 SIXMILE CREEK AT MOUTH NEAR AVONDALE, CO

WATER-QUALITY RECORDS

LOCATION.--Lat38°14'47", long 104°23'36", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020009, on left bank at upstream end of bridge on U.S. Highway 50 Business, 0.3 mi upstream from mouth, and 3.5 mi east of Vineland.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 07...	1100	13	1790	8.1	18.0	8.0	240	77	770	7.6	.06
AUG 03...	1705	75	821	7.7	23.5	6.7	96	31	290	1.78	.034

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 07...	.03	.029	1300	<10	100	61	16	15	.65	.09	.3	
AUG 03...	<.010	.012	5000	<10	170	32	12	8	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 26...	1625	26	1440	8.2	15.5	7.8	190	58	710	5.53	.010
MAR 01...	1730	6.5	2420	8.2	10.5	9.0	370	110	1220	14.5	.011
APR 26...	1640	14	1680	8.2	16.8	9.4	200	76	780	5.65	.030
JUN 14...	1520	20	1350	8.1	20.1	7.2	180	56	600	3.88	.039
AUG 09...	1605	29	1080	8.1	25.0	7.0	150	42	440	2.87	.020

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 26...	<.050	.01	2850	<60.0	--	40	12	11	.65	.52	2.1	
MAR 01...	<.006	.001	170	<60	12	<7.0	19	15	.59	.36	1.5	
APR 26...	<.006	.011	1900	<60	68	30	18	16	--	--	--	
JUN 14...	.060	.040	5000	<60	140	47	14	13	--	--	--	
AUG 09...	.051	.040	6400	<60	150	18	11	9	.51	.32	1.2	

## ARKANSAS RIVER BASIN

## DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07116500 HUERFANO RIVER NEAR BOONE, CO

## WATER-QUALITY RECORDS

LOCATION.--Lat38°13'30", long 103°15'37", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)
JUL 07...	1300	3.4	4350	8.2	25.0	6.9	320	260	2400	.25	.03
AUG 04...	0915	11	2400	8.2	20.5	7.7	160	120	1100	.31	.03

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L) AS P (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV- ERABLE (UG/L) AS FE (01045)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L) AS MN (01055)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)	SELE- NIUM, TOTAL SOLVED (UG/L) AS SE (01147)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM DIS- SOLVED (UG/L) AS N (34950)
JUL 07...		<.01	.002	50	<30	20	15	27	23	.16	<.05	.2
AUG 04...		.01	.007	720	<30	50	<12	10	11	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)
OCT 27...	0920	14	1920	8.2	13.0	8.7	130	48	960	.230	.010
MAR 02...	1215	12	3640	8.3	8.5	10.2	280	210	1900	.650	.013
APR 27...	0900	18	2410	8.0	11.9	9.1	200	132	1100	.498	.020
JUN 14...	1615	51	1800	8.3	22.0	7.0	140	76	800	.320	.024
AUG 09...	1630	33	1750	8.3	30.0	6.1	140	76	810	.404	.019

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L) AS P (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV- ERABLE (UG/L) AS FE (01045)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L) AS MN (01055)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)	SELE- NIUM, TOTAL SOLVED (UG/L) AS SE (01147)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM DIS- SOLVED (UG/L) AS N (34950)
OCT 27...		<.050	.002	560	<60.0	60.0	20	12	10	.17	.07	.2
MAR 02...		.028	.032	590	<60	--	--	20	21	.11	<.05	.2
APR 27...		<.006	.010	950	<60	84	14	19	14	--	--	--
JUN 14...		.033	.010	15000	<60	370	<7.0	17	16	--	--	--
AUG 09...		<.006	.026	17000	<60	380	11	11	10	.15	.07	.2



DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07116500 HUERFANO RIVER NEAR BOONE, CO--Continued

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					MAY				
01...	1140	19	1770	13.5	04...	1030	367	1580	11.3
NOV					JUN				
04...	1345	50	1600	10.6	03...	1020	75	1760	17.1
DEC					09...	1030	25	2900	19.0
02...	1140	10	4390	11.0	JUL				
JAN					09...	1255	7.9	3980	21.1
05...	1635	21	3140	6.0	AUG				
FEB					04...	1215	32	1960	23.3
04...	1150	27	2630	2.7	SEP				
MAR					02...	1140	4.9	4250	27.5
03...	1005	12	3760	5.5					
APR									
06...	1230	8.5	4580	19.0					

ARKANSAS RIVER BASIN

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07117600 CHICOSA CREEK NEAR FOWLER, CO

WATER-QUALITY RECORDS

LOCATION.--Lat38°08'57", long 104°04'47", in SE<sup>1</sup>/<sub>4</sub>, NE<sup>1</sup>/<sub>4</sub> sec. 11, T. 22 S., R. 60 W., Pueblo County, Hydrologic Unit 11020005, at the U.S. Highway 50 bridge, 0.6 mi upstream from mouth, and 3.0 mi west of Fowler.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 07...	1440	5.0	1510	7.9	21.0	8.9	170	63	570	3.6	.03
AUG 04...	1000	29	893	7.8	20.0	8.0	90	33	290	1.4	.04

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) AS FE (01045)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS MN (01055)	MANGA-NESE, DIS-SOLVED (UG/L) AS MN (01056)	SELE-NIUM, TOTAL (UG/L) AS SE (01147)	SELE-NIUM, DIS-SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 07...	.02	.023	560	<10	100	80	12	15	.64	.12	.7	
AUG 04...	.04	.037	6900	<10	260	26	7	7	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 27...	0930	30	1240	8.1	13.0	9.4	130	50	600	2.16	.010
MAR 02...	0950	2.2	2210	7.7	8.5	12.5	260	103	990	4.00	.020
APR 27...	1030	38	1180	8.3	12.2	9.2	120	48	410	2.02	.020
JUN 15...	0920	34	900	8.1	15.5	8.3	92	36	320	1.03	.036
AUG 10...	0915	56	733	8.0	21.0	7.5	92	28	280	1.08	.026

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) AS FE (01045)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS MN (01055)	MANGA-NESE, DIS-SOLVED (UG/L) AS MN (01056)	SELE-NIUM, TOTAL (UG/L) AS SE (01147)	SELE-NIUM, DIS-SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 27...	.100	.070	1640	<60.0	100	30	13	12	.42	.06	.4	
MAR 02...	.041	.032	110	<60	92	91	14	12	.55	.2	.9	
APR 27...	.108	.137	11000	<60	250	12	16	15	--	--	--	
JUN 15...	.104	.090	24000	<60	570	22	12	11	--	--	--	
AUG 10...	.057	.057	24000	<60	470	27	10	6	.72	.42	1	

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

380715103564701 APISHAPA RIVER AT HIGHWAY 50 NEAR FOWLER, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°07'15", long 103°56'47", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.19, T.22 S., R.58 W., Otero County, Hydrologic Unit 11020007, at upstream side of bridge on U.S. Highway 50, 0.8 mi upstream from mouth, and 4.1 mi east of Fowler.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 07...	1610	19	1680	7.8	24.5	8.2	230	59	700	2.7	.04
AUG 04...	1045	e1400	1010	7.8	16.5	3.9	100	26	400	.63	.30

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 07...	.03	.028	2000	<10	160	73	23	21	.72	.19	.7	
AUG 04...	.02	<.0010	160000	<10	13000	100	22	5	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 27...	1030	28	1800	8.2	14.0	12.4	220	64	796	2.84	.010
MAR 02...	1535	6.6	2630	8.2	11.0	13.6	380	110	1400	4.45	.012
APR 27...	1125	16	1910	8.2	20.5	12.1	190	80	1000	2.64	.030
JUN 15...	0730	44	1530	8.0	15.7	7.9	170	56	700	1.48	.044
AUG 10...	0715	74	1140	8.0	20.5	7.2	150	38	530	1.51	.023

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 27...	<.050	.005	140	<60.0	100	90	21	20	--	--	--	
MAR 02...	.030	.001	120	<60	67	63	34	32	.62	.13	.6	
APR 27...	<.006	.037	500	<60	180	171	30	27	--	--	--	
JUN 15...	.055	.040	14000	<60	250	25	17	16	--	--	--	
AUG 10...	.034	.035	56000	<60	850	13	12	10	1.2	.09	.6	

e Estimated.

