

Jeffrey DUDMAN

Water Resources Data Colorado Water Year 1992

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-92-1
Prepared in cooperation with the State of Colorado
and with other agencies

CALENDAR FOR WATER YEAR 1992

1991

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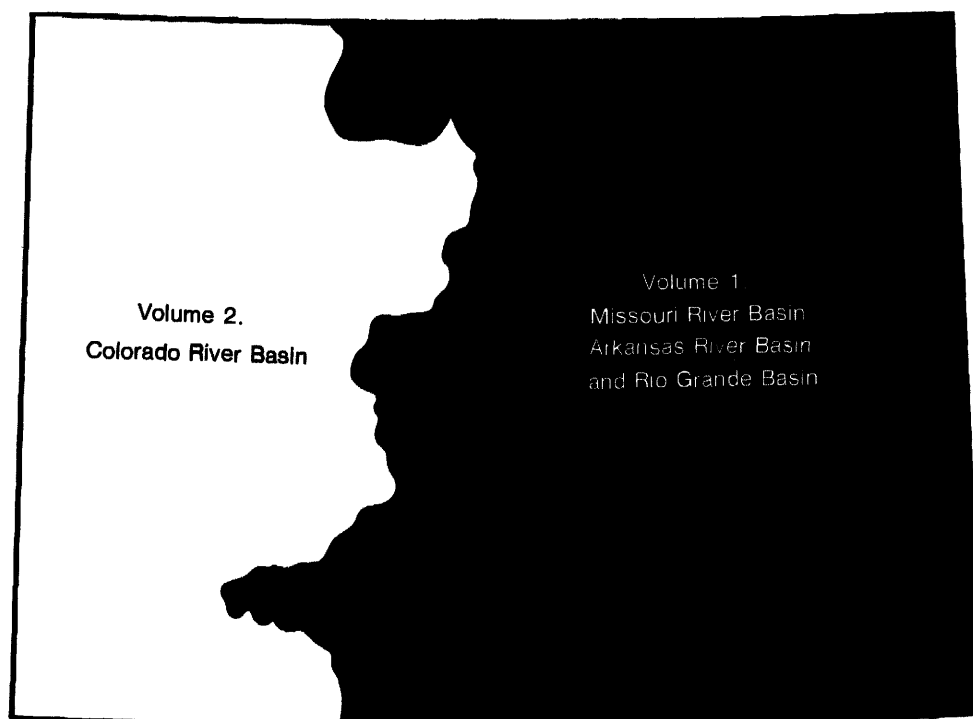
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Volume 1. Missouri River Basin, Arkansas River Basin
and Rio Grande Basin

by R.C. Ugland, B.J. Cochran, M.M. Hiner, and R.D. Steger



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-92-1
Prepared in cooperation with the State of Colorado
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U. S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

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Lakewood, CO 80225**

PREFACE

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

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

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

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This report was prepared in cooperation with the State of Colorado and with other agencies under the general supervision of D. J. Lystrom, District Chief, Colorado.

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15. Supplementary Notes Prepared in cooperation with the State of Colorado and other agencies.			14.
16. Abstract (Limit: 200 words) Water-resources data for Colorado for the 1992 water year consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of wells and springs. This report (Volumes 1 and 2) contains discharge records for 304 gaging stations, stage and contents of 26 lakes and reservoirs, 1 partial-record low-flow station, peak flow information for 47 crest-stage partial record stations, and 1 miscellaneous site; water quality for 89 gaging stations, 169 miscellaneous sites, and for 14 observation wells. Nine pertinent stations operated by bordering states also are included in this report. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of D.J. Lystrom, District Chief. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies.			
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(Letter after station name designates type and frequency of published data: Daily tables: (D) discharge, (C) specific conductance (S) sediment, (T) temperature, (e) elevation or contents, (O) dissolved oxygen, (P) pH.

Partial tables: (c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature)

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WATER RESOURCES DATA - COLORADO, 1992
VOLUME 1: MISSOURI RIVER, ARKANSAS RIVER, AND RIO GRANDE BASINS

By R. C. Ugland, B. J. Cochran, R. D. Steger, and M. M. Hiner

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 122 surface-water stations, and peak discharges for 41 partial-record surface-water stations; (2) stage and contents for 13 lakes and reservoirs; (3) surface-water-quality data for 30 surface-water stations, for 3 reservoirs, for 14 wells, and miscellaneous surface-water-quality data for 45 gaged sites. Locations of lake and surface-water stations and surface-water-quality stations are shown in figure 1, locations of crest-stage partial-record stations are shown in figure 2. Four pertinent stations operated by bordering States also are included in this report. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Colorado were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-water Supply of the United States," Parts 6B, 7, and 8. 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-92-1." 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. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

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. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Building 810, Box 25425, Denver, CO 80225.

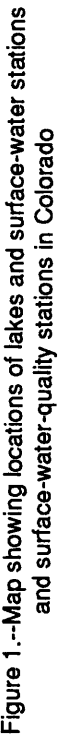


Figure 1.--Map showing locations of lakes and surface-water stations and surface-water-quality stations in Colorado