## ARKANSAS RIVER BASIN

## DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO

## WATER-QUALITY RECORDS

LOCATION.--Lat 38°07'33", long 103°54'41", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.21, T.22 S., R.58 W., Otero County, Hydrologic Unit 11020005, on right bank 2.2 mi downstream from diversion dam, 2.3 mi downstream from Apishapa River, and 6.0 mi east of Fowler.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 07...	1430	859	612	8.2	23.0	7.6	63	21	170	.816	.037
AUG 04...	1135	3080	826	7.9	15.5	8.3	83	23	290	.79	.28

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 07...	.042	.041	3200	<10	140	4.0	8	7	.62	.19	1.1	
AUG 04...	.05	.004	160000	<10	6200	120	19	6	--	--	--	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 27...	1115	250	1140	8.5	16.0	10.0	110	46	--	1.70	.010
MAR 02...	1600	209	1700	8.4	9.5	10.7	190	70	709	2.60	.084
APR 27...	1430	449	1150	8.2	20.0	7.3	96	42	390	1.85	.020
JUN 15...	0720	2850	717	8.4	15.9	8.5	76	26	240	.820	.021
AUG 10...	0735	3660	588	8.3	21.5	6.7	72	18	180	.829	.019

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 27...	.080	.06	720	<60.0	60.0	30	12	11	.42	.15	.6	
MAR 02...	.106	.081	900	<60	47	19	14	14	.12	.05	.2	
APR 27...	.097	.122	6300	<60	140	<7.0	16	13	--	--	--	
JUN 15...	.079	.050	9800	<60	329	<7.0	11	11	--	--	--	
AUG 10...	.036	.041	37000	<60	710	11	9	5	--	--	--	

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

38011103382101 TIMPAS CREEK AT HIGHWAY 50 AT SWINK, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°01'11", long 103°38'21", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.26, T.23 S., R.56 W., Otero County, Hydrologic Unit 11020005, at bridge on U.S. Highway 50, 0.2 mi upstream from mouth, 0.6 mi west northwest of Swink and 4.5 mi east of Rocky Ford.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 07...	1645	79	1920	7.9	24.0	6.8	230	69	850	4.7	.06
AUG 04...	1500	263	962	8.0	20.5	7.3	97	29	340	3.2	.12

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 07...	.06	.075	14000	<10	500	14	18	18	1.2	1.0	1.3	
AUG 04...	.11	.10	58000	<10	2100	48	9	7	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 27...	1330	124	1850	8.2	15.0	8.6	220	70	890	3.19	.010
MAR 03...	0940	32	2440	8.1	5.0	10.8	310	110	1210	5.60	.094
APR 28...	0700	132	1840	8.2	14.0	8.3	200	68	880	3.54	.004
JUN 15...	1510	114	1850	7.9	19.9	--	220	70	800	3.07	.113
AUG 10...	1600	149	1490	8.0	25.5	6.5	180	54	620	2.66	.027

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 27...	<.050	.025	3570	<60.0	110	40	14	13	2.9	.27	1.1	
MAR 03...	.069	.045	5800	<60	120	25	27	26	2.8	.55	1	
APR 28...	.087	.102	6600	<60	260	16	17	16	--	--	--	
JUN 15...	.725	.639	14000	<60	620	217	19	17	--	--	--	
AUG 10...	.042	.031	55000	<60	1000	17	16	12	1.8	.54	.9	

ARKANSAS RIVER BASIN

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

375955103351201 CROOKED ARROYO AT HIGHWAY 50 NEAR LA JUNTA, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°59'55", long 103°35'12", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.32, T.23 S., R.55 W., Otero County, Hydrologic Unit 11020005, at bridge on U.S. Highway 50, 0.8 mi upstream from mouth, 1.6 mi northwest of La Junta, and 2.4 mi northeast of Swink.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 08...	0830	31	1250	8.0	20.5	7.5	140	42	480	2.2	.09
AUG 04...	1330	48	1440	8.0	21.5	7.2	150	50	550	3.04	.170

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 08...	.09	.083	23000	<10	990	27	10	11	1.3	.38	.9	
AUG 04...	.145	.135	36000	<10	1400	12	12	10	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 27...	1330	30	1830	8.0	15.0	8.0	220	70	900	2.98	.010
MAR 03...	1215	.37	3180	7.9	9.5	13.2	440	150	1800	9.40	.022
APR 28...	0815	17	2060	8.0	12.9	10.9	260	80	1100	3.10	.144
JUN 15...	1640	13	2620	8.0	18.8	7.4	370	100	1200	4.43	.029
AUG 10...	1715	24	2360	8.0	25.0	6.2	350	100	1200	3.23	.028

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 27...	<.050	.025	6330	<60.0	160	40	10	10	1.2	.17	.5	
MAR 03...	.046	.011	100	<60	62	61	18	21	1.7	.51	1.1	
APR 28...	.187	.144	1800	<60	120	70	16	12	--	--	--	
JUN 15...	.093	.075	19000	<60	99	78	12	11	--	--	--	
AUG 10...	.049	.015	34000	<60	790	54	21	14	1.6	.3	.8	

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07123000 ARKANSAS RIVER AT LA JUNTA, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°59'26", long 103°31'55", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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, 450 feet upstream from King Arroyo.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 08...	1000	675	990	8.2	23.5	--	110	34	340	1.7	.04
AUG 05...	0620	2830	962	7.7	18.5	7.2	92	30	330	1.6	.05

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 08...	.08	.055	11000	<10	400	<4	8	10	.20	.18	.3	
AUG 05...	.04	.029	80000	<10	2800	<4	13	7	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 28...	0445	50	2080	8.3	10.5	8.9	240	78	990	2.94	.010
MAR 03...	1500	15	2470	8.2	14.5	12.2	300	110	1400	3.75	.018
APR 28...	0930	33	2170	8.2	13.3	9.3	230	88	1100	3.48	.074
JUN 15...	1815	2000	920	8.3	19.3	7.7	94	34	320	1.13	.020
AUG 10...	1830	3290	737	8.2	25.0	6.9	82	24	260	.996	.018

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 28...	<.050	.020	2480	<60.0	120	30	11	10	.13	.05	.2	
MAR 03...	.026	.012	--	<60	200	194	16	12	.18	.06	.3	
APR 28...	.070	.079	1800	<60	120	80	12	14	--	--	--	
JUN 15...	.049	.056	15000	<60	290	<7.0	8	9	--	--	--	
AUG 10...	.055	.036	47000	<60	1000	11	10	8	--	--	--	

## ARKANSAS RIVER BASIN

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07123000 ARKANSAS RIVER AT LA JUNIA, CO--Continued

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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 28...	0445	50	2080	10.5	JUN 15...	1815	2000	920	19.3
MAR 03...	1500	15	2470	14.5	AUG 10...	1830	3290	737	25.0
APR 28...	0930	33	2170	13.3					



DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

380421103193101 HORSE CREEK AT MOUTH NEAR LAS ANIMAS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°04'21", long 103°20'18", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.3, T.23 S., R.53 W., Otero County, Hydrologic Unit 11020008, 1.0 mi upstream from mouth, 1.3 mi downstream of U.S. Highway 194, and 6.3 mi northwest of Las Animas.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 08...	1130	e141	2860	7.9	23.5	5.9	170	133	1300	1.5	.05
AUG 05...	1615	83	3880	8.0	23.0	7.3	200	170	1700	.21	.04

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 08...	.09	.060	.060	4900	<30	390	114	8	10	--	--	--
AUG 05...	.05	.025	.025	7700	<30	310	24	7.9	7.0	.67	.66	2.5

e Estimated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
OCT 28...	1100	14	6240	8.2	15.0	8.9	340	320	3400	.430	.010
MAR 04...	1415	12	4710	8.2	13.5	9.6	336	230	2500	3.50	.022
APR 29...	1315	35	4080	8.2	12.5	8.5	255	190	2000	.888	.050
JUN 16...	0710	83	3460	8.0	17.2	7.3	200	170	1700	.270	.030
AUG 11...	1010	93	3550	8.0	22.0	7.2	230	160	1700	.241	.030

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 28...	<.050	.003	.003	330	<60.0	120	80	14	6	.41	.18	1.5
MAR 04...	.031	.012	.012	2700	60	200	141	16	17	.33	.44	1.5
APR 29...	<.006	.023	.023	8756	<60	740	140	9.18	6.23	--	--	--
JUN 16...	.018	.022	.022	1700	<60	140	65	7	5	--	--	--
AUG 11...	.055	.029	.029	3800	<60	290	111	8	7	.2	.04	1.3

ARKANSAS RIVER BASIN

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

3805061031838 ADOBE CREEK AT HIGHWAY 194 NEAR LAS ANIMAS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°05'06", long 103°18'38", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.2, T.23 S., R.53 W., Bent County, Hydrologic Unit 11020009, 1.6 mi southwest of Cornelia, 1.7 mi upstream from mouth, and 5 mi west of Las Animas.

PERIOD OF RECORD.--July 1998 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)
JUL 08...	1310	31	1830	8.2	26.0	7.3	160	59	740	.53	.04
AUG 05...	1800	29	1730	7.9	22.0	7.2	130	55	660	.38	.09

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 08...		.02	.002	1400	<10	300	130	5	5	--	--	--
AUG 05...		.14	.021	940	18	270	160	3	4	1.4	.92	2.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SULFATE DIS-SOLVED (MG/L) (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	
OCT 28...	1430		7.9	2310	8.3	17.0	8.9	230	78	1100	1.13	.050
MAR 04...	1230		4.8	2460	8.3	12.0	10.8	250	100	1200	.600	.042
APR 29...	1100		15	2120	8.3	14.0	8.8	194	76	903	<.035	.040
JUN 16...	0845		13	2110	8.0	18.1	6.5	210	70	950	.330	.106
AUG 11...	1215		22	1790	8.1	25.0	7.1	176	60	730	.539	.028

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 28...		.150	<.001	1310	<60.0	220	70	22	15	1.2	.45	1.9
MAR 04...		.022	.007	1000	<60	290	179	10	10	.65	.53	1.9
APR 29...		<.006	.011	2700	<60	360	90	9	9	--	--	--
JUN 16...		.007	.006	1900	<60	500	261	5	7	--	--	--
AUG 11...		<.006	.005	3400	<60	390	81	7	6	.37	.21	1.1

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat38°04'51", long 103°13'09", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 3, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020009, on right bank at upstream side of bridge of U.S. Highway 50, 1.1 mi north of courthouse in Las Animas, and 4.2 mi upstream from mouth of Purgatoire River.

PERIOD OF RECORD.--December 1985 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 WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)
JUL 08...	1200	736	1350	7.9	22.5	6.3	120	43	540	1.1	.04
AUG 05...	2000	1570	1260	7.9	23.0	7.3	110	43	470	1.5	.04

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) AS FE (01045)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS MN (01055)	MANGA-NESE, DIS-SOLVED (UG/L) AS MN (01056)	SELE-NIUM, TOTAL (UG/L) AS SE (01147)	SELE-NIUM, DIS-SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 08...	.03	.026	7100	<10	1500	6	9	7	.77	.31	1.2	
AUG 05...	.05	.038	66000	<10	2500	<4	13	8	--	--	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)
OCT 28...	1845	58	3520	8.1	14.5	8.4	320	144	1900	1.88	.020
MAR 04...	0840	77	2990	8.2	7.0	11.6	300	130	1400	1.95	.013
APR 29...	0630	80	3120	8.1	10.5	7.7	250	128	1400	1.52	.038
JUN 16...	0720	2470	1120	8.3	17.1	7.4	110	42	400	1.12	.044
AUG 11...	0730	4510	945	8.1	22.0	6.4	94	32	340	.895	.032
SEP 15...	1345	130	--	--	--	--	--	--	--	--	--

DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	IRON, TOTAL RECOV-ERABLE (UG/L) AS FE (01045)	IRON, DIS-SOLVED (UG/L) AS FE (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS MN (01055)	MANGA-NESE, DIS-SOLVED (UG/L) AS MN (01056)	SELE-NIUM, TOTAL (UG/L) AS SE (01147)	SELE-NIUM, DIS-SOLVED (UG/L) AS SE (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE-NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 28...	<.050	<.001	500	<60.0	80.0	50	6	5	.19	.12	.3	
MAR 04...	.033	.007	430	<60	59	42	14.4	15	.1	.05	.2	
APR 29...	<.006	.023	3100	<60	210	90	11	11	--	--	--	
JUN 16...	.044	.050	19000	<60	480	12	7	8	--	--	--	
AUG 11...	.055	.036	30000	<60	630	<7.0	7	6	--	--	--	
SEP 15...	--	--	--	--	--	--	--	--	.14	.05	.2	

## ARKANSAS RIVER BASIN

## DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07128500 PURGATOIRE RIVER AT LAS ANIMAS, CO

## WATER-QUALITY RECORDS

LOCATION.--Lat 38°02'02", long 103°12'00", in NE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub> 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 the mouth.

PERIOD OF RECORD.--July 1998 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 WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUL 08...	1330	103	786	7.9	24.5	5.9	64	28	280	.39	.04
AUG 04...	1445	63	1450	7.7	23.5	7.2	120	63	600	.310	.037

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
JUL 08...	.08	.056	1200	28	210	54	3	2	.54	.24	1.3	
AUG 04...	.017	.009	10000	<10	370	29	3	3	--	--	--	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 28...	1715	54	2860	8.2	15.0	8.4	280	140	1600	.990	.020
MAR 04...	1030	28	3860	8.2	9.0	10.6	350	250	2400	<.010	.019
APR 29...	0800	95	2740	8.2	14.0	8.4	240	160	1400	.083	.026
JUN 16...	0930	117	2290	8.2	17.5	8.0	200	140	1250	.450	.006
AUG 11...	0845	608	1160	8.3	22.5	7.6	122	54	455	.337	.036
SEP 15...	1245	50	--	--	--	--	--	--	--	--	--

DATE	TIME	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	CARBON INRGSED BEDMAT PERCENT (30241)	CARBON ORG.SED BEDMAT PERCENT (30243)	SELE- NIUM BOT MAT <63U WS FIELD (UG/G) (34950)
OCT 28...	<.050	<.003	890	<60.0	90.0	70	4	3	.41	.10	.2	
MAR 04...	.030	.009	430	330	140	124	6	5	.53	.11	.3	
APR 29...	<.006	.027	3400	<60	240	50	6	6	--	--	--	
JUN 16...	<.006	.016	24000	<60	440	31	8	6	--	--	--	
AUG 11...	<.006	.015	73200	<60	1100	<7.0	8	4	--	--	--	
SEP 15...	--	--	--	--	--	--	--	--	.54	.08	.2	