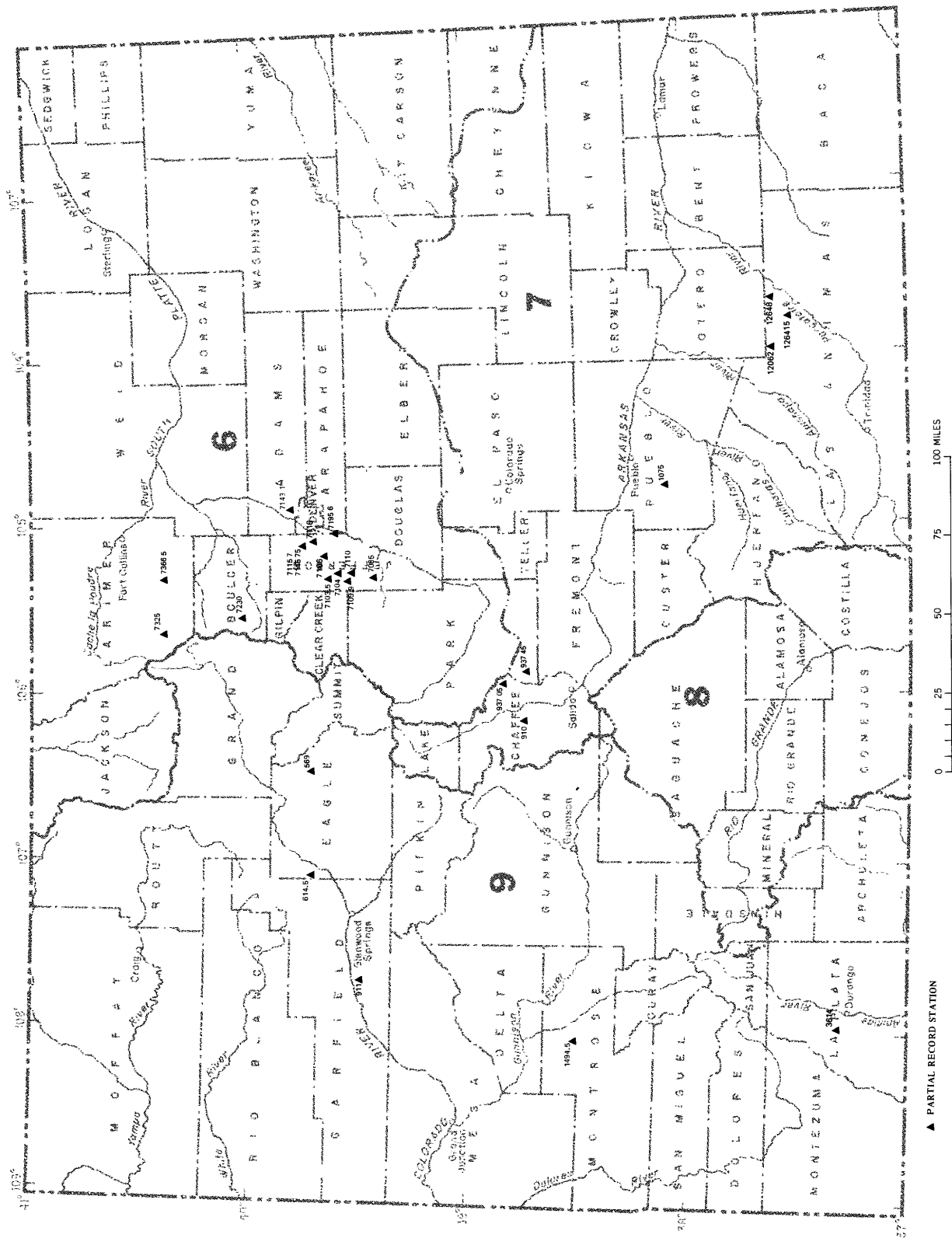


Figure 2.--Map showing locations of crest-stage partial record stations in Colorado.

COOPERATION

The U.S. Geological Survey and organizations of 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 assisted in collecting data for this report through cooperative agreement with the Survey are:

Arapahoe County, Water and Wastewater Authority.
 Arkansas River Compact Administration.
 Bent County Commissioners.
 Boulder County.
 Centennial Water and Sanitation District.
 Central Colorado Water Conservancy District.
 Cherokee Metropolitan District.
 City and County of Denver, Board of Water Commissioners.
 City of Arvada.
 City of Aspen.
 City of Aurora.
 City of Boulder.
 City of Colorado Springs, Department of Public Utilities.
 City of Colorado Springs, Department of Public Works.
 City of Englewood.
 City of Fort Collins.
 City of Glendale.
 City of Glenwood Springs.
 City of Golden.
 City of Lakewood.
 City of Lamar.
 City of Las Animas.
 City of Longmont.
 City of Loveland.
 City of Northglenn.
 City of Pueblo.
 City of Rocky Ford.
 City of Steamboat Springs, Public Works Department.
 City of Thornton.
 City of Westminster.
 Colorado Department of Health.
 Colorado Department of Transportation.
 Colorado Division of Water Resources.
 Colorado Division of Wildlife.
 Colorado River Water Conservation District.
 Colorado Oil and Gas Conservation Commission.
 Colorado Water Conservation Board.
 Delta County Board of County Commissioners.
 Eagle County Board of Commissioners.
 East Grand County Water-Quality Board.
 Evergreen Metropolitan District.
 Fountain Valley Authority.
 Fremont Sanitation District.
 Garfield County.
 Jefferson County Board of County Commissioners.
 La Plata County.
 Lower Fountain Water-Quality Management Association.
 Metro Wastewater Reclamation District.
 Moffat County.
 Northern Colorado Water Conservancy District.
 Pueblo Board of Water Works.
 Pueblo County Commissioners.
 Pueblo West Metro Water District.
 Rio Blanco County Board of County Commissioners.
 Rio Grande Water Conservancy District.
 Rio Grande Water Conservation District.
 Southeastern Colorado Water Conservancy District.
 Southern Ute Indian Tribe.
 Southwestern Colorado Water Conservation District.
 St. Charles Mesa Water District.
 Town of Breckenridge.
 Trans Mountain Hydro Corporation, (Federal Energy Regulatory Commission Licensee).
 Trinchera Water Conservancy District.
 Uncompahgre Valley Water Users Association.
 Upper Arkansas Council of Governments.
 Upper Arkansas River Water Conservancy District.
 Upper Eagle Regional Water Authority.
 Upper Yampa Water Conservancy District.
 Urban Drainage and Flood Control District.
 Ute Mountain Ute Indian Tribe.
 Vail Valley Consolidated Water District.
 Yellowjacket Water Conservancy District.

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

OVERVIEW OF HYDROLOGIC CONDITIONS [East of the Continental Divide]

Prepared by K.R. Wilke

Precipitation

Precipitation data for water year 1992 were obtained from published reports of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Climate Data Center, for the four National Weather Service divisions in Colorado that are east of the Continental Divide. These data are listed in table 1. Precipitation and departures-from-normal precipitation (1951-80) are listed for the first 6 months of the water year when precipitation is predominately snow and for the remaining 6 months when precipitation is predominately rain. Also listed are the precipitation and departures-from-normal precipitation for the entire water year.

Precipitation was greater than normal for October-March in the Arkansas Drainage Basin, the Kansas Drainage Basin, the Platte Drainage Basin, and the Rio Grande Drainage Basin. Precipitation was greater than normal for April-September in the Arkansas Drainage Basin, the Kansas Drainage Basin, and The Rio Grande Drainage Basin, and less than normal for April-September in the Platte Drainage Basin. For the year, precipitation in the Arkansas Drainage Basin was 14 percent greater than normal, the Kansas Drainage Basin was 26 percent greater than normal, the Platte Drainage Basin was 12 percent greater than normal, and the Rio Grande Drainage Basin was 36 percent greater than normal.