DISCHARGES AND SELECTED WATER-QUALITY DATA AT SITES ON THE LOWER ARKANSAS RIVER--Continued

07128500 PURGATOIRE RIVER AT LAS ANIMAS, CO--Continued

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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					APR				
06...	1615	114	2420	15.5	06...	1430	55	2900	16.0
28...	1510	57	2860	15.0	MAY				
NOV					03...	1925	5020	1050	11.5
17...	1255	64	3330	8.0	12...	1145	198	2830	15.5
DEC					18...	1900	93	3370	23.0
17...	1415	46	3560	3.5	JUN				
29...	1220	40	4070	.000	08...	1700	58	2900	25.5
JAN					JUL				
19...	1350	40	3700	6.0	13...	1540	101	1550	29.5
FEB					SEP				
09...	1315	31	3820	9.0	15...	1245	50	--	--
MAR									
04...	1115	28	3900	9.0					

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY

Water-quality data and discharges collected beginning February 1999 at selected sites at the Great Sand Dunes National Monument. These data will be used to: 1) document water-quality conditions of all Monument waters including perennial streams, seasonal streams, and interdunal ponds; and 2) use the data collected, where appropriate, to demonstrate eligibility for an 'Outstanding Waters Designation' for the Monument's waters.

374946105353301 SAND CREEK AT NORTH BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°49'46", long 105°35'33", NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec. 31, T.25 S., R.73 W., Saguache County, Hydrologic Unit 13010003, at Great Sand Dunes National Monument, on left bank at 8 ft Parshall flume 0.2 mi downstream from Cold Creek, about 0.2 mi upstream of Monument boundary and Ranger Station, and 8.3 mi northwest of the Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	
MAY	25...	1145	76	48	7.3	6.8	14.0	<1	K3	21	6.6	1.2	21
JUL	28...	1115	29	51	8.0	12.9	8.2	36	88	23	7.1	1.3	24
SEP	08...	1110	5.4	68	7.6	11.7	8.6	K3	K25	30	9.3	1.8	35

DATE	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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)	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)	
MAY	25...	.000	17	3.6	37	<.01	.08	.005	<1	<.1	3	2
JUL	28...	.000	20	3.1	39	<.01	.05	.003	--	<.1	--	<1
SEP	08...	.000	28	4.1	42	<.01	<.05	<.002	--	<.1	--	.5

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	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)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	
MAY	25...	1480	<1	<1	43.0	E2	<1	<1	<1	<.20	<40	<20
JUL	28...	--	--	<1	--	4	--	<1	--	<.20	--	E14
SEP	08...	--	--	<1	--	7	--	<1	--	<.20	--	<20

E Estimated.  
K Based on non-ideal colony count.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374823105383901 SAND CREEK AT BACA GRANT BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°48'23", long 105°38'39", NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 15, T.41 N., R.12 E., Saguache County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, approximately 4.5 mi downstream from Cold Creek, 0.3 mi east of the extreme west Monument boundary, just south of the Baca Grant Monument boundary and 9.1 mi northwest of the Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (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)	
MAY	25...	1545	E45	48	8.1	13.2	8.3	K4	20	18
JUL	28...	1215	E29	50	7.8	26.5	6.3	210	50	22
SEP	08...	1250	E5.0	71	8.0	31.5	6.4	K2	K26	31

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C 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)	
MAY	25...	5.3	1.1	24	.000	20	3.7	<10	<.01	.13
JUL	28...	6.8	1.3	25	.000	20	3.2	39	<.01	<.05
SEP	08...	9.4	1.7	32	.000	26	4.3	49	<.01	<.05

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	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)	
MAY	25...	.003	<.1	1	<1	5	<1	<.20	<20
JUL	28...	.003	<.05	1	<1	E2	<1	<.20	<20
SEP	08...	.003	<.1	.7	<1	E2	<1	<.20	<20

E Estimated.  
K Based on non-ideal colony count.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

08234200 MOSCA CREEK NEAR MOSCA, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'05", long 105°30'27", NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 2, T.27 S., R.73 WE., Alamosa County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, 0.1 mi downstream from east Monument boundary, and 0.9 mi northeast of the Monument entrance station, near Mosca.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--February to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 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)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
FEB												
09...	1635	.36	191	8.2	1.7	10.2	--	--	85	24	5.8	106
MAY												
11...	1715	2.5	156	8.0	4.3	9.4	<1	K6	--	--	--	--
19...	1600	2.2	127	7.7	8.0	--	1	K5	--	--	--	--
26...	1645	1.8	136	8.2	6.9	9.1	<1	K6	60	17	4.4	73
JUN												
03...	0930	1.7	143	7.9	5.4	9.4	<1	10	--	--	--	--
09...	1310	1.3	--	8.0	7.6	8.3	<1	K14	--	--	--	--
17...	1315	1.1	143	8.0	8.0	9.0	K1	25	--	--	--	--
24...	1200	.84	151	8.1	9.5	8.6	K1	52	--	--	--	--
29...	1330	.69	155	8.1	10.7	8.2	K2	100	--	--	--	--
JUL												
08...	0920	.69	177	7.9	11.0	8.2	K2	160	--	--	--	--
14...	0915	.70	172	7.7	9.0	8.4	K3	K430	--	--	--	--
22...	1600	.73	174	8.1	11.8	8.2	K1	E1400	--	--	--	--
27...	1450	.73	178	8.2	12.5	8.6	K1	430	77	22	5.4	92
AUG												
03...	1345	.73	181	8.1	11.0	8.1	K3	330	--	--	--	--
12...	1520	.56	186	8.2	11.0	8.3	K1	K83	--	--	--	--
17...	1500	.50	181	8.0	12.0	8.0	K3	89	--	--	--	--
SEP												
09...	1215	.36	198	8.1	9.4	8.5	11	K43	86	25	5.8	107

DATE	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C (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)	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)
FEB											
09...	.0	87	11	128	<.01	.07	<.02	--	<.1	--	<.5
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	.000	60	7.6	94	<.01	<.05	.003	<1	<.1	2	1
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
27...	.000	76	8.1	121	<.01	<.05	.002	--	<.1	--	.8
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	.000	88	8.7	126	<.01	<.05	<.002	--	<.1	--	.5

E Estimated.  
K Based on non-ideal colony count.



GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

08234200 MOSCA CREEK NEAR MOSCA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	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)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
FEB											
09...	--	--	<1	--	<3	--	<1	--	<.20	--	<20
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	517	<1	<1	12.3	<3	<1	<1	<1	<.20	<40	<20
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	<1	--	4	--	<1	--	<.20	--	<20
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	--	--	<1	--	3	--	<1	--	<.20	--	<20

RIO GRANDE RIVER BASIN

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374404105302701 MOSCA SPRING AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'04", long 105°30'27", NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 2, T.27 S., R.73 W., Alamosa County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, at east Monument boundary and 0.9 mi northeast of Monument entrance station.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL AS CACO3 (MG/L) (00900)
MAY									
12...	0915	.00	218	7.4	5.7	8.4	<1	<1	--
19...	1620	<.00	--	7.0	7.1	--	<1	K2	--
24...	1545	<.00	210	7.3	7.7	8.2	<1	K2	91
JUN									
03...	0900	.00	210	7.5	8.2	7.8	<1	78	--
09...	1340	<.00	183	7.4	11.7	7.1	<1	170	--
17...	1345	<.00	198	7.5	12.0	7.6	<1	250	--
24...	1230	<.00	205	7.6	14.8	7.3	K2	3000	--
29...	1400	<.00	208	7.6	15.8	7.2	<1	3500	--
JUL									
08...	0845	<.00	227	7.2	11.5	7.3	17	14000	--
13...	1415	<.00	229	7.7	14.5	7.6	K4	8900	--
22...	1530	<.00	220	7.6	12.6	6.8	K4	E7400	--
27...	1530	<.00	223	7.4	13.0	6.7	10	2000	92
AUG									
03...	1310	<.00	225	7.5	13.5	8.0	<1	830	--
12...	1745	<.00	220	7.3	11.5	7.4	14	750	--
17...	1525	<.00	208	7.2	12.7	7.2	<1	250	--
SEP									
09...	1200	<.00	221	7.4	10.8	7.7	<1	K73	93

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT (MG/L AS) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C 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)
MAY									
12...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
24...	27	6.0	101	.000	83	14	124	<.01	<.05
JUN									
03...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
JUL									
08...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
27...	27	6.0	112	.000	91	12	137	<.01	<.05
AUG									
03...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
SEP									
09...	27	6.1	114	.000	93	11	138	<.01	<.05

K Based on non-ideal colony count.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374404105302701 MOSCA SPRING AT GREAT SAND DUNES NATIONAL MONUMENT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
MAY								
12...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
24...	.002	<.1	2	<1	<3	<1	<.20	<20
JUN								
03...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
JUL								
08...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
27...	.004	.1	1	<1	E2	<1	<.20	E8
AUG								
03...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--
SEP								
09...	.004	<.1	1	<1	E2	<1	<.20	<20

E Estimated.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374348105304001 MORRIS GULCH SPRING AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°43'48", long 105°30'40", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 2, T.27 S., R.73 W., Alamosa County, Hydrologic Unit 13010003, at Great Sand Dunes National Monument, 0.5 mi downstream from east Monument boundary, and 0.6 mi northeast of Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--February to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 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)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
FEB												
11...	0940	<.01	287	8.3	.1	10.4	--	--	140	43	8.3	176
MAY												
12...	0850	.01	299	7.8	4.3	9.4	<1	K3	--	--	--	--
19...	1645	.01	273	7.7	9.6	--	<1	36	--	--	--	--
26...	1530	.02	295	8.2	8.3	8.3	K2	41	140	43	7.9	160
JUN												
03...	0815	.15	268	7.9	6.3	8.6	K3	36	--	--	--	--
09...	1415	.25	251	7.8	10.9	7.6	<1	120	--	--	--	--
17...	1415	.21	263	7.8	10.0	8.2	K2	K1300	--	--	--	--
24...	1300	.14	253	7.9	11.8	7.8	K4	6600	--	--	--	--
29...	1430	.14	253	8.0	13.5	7.7	K15	K17000	--	--	--	--
JUL												
08...	0745	.10	278	7.4	10.0	8.0	11	K4600	--	--	--	--
13...	1435	.06	279	8.0	14.5	7.5	11	7400	--	--	--	--
23...	1145	.10	275	8.0	12.3	8.0	K15	K1600	--	--	--	--
28...	1405	.08	272	7.9	14.2	7.8	21	1100	130	41	7.3	148
AUG												
03...	1410	.09	279	8.0	12.0	7.7	14	430	--	--	--	--
13...	1140	.10	275	8.0	11.0	8.4	K6	410	--	--	--	--
17...	1555	.07	269	7.9	16.0	7.5	K4	580	--	--	--	--
SEP												
07...	1710	.02	291	8.0	12.0	7.7	K7	K200	140	43	7.7	156

DATE	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C 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)	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)
FEB											
11...	.000	144	14	190	<.01	<.05	.02	--	<.1	--	<.5
MAY											
12...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	.000	131	17	184	<.01	<.05	.003	<1	<.1	<1	<.5
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
28...	.000	122	11	174	<.01	<.05	.005	--	<.1	--	<.5
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	.000	128	9.7	174	<.01	<.05	.015	--	<.1	--	<.5

K Based on non-ideal colony count

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374348105304001 MORRIS GULCH SPRING AT GREAT SAND DUNES NATIONAL MONUMENT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	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)	SELE- NIUM, TOTAL AS SE (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
FEB											
11...	--	--	<1	--	6	--	<1	--	<.20	--	<20
MAY											
12...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	832	<1	<1	28.0	11	<1	1	<1	<.20	<40	<20
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	<1	--	13	--	<1	--	<.20	--	<20
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	<1	--	17	--	<1	--	<.20	--	<20

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374507105300201 BUCK CREEK AT BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°45'07", long 105°30'02", SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, sec. 26, T.26 S., R.73 W., Saguache County, Hydrologic Unit 13010003, at Great Sand Dunes National Monument, 0.2 mi downstream from east Monument boundary, and 2.1 mi northeast of Monument entrance station.

PERIOD OF RECORD.-- February to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 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)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
FEB												
09...	1450	.08	229	7.9	4.7	9.0	--	--	100	29	7.1	121
MAY												
11...	1415	.10	225	7.8	6.6	8.4	K2	K7	--	--	--	--
19...	1420	.13	204	7.7	9.4	--	K2	K5	--	--	--	--
26...	1345	.18	224	8.2	7.0	8.6	<1	K8	97	28	6.8	122
JUN												
02...	1645	.22	229	7.2	7.5	8.5	<1	K4	--	--	--	--
09...	1220	.22	217	7.7	8.1	7.9	<1	K8	--	--	--	--
17...	1230	.18	211	7.8	7.0	8.7	<1	K11	--	--	--	--
24...	1130	.14	218	7.8	--	8.2	<1	35	--	--	--	--
29...	1300	.10	221	7.9	10.2	7.9	<1	K13	--	--	--	--
JUL												
07...	1300	.08	242	7.9	11.0	7.7	K2	140	--	--	--	--
13...	1245	.10	255	7.9	11.5	7.4	K2	K440	--	--	--	--
22...	1425	.08	260	7.9	13.6	7.1	K7	K260	--	--	--	--
27...	1320	.07	266	7.9	13.0	7.0	10	92	120	34	8.2	142
AUG												
03...	1215	.07	263	7.9	11.5	8.3	K5	72	--	--	--	--
12...	1425	.06	258	7.8	13.0	7.2	K1	K40	--	--	--	--
17...	1315	.05	256	7.7	13.0	7.1	K3	160	--	--	--	--
SEP												
07...	1605	.04	260	7.8	12.3	6.9	K5	K20	120	33	8.0	137

DATE	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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)	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)
FEB											
09...	.000	100	11	142	<.01	<.05	<.02	--	<.1	--	<.5
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	.000	100	11	138	<.01	<.05	.003	<1	<.1	<1	.7
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
27...	.000	117	9.2	165	<.01	<.05	.004	--	<.1	--	<.5
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	.000	112	8.1	155	<.01	<.05	<.002	--	<.1	--	<.5

K Based on non-ideal colony count.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374507105300201 BUCK CREEK AT BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	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)	SELE- NIUM, TOTAL AS SE (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
FEB											
09...	--	--	<1	--	7	--	<1	--	<.20	--	<20
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	157	<1	<1	18.1	9	<1	<1	<1	<.20	<40	<20
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	<1	--	390	--	<1	--	<.20	--	E8
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	<1	--	200	--	<1	--	<.20	--	<20

RIO GRANDE RIVER BASIN

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374752105300801 MEDANO CREEK NEAR MOSCA, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°47'52", long 105°30'08", SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, sec. 11, T.26 S., R.73 W., Saguache County, Hydrologic Unit 13010003, at Great Sand Dunes National Monument, 0.4 mi downstream from east Monument boundary, and 5.0 mi north of Monument entrance station, near Mosca. Elevation of site is 8450 feet above sea level, from topographic map.