Graphs of monthly precipitation for the water year and for normal monthly precipitation, at selected weather stations, are shown in figure 3. Monthly precipitation data for water year 1992 were supplemented by data obtained from the Colorado State University, Department of Atmospheric Science, Colorado Climate Center, in Fort Collins.

Table 1.--Precipitation during water year 1992 and departures-from-normal precipitation (1951-80), in inches

National Weather Service division	October-March		April-September		Water year 1992	
	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal
Arkansas Drainage Basin	5.15	1.16	11.14	0.87	16.29	2.03
Kansas Drainage Basin	6.47	3.16	13.87	1.08	20.34	4.24
Platte Drainage Basin	6.54	2.36	10.23	-.60	16.77	1.76
Rio Grande Drainage Basin	6.55	1.85	9.41	2.41	15.96	4.26

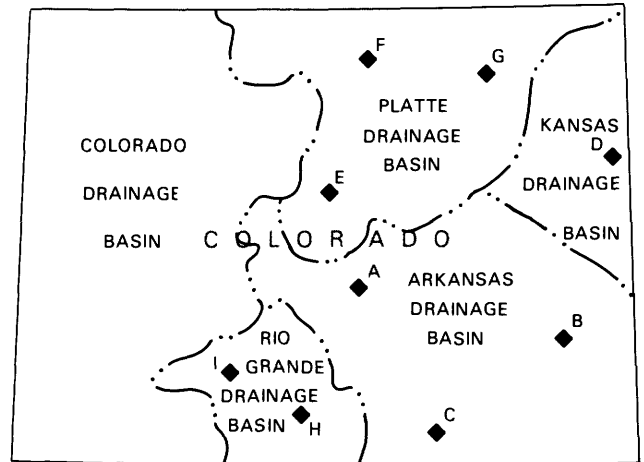
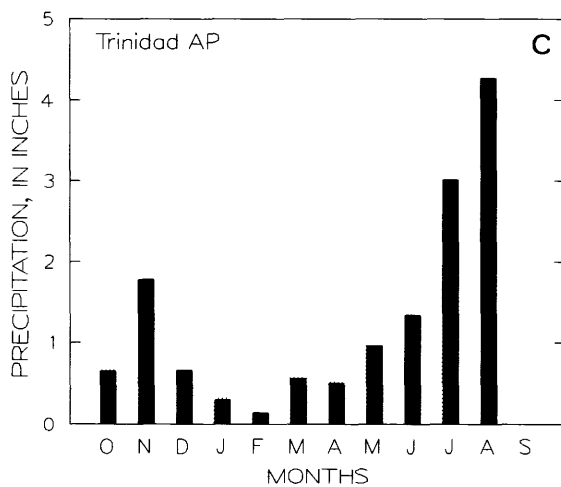
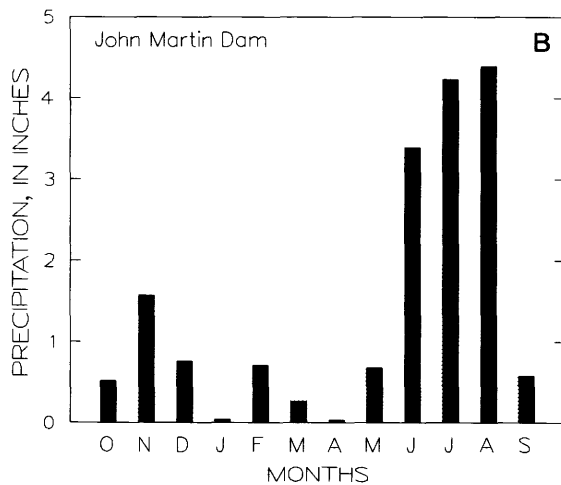
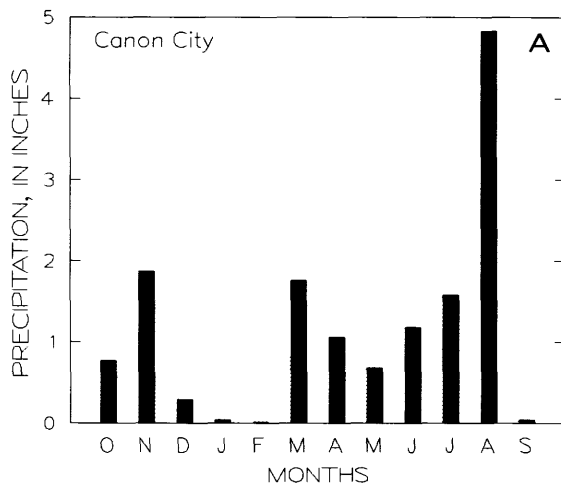
Streamflow

Monthly mean discharges during water year 1992 at selected streamflow-gaging stations are compared to long-term mean monthly discharges in figure 4. Individual graphs show the varied streamflow east of the Continental Divide during the water year. The long-term mean monthly discharges used for gaging station 06706000, North Fork South Platte River below Geneva Creek, at Grant (fig. 4, site B), do not include records prior to water year 1964 (the year that imported water from the Colorado River basin began flowing past the gaging station).

The graphs for gaging stations 06701500, South Platte River below Cheesman Lake (fig. 4, site A); 06706000, North Fork South Platte River below Geneva Creek, at Grant (fig. 4, site B); and 06758500, South Platte River near Weldona (fig. 4, site C), indicate that monthly discharges for water year 1992 were not consistent with long-term mean monthly discharges. Local water-management practices, which consisted mostly of storage, release, or diversion of water as determined by daily and seasonal irrigation and municipal needs, also affected the trends in the three discharge graphs. The water year 1992 mean discharge at gaging station 06701500, South Platte River below Cheesman Lake, was 7 percent less than the long-term average. The water year 1992 mean discharge at gaging station 06706000, North Fork South Platte River below Geneva Creek, at Grant, was 26 percent greater than the long-term average. The water year 1992 mean discharge at gaging station 06758500, South Platte River near Weldona, was 34 percent less than the long-term average.