DRAINAGE AREA.--15 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1993 to September 1996 (Rio Grande National Water-Quality Assessment Program station), February to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE,	SPE-	PH	TEMPER-	OXYGEN,	COLI-	STREP-	HARD-	CALCIUM	MAGNE-	BICAR-
		INST. CUBIC FEET PER SECOND (00061)	CIFIC CON- DUCT- ANCE (US/CM) (00095)	WATER WHOLE FIELD (STAND- ARD UNITS) (00400)			FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)			NESS TOTAL (MG/L CACO3) (00900)	SIUM, DIS- SOLVED (MG/L AS CA) (00925)
FEB												
09...	1145	2.7	96	7.2	.3	10.6	--	--	43	11	3.5	54
MAY												
11...	1245	23	66	7.6	3.8	9.4	K3	K5	--	--	--	--
19...	1330	27	43	7.5	8.8	--	K1	K3	--	--	--	--
26...	1030	34	53	7.8	4.2	9.4	<1	K5	24	6.4	2.0	27
JUN												
02...	1500	35	52	7.3	9.4	8.4	K2	18	--	--	--	--
10...	1100	31	45	7.6	7.4	8.5	K2	35	--	--	--	--
17...	1145	29	45	7.2	6.5	9.5	K4	42	--	--	--	--
24...	1030	18	51	7.7	9.2	8.5	--	--	--	--	--	--
29...	1200	14	54	7.8	11.5	8.0	K4	420	--	--	--	--
JUL												
07...	1200	9.1	60	8.2	14.5	7.8	K4	610	--	--	--	--
14...	0800	7.2	68	8.0	10.0	8.3	9	720	--	--	--	--
22...	1300	9.6	61	7.5	16.5	7.5	K2	K570	--	--	--	--
27...	1155	7.7	65	8.1	15.5	7.5	7	300	29	8.0	2.3	35
AUG												
03...	1105	6.0	76	7.8	12.5	7.7	11	260	--	--	--	--
12...	1245	6.0	74	7.7	15.0	7.8	K5	460	--	--	--	--
17...	1410	5.5	68	7.9	17.5	7.1	K12	360	--	--	--	--
SEP												
07...	1415	3.1	83	7.8	15.6	7.3	8	120	36	9.8	2.8	44

DATE	CAR-	ALKA-	SOLIDS,	NITRO-	NITRO-	NITRO-	CADMIUM	CADMIUM	COPPER,	COPPER,	
	BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)							RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)		GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
FEB											
09...	.000	45	3.9	67	<.01	.09	<.02	--	<.1	--	<.5
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	.000	23	2.6	47	<.01	<.05	.003	<1	<.1	5	1
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
27...	.000	29	1.9	52	<.01	<.05	.004	--	<.1	--	<.8
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	.000	36	2.2	56	<.01	<.05	<.002	--	<.1	--	.5

K Based on non-ideal colony count.



GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374752105300801 MEDANO CREEK NEAR MOSCA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	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)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
FEB											
09...	--	--	<1	--	12	--	<1	--	<.20	--	<20
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	1930	2	<1	44.9	6	<1	<1	<1	<.20	<40	<20
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	<1	--	9	--	<1	--	<.20	--	E9
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	<1	--	11	--	<1	--	<.20	--	<20

RIO GRANDE RIVER BASIN

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374439105304901 MEDANO CREEK BELOW GARDEN CREEK AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'39", long 105°30'49", NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, sec. 35, T.26 S., R.73 W., Alamosa County, Hydrologic Unit 13010003, at Great Sand Dunes National Monument, 0.1 mi downstream from Garden Creek, and 1.3 mi north of Monument entrance station.

PERIOD OF RECORD.-- February to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL AS CACO3 (MG/L) (00900)	
FEB										
10...	0935	.16	76	7.6	.000	10.5	--	--	34	
MAY										
11...	1520	E23	68	8.0	8.6	8.7	K4	K16	--	
19...	1520	E30	61	7.7	14.1	--	180	210	--	
27...	1100	E42	58	7.9	18.2	7.1	K4	K14	23	
JUN										
02...	1945	E45	55	7.3	9.1	8.3	110	73	--	
10...	0945	E48	47	7.8	15.1	7.4	K5	57	--	
18...	0945	53	49	8.0	12.0	8.2	K8	100	--	
25...	0930	21	52	8.0	18.1	7.2	K2	270	--	
30...	1000	14	56	8.1	19.9	6.9	K19	620	--	
JUL										
07...	1640	7.4	63	8.1	29.5	5.8	26	160	--	
13...	1215	5.1	67	7.2	29.5	5.9	>120	K3700	--	
23...	0925	8.6	65	7.5	18.8	7.4	K24	K1700	--	
29...	1015	4.2	69	8.0	25.0	6.3	76	470	29	
AUG										
04...	0945	10	73	8.2	17.5	7.3	200	990	--	
13...	1050	5.2	77	8.1	25.5	6.5	K27	310	--	
18...	0915	2.8	73	8.0	20.0	7.1	K60	2700	--	
SEP										
09...	0835	.91	96	7.7	11.0	8.3	96	K370	42	
DATE		CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT (MG/L AS HCO3 CO3) (00453)	CAR-BONATE WATER DIS IT (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C 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)
FEB										
10...	9.1	2.7	45	.000	37	3.3	60	<.01	.08	
MAY										
11...	--	--	--	--	--	--	--	--	--	
19...	--	--	--	--	--	--	--	--	--	
27...	6.2	1.8	31	.000	26	2.9	52	<.01	<.05	
JUN										
02...	--	--	--	--	--	--	--	--	--	
10...	--	--	--	--	--	--	--	--	--	
18...	--	--	--	--	--	--	--	--	--	
25...	--	--	--	--	--	--	--	--	--	
30...	--	--	--	--	--	--	--	--	--	
JUL										
07...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	
23...	--	--	--	--	--	--	--	--	--	
29...	7.9	2.2	39	.000	32	2.0	52	<.01	<.05	
AUG										
04...	--	--	--	--	--	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	
18...	--	--	--	--	--	--	--	--	--	
SEP										
09...	11	3.3	54	.000	44	2.4	67	<.01	<.05	

E Estimated.

K Based on non-ideal colony count.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374439105304901 MEDANO CREEK BELOW GARDEN CREEK AT GREAT SAND DUNES NATIONAL MONUMENT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
FEB								
10...	<.02	<.1	<.5	<1	<3	<1	<.20	<20
MAY								
11...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
27...	.005	<.1	2	<1	5	<1	<.20	<20
JUN								
02...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
JUL								
07...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
29...	.004	.4	1	<1	<3	<1	<.20	E9
AUG								
04...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--
SEP								
09...	.004	<.1	.9	<1	<2	<1	<.20	<20

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374416105310501 MEDANO CREEK BELOW MOSCA CREEK AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'16", long 105°31'05", NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, sec. 3, T.27 S., R.73 W., Alamosa County, Hydrologic Unit 13010003, at Great Sand Dunes National Monument, 0.1 mi downstream from Mosca Creek, and 0.8 mi north of Monument entrance station.

PERIOD OF RECORD.-- February to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
FEB												
10...	1155	.86	104	7.9	3.6	9.8	--	--	46	13	3.5	60
MAY												
11...	1645	26	72	8.0	8.7	8.6	K2	K35	--	--	--	--
19...	1200	36	75	7.7	15.0	--	100	K40	--	--	--	--
27...	1100	44	60	8.0	16.9	7.7	K8	21	23	6.4	1.8	32
JUN												
02...	1915	47	58	7.3	9.7	8.2	54	78	--	--	--	--
10...	0915	49	52	7.9	12.3	7.8	K13	100	--	--	--	--
18...	0900	E54	49	8.0	12.0	8.2	44	390	--	--	--	--
25...	0900	22	63	8.0	15.8	7.5	K3	260	--	--	--	--
30...	0930	15	64	8.1	17.0	7.2	52	710	--	--	--	--
JUL												
07...	1615	7.8	72	8.2	30.0	5.7	160	190	--	--	--	--
13...	1145	5.7	81	7.5	28.0	6.3	45	550	--	--	--	--
23...	1015	E9.1	75	8.0	20.8	6.9	37	400	--	--	--	--
29...	0915	4.7	83	8.2	18.0	7.3	120	700	35	9.5	2.7	45
AUG												
04...	0925	11	84	7.8	16.0	7.4	150	1100	--	--	--	--
13...	1015	E5.5	88	7.9	20.0	7.1	150	540	--	--	--	--
18...	0845	E3.4	84	8.0	16.5	7.4	94	2000	--	--	--	--
SEP												
09...	1025	1.3	119	8.0	E18.0	E8.8	K480	1200	52	14	3.9	66

DATE	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C 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)	CADMIUM WATER UNFLTRD (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED TOTAL (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
FEB											
10...	.000	49	5.4	74	<.01	.08	<.02	--	<.1	--	<.5
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
27...	.000	26	3.1	52	<.01	<.05	.004	<1	<.1	42	1
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
29...	.000	37	2.5	62	<.01	<.05	.004	--	<.1	--	<1
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	.000	54	3.6	86	<.01	<.05	<.002	--	<.1	--	.6

E Estimated.  
K Based on non-ideal colony count.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374416105310501 MEDANO CREEK BELOW MOSCA CREEK AT GREAT SAND DUNES NATIONAL MONUMENT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	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)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
FEB											
10...	--	--	<1	--	5	--	<1	--	<.20	--	<20
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
27...	31200	33	<1	940	3	<1	<1	<1	<.20	92.2	<20
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	<1	--	E2	--	<1	--	<.20	--	<20
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	--	--	<1	--	5	--	<1	--	<.20	--	<20

E Estimated.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374447105301101 GARDEN CREEK AT BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'47", long 105°30'11", SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 35, T.26 S., R.73 W., Alamosa County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, 0.2 mi east of Pinyon Flats Campground, and 1.9 mi northeast of Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD CAC03 (39086)	
DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	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)
MAY 26...	1455	.74	102	7.8	6.1	9.0	43	11	3.6	52	.000	42	
MAY 26...	6.0	85	<.01	<.05	.004	<.1	2	<1	<3	<1	<.20	<20	

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374520105295801 SAWMILL CANYON AT BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°45'20", long 105°29'58", NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 26, T.26 S., R.73 W., Saguache County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, at Monument boundary, 0.2 mi east of the primitive road, 0.6 mi upstream from mouth, and 2.5 mi northeast of Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)
MAY 24...	1310	.17	126	8.0	6.2	8.8	56	15	4.2	47	.000	38
DATE		SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (00945)	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)	CADMIUM DIS-SOLVED (UG/L) (01025)	COPPER, DIS-SOLVED (UG/L) (01040)	LEAD, DIS-SOLVED (UG/L) (01049)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	SILVER, DIS-SOLVED (UG/L) (01075)	ZINC, DIS-SOLVED (UG/L) (01090)
MAY 24...	13	110	<.01	<.05	.004	<.1	2	<1	<3	<1	<.20	<20

RIO GRANDE RIVER BASIN

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374623105295901 CASTLE CREEK AT BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°46'23", long 105°29'59", SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 23, T.26 S., R.73 W., Saguache County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, at Monument boundary, 0.4 mi east of primitive road, 0.4 mi upstream from mouth, and 3.8 mi north of Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STANDARD WATER UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNESIUM DIS-SOLVED (MG/L) (00925)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3 CO3) (00453)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKALINITY TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
MAY 24...	1330	.50	8.1	13.5	7.7	46	13	3.4	47	.000	39	8.7
DATE		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)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
MAY 24...		82	<.01	<.05	.004	<.1	3	<1	<3	<1	<.20	<20



GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374825105302601 LITTLE MEDANO CREEK AT MOUTH, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°48'25", long 105°30'26", NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 11, T.26 S., R.73 W., Saguache County, Hydrologic Unit 13010003, at Great Sand Dunes National Monument, 1.2 mi upstream from mouth and 5.8 mi north of Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD CAC03 (39086)	
DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	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)
MAY 26...	1050	4.9	70	7.8	4.1	9.6	30	9.5	1.4	77	.000	63	
MAY 26...	3.4	61	<.01	<.05	.004	<.1	1	<1	4	<1	<.20	<20	

RIO GRANDE RIVER BASIN

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374927105331101 COLD CREEK AT BOUNDARY, AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°49'27", long 105°33'11", SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 32, T.25 S., R.73 W., Saguache County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, 0.5 mi downstream from east Monument boundary, and 0.6 mi northeast of Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--May to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	
MAY 25...	1345	3.5	80	7.9	5.7	9.8	37	12	1.9	28	.000	23	
DATE		SULFATE DIS-SOLVED (MG/L) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-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)	CADMIUM DIS-SOLVED (UG/L) (01025)	COPPER, DIS-SOLVED (UG/L) (01040)	LEAD, DIS-SOLVED (UG/L) (01049)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	SILVER, DIS-SOLVED (UG/L) (01075)	ZINC, DIS-SOLVED (UG/L) (01090)
MAY 25...	4.2	59	<.01	<.05	.004	<.1	2	<1	E2	<1	<.20	<20	

E Estimated.

GREAT SAND DUNES NATIONAL MONUMENT WATER-QUALITY STUDY--Continued

374652105380401 WEST ELK SPRING POND AT GREAT SAND DUNES NATIONAL MONUMENT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°46'52", long 105°38'04", SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, sec. 23, T.41 N., R.12 E., Saguache County, Hydrologic Unit 13010003, Great Sand Dunes National Monument, 0.5 mi east of west Monument boundary, 1.1 mi northwest of Indian Spring, and 7.4 mi northwest of the Monument entrance station.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--February to September 1999.

REMARKS.--Un-ionized ammonia computations based on equations from U.S. Environmental Protection Agency, Quality Criteria for Water 1986 (Update 2): U.S. Environmental Protection Agency, Office of Water Regulations and Standards, EPA Report 440/5-86-001, variously paginated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE 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)	BICAR- BONATE WATER DIS IT FIELD MG/L AS AS MG) (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS AS MG) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L) AS SO4) (00945)
FEB 10...	1515	--	6.9	4.9	10.2	44	11	4.3	--	--	--	8.1
MAY 25...	1615	323	8.3	16.1	11.6	100	25	9.4	190	.000	156	6.7
SEP 08...	1340	182	9.5	22.5	E37.0	60	15	5.5	70	16	84	8.2

DATE	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)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)	LEAD, DIS- SOLVED (UG/L) AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)	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)
FEB 10...	117	<.01	<.05	<.02	<.1	<.5	<1	82	1	<.20	<20
MAY 25...	244	<.01	<.05	.022	<.1	.5	<1	54	<1	<.20	<20
SEP 08...	128	<.01	<.05	.008	<.1	<.5	<1	4	<1	<.20	<20

E Estimated.