The graph for gaging station 07094500, Arkansas River at Parkdale (fig. 4, site D), indicates that monthly discharges for water year 1992 were generally consistent with the long-term mean monthly discharges. The graphs for gaging station 07126300, Purgatoire River near Thatcher (fig. 4, site E), and 07133000, Arkansas River at Lamar (fig. 4, site F), indicate that monthly discharges for water year 1992 were not consistent with the long-term mean monthly discharges. The trends in the three discharge graphs were affected by local water-management practices, which consisted mostly of storage and release of water as determined by daily and seasonal irrigation and municipal needs. The water year 1992 mean discharge at gaging station 07094500, Arkansas River at Parkdale, was 15 percent less than the long-term average. The water year 1992 mean discharge at gaging station 07126300, Purgatoire River near Thatcher, was 42 percent less than the long-term average. The water year 1992 mean discharge at gaging station 07133000, Arkansas River at Lamar, was 56 percent less than the long-term average.

The graph for gaging station 08217500, Rio Grande at Wagonwheel Gap (fig. 4, site G), indicates that monthly discharges for water year 1992 were generally consistent with long-term mean monthly discharges. The graph for gaging station 08251500, Rio Grande near Lobatos (fig. 4, site H), indicates that monthly discharges for water year 1992 were not consistent with the long-term mean monthly discharges. The trends in the two discharge graphs were affected by local water-management practices, which consisted mostly of storage, release, and diversion of water as determined by daily and seasonal irrigation needs. The water year 1992 mean discharge at gaging station 08217500, Rio Grande at Wagonwheel Gap, was 7 percent greater than the long-term average. The water year 1992 mean discharge at gaging station 08251500, Rio Grande near Lobatos, was 23 percent less than the long-term average.



EXPLANATION

Monthly precipitation
for water year 1992

Normal monthly precipitation
for reference period

B WEATHER STATION—
Letter refers to
accompanying graph
and map

Figure 3.--Comparison of monthly precipitation for water year 1992 to normal monthly precipitation for the reference period 1951-80.

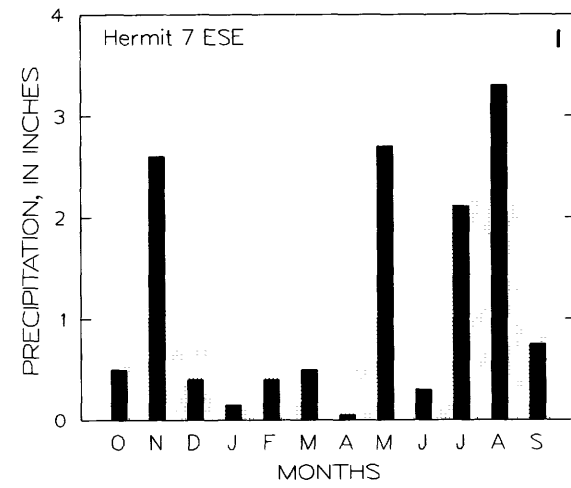
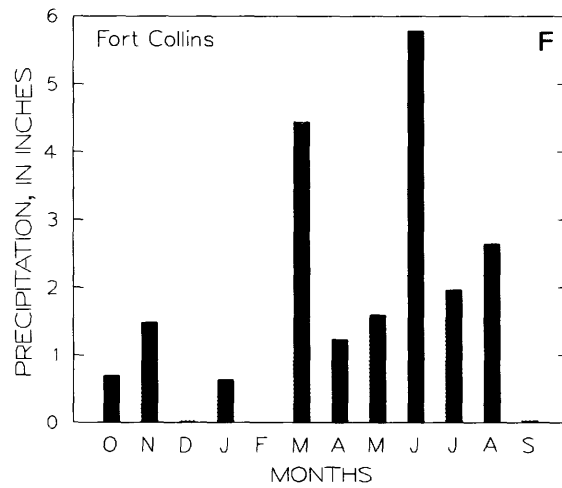
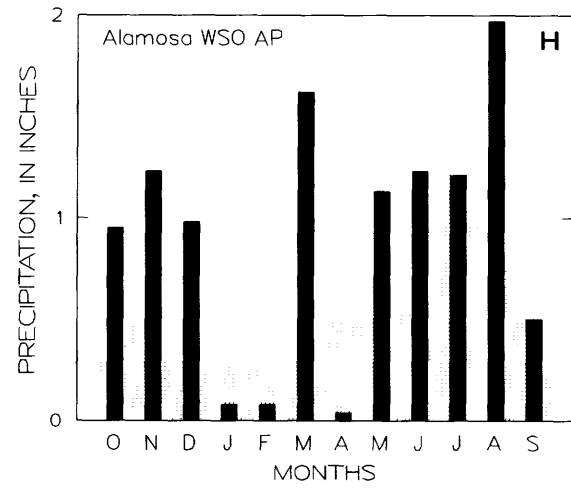
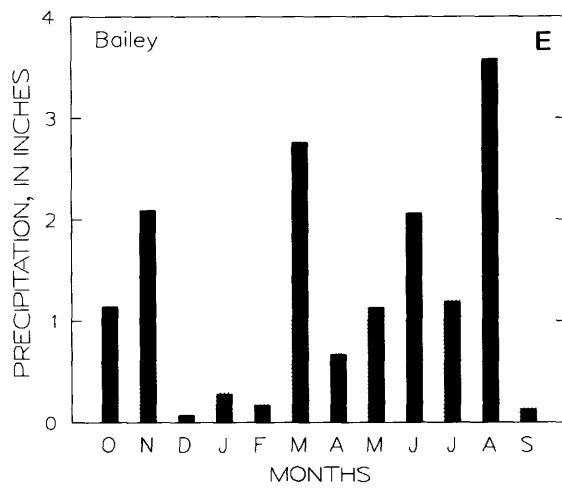
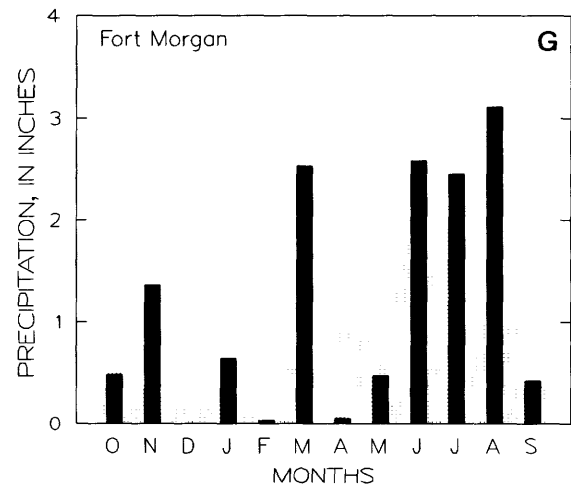
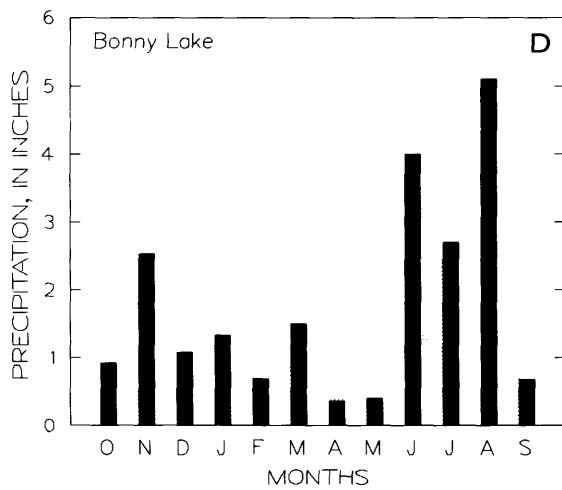
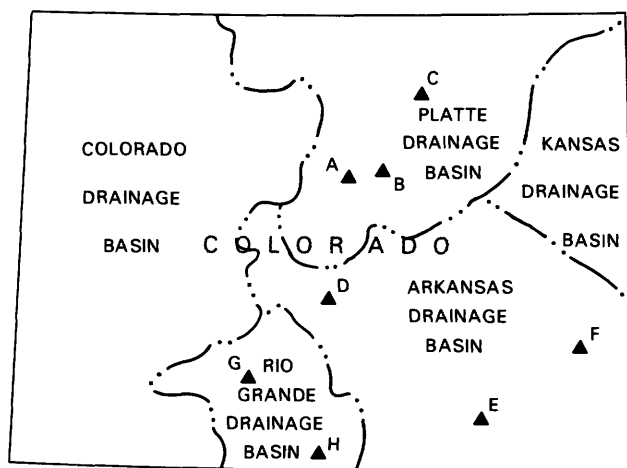
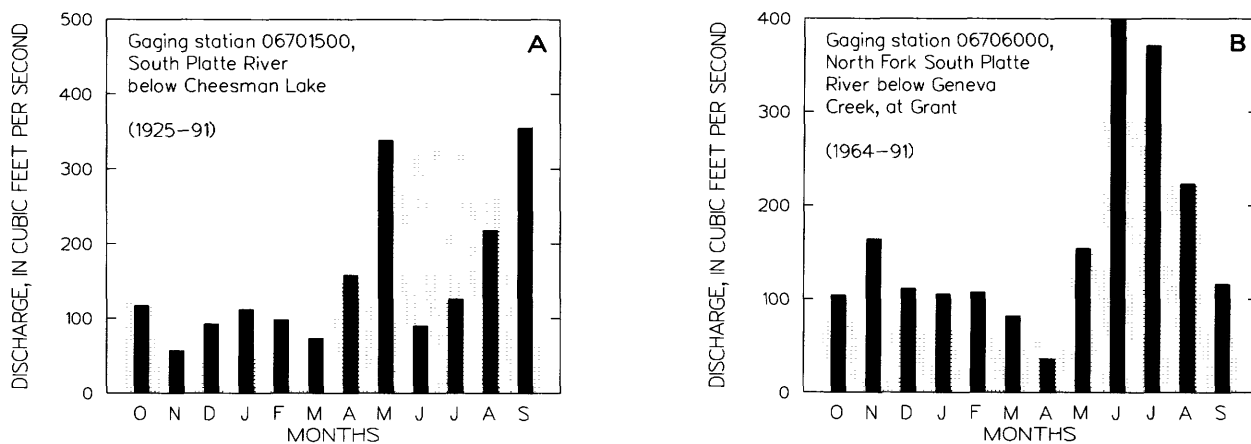


Figure 3.--(continued)



EXPLANATION

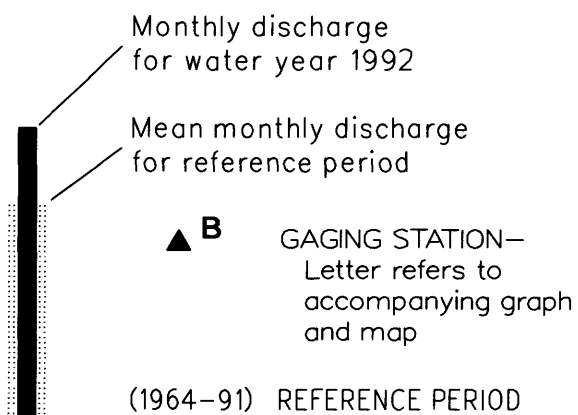


Figure 4.--Comparison of monthly discharges for water year 1992 to mean monthly discharges for the reference periods indicated on the individual graphs.

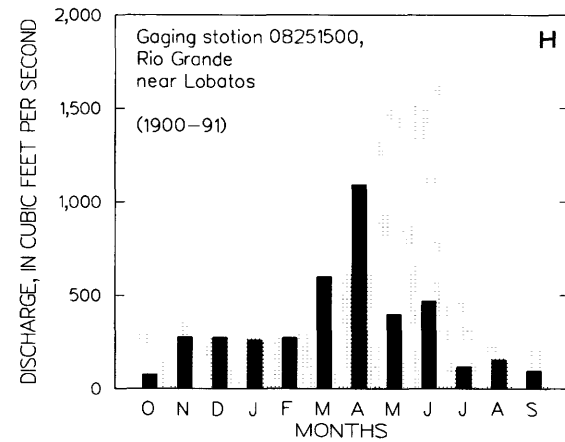
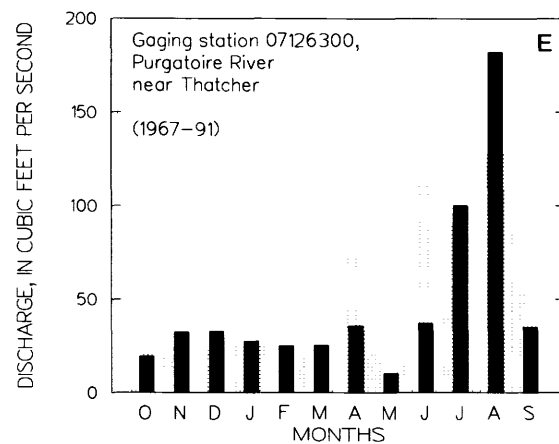
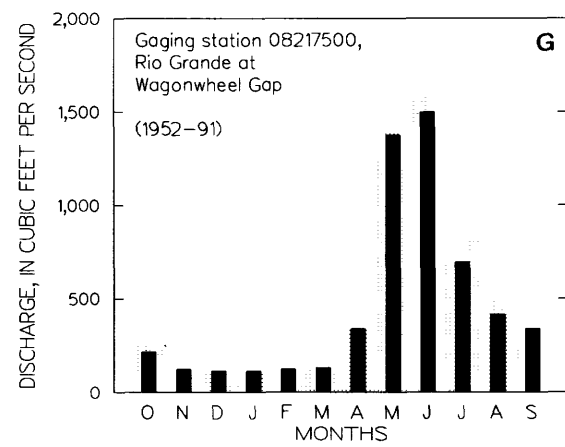
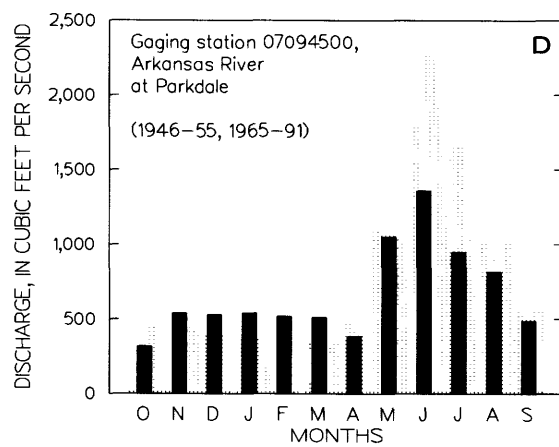
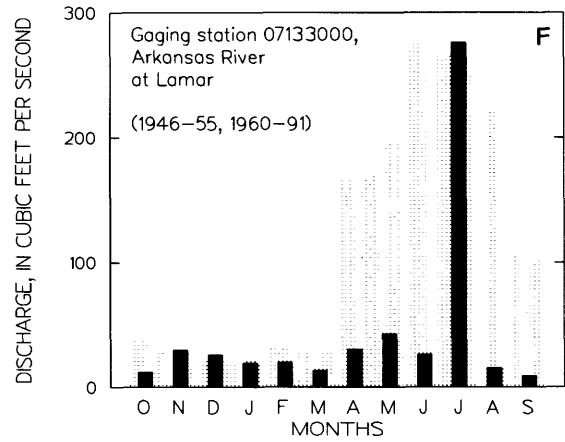
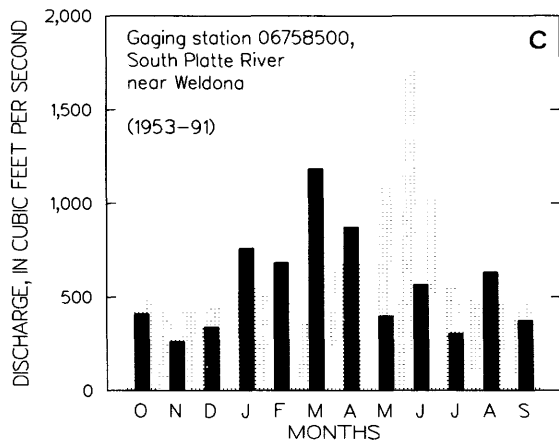


Figure 4.--(continued)

Peak discharges during water year 1992 and for the period of record for selected gaging stations are listed in table 2. Peak discharges at gaging stations 06758500, South Platte River near Weldona, was greater than the long-term median value, but was substantially less than the record high for the station. Peak discharge at gaging station 06706000, North Fork South Platte River below Geneva Creek, at Grant, was equal to the long-term median value. The peak discharge at each of the remaining selected gaging stations was less than the long-term median value. At nine of the selected gaging stations, peak discharges were less than the 25th-percentile values. At five of the nine gaging stations, peak discharges were substantially greater than the record low peak discharges for the stations. However, at gaging station 06696000, South Platte River near Lake George, the peak discharge was the fifth lowest for the period of record; at gaging station 07124000, Arkansas River at Las Animas, the peak discharge was the fourth lowest for the period of record; at gaging station 07109500, Arkansas River near Avondale, the peak discharge was the third lowest for the period of record; and at gaging station 07094500, Arkansas River at Parkdale, the peak discharge was the second lowest for the period of record.

Table 2.--Peak discharges for water year 1992 and for the period of record at selected gaging stations

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

Gaging station identification		Drainage area (mi ²)	Period of record (water years)	Water year 1992		Period of record		Remarks on 1992 peak discharge
				Date	Peak discharge (ft ³ /s)	Date	Peak discharge (ft ³ /s)	
06620000	North Platte River near Northgate	1,431	1904, 1915-91	6/1	1,400	6/11/23	6,720	Less than 25th percentile
06696000	South Platte River near Lake George	963	1930-91	8/26	206	4/28/70	3,000	Less than 25th percentile (5th lowest)
06701500	South Platte River below Cheesman Lake	1,752	1926-91	9/3	605	4/29/70	4,640	Less than 25th percentile
06706000	North Fork South Platte River below Geneva Creek, at Grant	127	¹ 1964-91	6/24	538	7/8/90	835	Median
06752500	Cache la Poudre River near Greeley	1,877	1903, 1916-17, 1919, 1924-91	6/26	967	6/14/83	6,360	Less than median
06758500	South Platte River near Weldona	13,245	1953-91	8/26	4,010	5/8/73	26,800	Greater than median
07094500	Arkansas River at Parkdale	2,548	1946-55, 1965-91	6/27	1,840	6/26/83	6,310	Less than 25th percentile (2d lowest)
07106500	Fountain Creek at Pueblo	926	1921-22, 1924-25, 1935, 1941-65, 1971-91	8/24	2,440	6/17/65	47,000	Less than 25th percentile
07109500	Arkansas River near Avondale	6,327	1939-51, 1965-91	7/14	3,160	6/18/65	50,000	Less than 25th percentile (3d lowest)
07124000	Arkansas River at Las Animas	14,417	1939-91	6/9	930	5/20/55	44,000	Less than 25th percentile (4th lowest)
07126300	Purgatoire River near Thatcher	1,791	1965-91	8/26	4,090	6/18/65	47,700	Less than median
07128500	Purgatoire River near Las Animas	3,318	1922-31, 1949-91	7/9	2,560	5/20/55	70,000	Less than 25th percentile
07133000	Arkansas River at Lamar	19,780	1913, 1915, 1919-55, 1960-91	7/21	1,790	6/5/21	130,000	Less than median
08220000	Rio Grande near Del Norte	1,320	1890-1991	5/21	3,140	10/5/11	18,000	Less than 25th percentile
08240000	Rio Grande above mouth of Trinchera Creek, near Lasauces	5,740	1936-62, 1964-80, 1982-91	4/15	945	6/21/49	5,470	Less than median
08246500	Conejos River near Mogote	282	1903-5, 1912-91	8/24	2,210	10/5/11	9,000	Less than median
08251500	Rio Grande near Lobatos	7,700	1900-91	4/15	1,700	6/8/05	13,200	Less than median