QUALITY OF GROUND WATER

EL PASO COUNTY

384056104415601 - SC01606505°CCB - FOUNTAIN NO. 3

LOCATION.--Lat 38°40'56", long 104°41'56" in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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 17...	0940	988	--	12.0	--	<.01	2.5	<.02	<.01
AUG 25...	1000	1020	7.5	12.4	2.7	<.01	2.5	<.02	.02

384108104420701 - SC01606506DAA - FOUNTAIN NO. 2

LOCATION.--Lat 38°41'08", long 104°42'07", NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 5,549.6 ft above sea level, from levels.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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 17...	1000	1160	7.4	12.0	--	<.01	2.2	<.02	<.01
AUG 25...	0930	1190	7.2	12.5	4.5	<.01	2.3	<.02	.03

384323104432201 - SC01506625AAB - WIDEFIELD NO. 5

LOCATION.--Lat 38°43'23", long 104°43'22", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.25. T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in., depth 47 ft, screened 26.5 to 46.5 ft.

DATUM.--Elevation of land-surface datum is 5,640 ft above sea level.

PERIOD OF RECORD.--February to September 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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 17...	1035	857	7.4	13.0	<.01	7.1	<.02	.03	
AUG 25...	1135	862	7.5	13.9	<.01	7.9	<.02	.04	

QUALITY OF GROUND WATER

EL PASO COUNTY--Continued

384345104241401 - SC01506324ABB - SWEET WATER NO. 1

LOCATION.--Lat 38°43'45", long 104°24'14", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.24, T.15 S., R.63 W., El Paso County, Hydrologic Unit 11020004.

AQUIFER.--Black Squirrel alluvial aquifer.

WELL CHARACTERISTICS.--Public-supply well, diameter 16 in., depth 158 ft, screened 111 to 115 ft.

DATUM.--Elevation of land-surface datum is 5,712 ft above sea level, from topographic map.

PERIOD OF RECORD.--February to September 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 17...	1600	298	7.2	13.0	<.01	4.5	<.02	.05
AUG 26...	1405	303	7.6	13.7	<.01	4.4	<.02	.05

384407104434801 - SC01506624BAD1 - WIDEFIELD NO. 4

LOCATION.--Lat 38°44'07", long 104°43'48", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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 17...	1105	619	7.4	12.5	--	<.01	6.6	<.02	.01
AUG 25...	1105	609	7.1	13.0	4.4	<.01	7.3	<.02	.02

384433104440702 - SC01506613CBD2 - U-14

LOCATION.--Lat 38°44'33", long 104°44'07", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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...	1155	31.18	596	7.3	11.5	--	<.01	6.9	<.02	<.01
AUG 26...	1025	32.19	555	7.1	14.0	3.8	<.01	7.1	<.02	.01

QUALITY OF GROUND WATER

EL PASO COUNTY--Continued

384458104442601 - SC01506614AAD - SECURITY NO. 2

LOCATION.--Lat 38°44'58", long 104°44'26", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD TEMPER- ATURE WATER SOLVED (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) (00671)	
FEB 17...	1250	506	--	13.0	--	<.01	8.5	<.02	<.01
AUG 25...	1405	494	7.2	14.3	5.6	<.01	7.6	<.02	.02

384535104450801 - SC01506611BCD2 - VENETUCCI NO. 3

LOCATION.--Lat 38°45'35", long 104°45'08", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD TEMPER- ATURE WATER SOLVED (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) (00671)
FEB 17...	1230	450	7.4	12.5	<.01	8.6	<.02	.06
AUG 26...	1115	449	7.1	12.9	<.01	7.8	<.02	.05

384604104451502 - SC01506602CCC2 - U-9

LOCATION.--Lat 38°46'04", long 104°45'15", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD TEMPER- ATURE WATER SOLVED (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) (00671)
FEB 18...	1310	33.28	520	7.3	13.5	<.01	7.0	<.02	.05
AUG 25...	1315	32.43	564	7.4	14.3	<.01	9.6	<.02	.06

QUALITY OF GROUND WATER

EL PASO COUNTY--Continued

384610104453501 - SC01506603DDB - SECURITY NO. 14

LOCATION.--Lat 38°46'10", long 104°45'35", in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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 17...	1310	597	7.7	10.5	--	<.01	7.3	<.02	.04
AUG 25...	1435	607	7.2	13.2	5.9	<.01	6.8	<.02	.04

384617104455901 - SC01506603CAD - STRATMOOR HILLS NO. 4

LOCATION.--Lat 38°46'17", long 104°45'59", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 17...	1345	737	7.4	13.0	<.01	9.7	<.02	<.01
AUG 25...	1525	754	7.4	14.0	<.01	9.3	<.02	.02

384639104461401 - SC01506603BAC1 - MARS GAS

LOCATION.--Lat 38°46'39", long 104°46'14", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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 17...	1405	1060	7.3	12.0	--	.01	4.6	<.02	<.01
AUG 26...	1145	1190	7.2	14.4	.8	<.01	7.8	<.02	.02

QUALITY OF GROUND WATER

EL PASO COUNTY--Continued

384653104451901 - SC01506602BBB - TH-18

LOCATION.--Lat 38°46'53", long 104°45'19", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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...	1440	87.85	472	7.2	13.5	<.01	11	<.02	.05
AUG 26...	1620	87.59	470	7.2	14.2	<.01	9.9	<.02	.07

384718104463701 - SC01406633DAA - BARNES WELL

LOCATION.--Lat 38°47'18", long 104°46'37", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (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 17...	1420	1170	7.3	11.5	<.01	10	<.02	<.01
AUG 26...	1225	1320	7.3	13.4	<.01	9.5	<.02	.02



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# CONVERSION FACTORS AND VERTICAL DATUM

<b>Multiply</b>	<b>By</b>	<b>To obtain</b>
<b>Length</b>		
inch (in.)	$2.54 \times 10^1$	millimeter
	$2.54 \times 10^{-2}$	meter
foot (ft)	$3.048 \times 10^{-1}$	meter
mile (mi)	$1.609 \times 10^0$	kilometer
<b>Area</b>		
acre	$4.047 \times 10^3$	square meter
	$4.047 \times 10^{-1}$	square hectometer
	$4.047 \times 10^{-3}$	square kilometer
square mile (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometer
<b>Volume</b>		
gallon (gal)	$3.785 \times 10^0$	liter
	$3.785 \times 10^0$	cubic decimeter
	$3.785 \times 10^{-3}$	cubic meter
million gallons (Mgal)	$3.785 \times 10^3$	cubic meter
	$3.785 \times 10^{-3}$	cubic hectometer
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeter
	$2.832 \times 10^{-2}$	cubic meter
cubic-foot-per-second day [(ft <sup>3</sup> /s) d]	$2.447 \times 10^3$	cubic meter
	$2.447 \times 10^{-3}$	cubic hectometer
acre-foot (acre-ft)	$1.233 \times 10^3$	cubic meter
	$1.233 \times 10^{-3}$	cubic hectometer
	$1.233 \times 10^{-6}$	cubic kilometer
<b>Flow</b>		
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liter per second
	$2.832 \times 10^1$	cubic decimeter per second
	$2.832 \times 10^{-2}$	cubic meter per second
gallon per minute (gal/min)	$6.309 \times 10^{-2}$	liter per second
	$6.309 \times 10^{-2}$	cubic decimeter per second
	$6.309 \times 10^{-5}$	cubic meter per second
million gallons per day (Mgal/d)	$4.381 \times 10^1$	cubic decimeter per second
	$4.381 \times 10^{-2}$	cubic meter per second
<b>Mass</b>		
ton (short)	$9.072 \times 10^{-1}$	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.