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

Chemical Quality of Streamflow

To determine if substantial changes occurred during water year 1992 in the chemical quality of streamflow, an analysis was made of specific conductance, which was measured approximately monthly at gaging stations on six representative streams. Each gaging station either is the most downstream gaging station on that stream, is representative of a substantial part of the drainage area of that stream, or is the only gaging station in that drainage that had monthly specific-conductance measurements. A comparison of the range and distribution of the specific conductance for water year 1992 to long-term values for each selected gaging station is shown in figure 5.

Specific conductance can be used to estimate the dissolved-solids concentration in water because specific conductance is directly proportional to the concentrations of ions in water. To determine if there were significant differences between values of specific conductance for water year 1992 and values for the period of record used for comparison, a statistical technique called the Wilcoxon-Mann-Whitney rank sum test was used. This test is a non-parametric counterpart to the common t-test and does not require the data to have a normal distribution.

The Wilcoxon-Mann-Whitney rank sum test was applied to the hypothesis that the mean specific conductance for water year 1992 was equal to the mean for the period of record. The procedure for testing the hypothesis involves computing a test statistic from the ranks of the data by using a pooled standard deviation and comparing the test statistics to a value obtained from a table of "Student's" t values (Box and others, 1978). The table value is $(1 - \alpha/2)$, where alpha (the level of significance) equals 0.05, at the appropriate degrees of freedom for the number of samples. If the absolute value of the computed test statistic (t_R) is greater than the tabular t value (t_{tab}), the hypothesis is rejected. A rejection of the hypothesis is statistical evidence that the two means are different.

Results of the Wilcoxon-Mann-Whitney rank sum tests for the six gaging stations are listed in table 3. For each gaging station, the tests indicate that the mean specific conductance for water year 1992 and the mean specific conductance for the period of record are not statistically different.

Table 3.--Results of Wilcoxon-Mann-Whitney rank sum tests comparing mean specific conductance of discharge for water year 1992 with mean for the period of record at selected gaging stations

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

Gaging station identification	Specific conductance						Wilcoxon-Mann-Whitney rank Sum test			
	Water year 1992			Period of record			Period used (water years)	t_R	t_{tab}	Hypothesis
	Number of values	Mean	Standard devia- tion	Number of values	Mean	Standard devia- tion				
06741510 Big Thompson River at Loveland-----	12	957	473	116	865	489	1982-991	0.65	1.98	A
06752280 Cache la Poudre River above Box Elder Creek, near Timnath-----	6	1,687	810	116	1,249	729	1982-91	1.58	1.98	A
07094500 Arkansas River at Parkdale-----	9	235	62.2	104	259	73.0	1982-91	-1.07	1.98	A
07128500 Purgatoire River near Las Animas-----	8	3,329	825	140	2,947	1,247	1982-91	.72	1.98	A
07133000 Arkansas River at Lamar-----	12	3,635	840	129	3,319	1,126	1982-91	1.03	1.98	A
08217500 Rio Grande at Wagonwheel Gap-----	11	91.7	22.1	99	92.3	27.0	1982-91	-.02	1.99	A

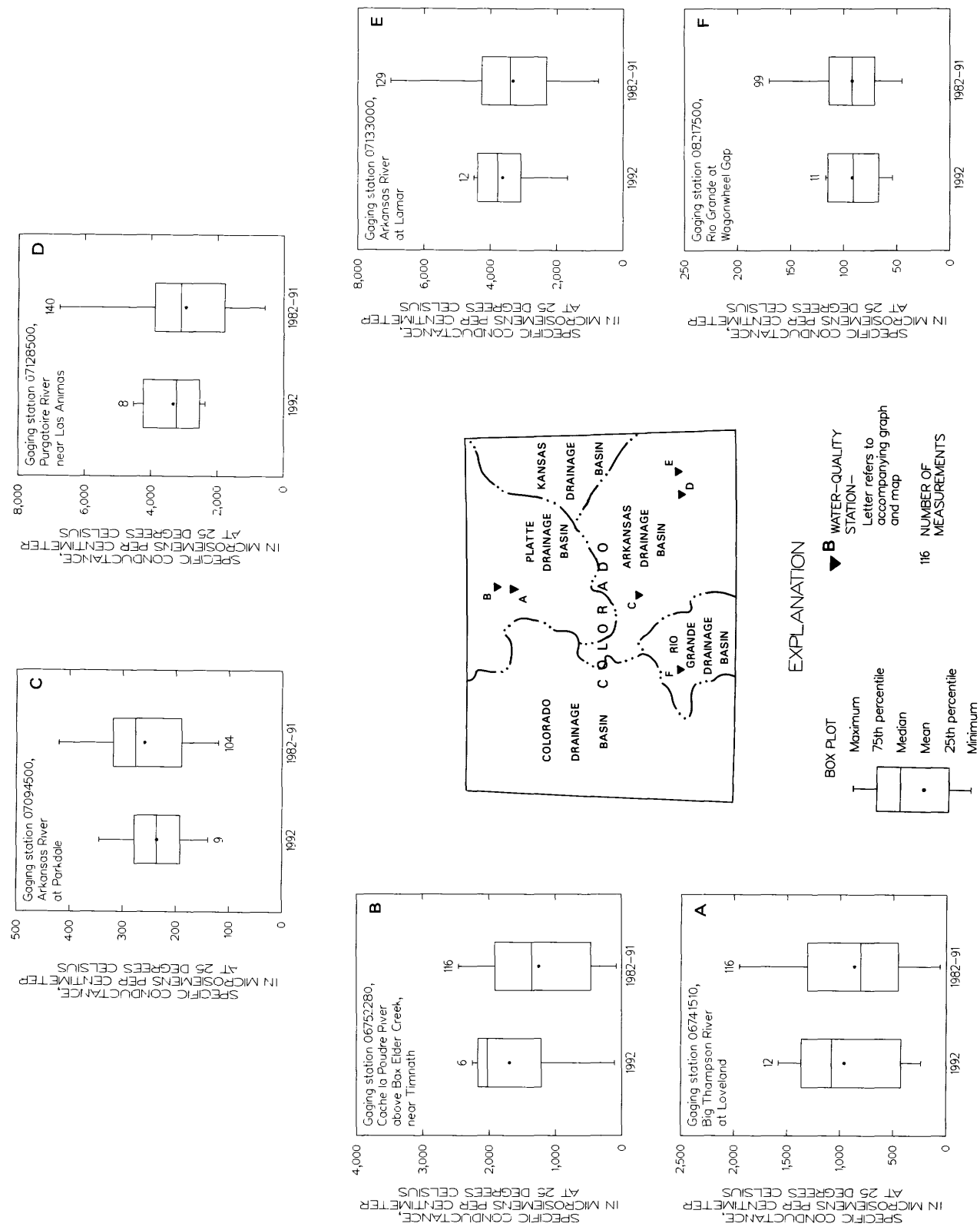


Figure 5.--Comparison of range and distribution of specific conductance measured during water year 1992 to long-term values.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 small 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 the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1992 water year that began on October 1, 1991, and ended September 30, 1992. 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, 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.

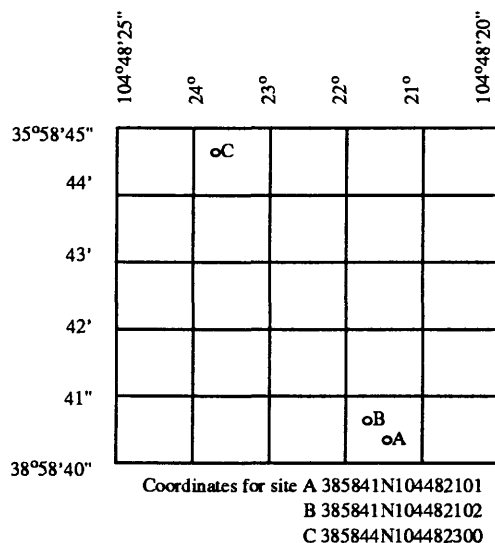
Downstream Order System

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 indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

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

Latitude-Longitude System

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



System for numbering wells, springs, and miscellaneous sites.

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

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

The 36-mi² area described by the township and range designation is subdivided into 1-mi² areas called sections. The sections are numbered sequentially. The third number of the well location designates the section. The section, which contains 640 acres, is subdivided into quarter sections. The 160-acre area is designated by the first letter following the section: A indicates the northeast quarter, B the northwest, C the southwest, and D the southeast. The quarter section is subdivided into quarter-quarter sections. The 40-acre area is designated in the same manner by the second letter following the section. The 10-acre area is designated in the same manner by the third letter following the section. If more than one well is located within the 10-acre tract, the wells are numbered sequentially in the order in which they were originally inventoried. If this number is necessary, it will follow the three-letter designation.

Records of Stage and Water Discharge

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

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

Data Collection and Computation

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

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or 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 National Geodetic Vertical Datum of 1929 (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. At least 5 complete years of record must be available before this statistic is published for the designated period.

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 is exceeded by 10 percent of the flow for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded by 50 percent of the flow for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded by 90 percent of the flow for the designated period.

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

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

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

Other Records Available

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

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

Records of Surface-Water Quality

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

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

Accuracy of the Records

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

*	Temperature:	+/- 0.3 degree C.
*	Specific Conductance:	+/- 5 uS/cm or + 5% whichever is greater
*	pH:	+/- 0.2 pH units
*	Dissolved Oxygen:	+/- 0.3 mg/L or + 5% whichever is greater.

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

Classification of Records

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

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

Arrangement of Records

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

Onsite Measurements and Sample Collection

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

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

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

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

Water temperature

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

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

Sediment

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

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

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

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

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally, all other samples are analyzed in the Geological Survey laboratories in Arvada, CO, or Doraville, GA. 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 (1992) 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, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

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

Remark Codes

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

PRINTED OUTPUT REMARK

E Estimated value

> Actual value is known to be greater than the value shown

< Actual value is known to be less than the value shown

K Based on non-ideal colony count

M Presence of material verified but not quantified

Records of Ground-Water Quality

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

Data Collection and Computation

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

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

Data Presentation

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

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National Water Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water-data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

- * Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
- * Daily Values File - Contains more than 220 million daily values of stream flows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.
- * Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.
- * Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.
- * Ground-Water Site Inventory Data Base - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requester will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, VA 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. 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's District offices. (see address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225.

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C \pm 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 \pm 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 also in the intestine of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organism which produce red or pink colonies with 48 hours at 35°C \pm 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.

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

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

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

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO₃).

Hydrologic Bench-Mark Network is a network of 57 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 the activities of man.

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

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

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

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

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

Micrograms per gram (ug/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

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

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

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

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meter (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Milligrams of oxygen per area or volume per unit time $\text{mg O}_2/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes and $\text{mg O}_2/(\text{m}^3 \cdot \text{time})$ for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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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.

Discontinued surface-water discharge or stage-only stations

Station name	Station number	Drainage area (sq mi)	Period of record (calendar 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 Glendevvey, CO	06657500	101	1904-05, 1910-82
Middle Fork South Platte River above Fairplay, CO	06693980	62.2	1978-80
Middle Fork South Platte River near Hartsel, CO	06694100	250	1978-80
South Fork South Platte River above Fairplay, CO	06694400	50.3	1978-80
Fourmile Creek near Fairplay, CO	06694700	12.0	1978-80
South Platte River at Lake George, CO	06696200	1,084	1910-11, 1929
Tarryall Creek at Upper Station near Como, CO	06696980	23.7	1978-86
French Creek near Jefferson, CO	06697200	4.63	1986-90
Michigan Creek above Jefferson, CO	06697450	23.1	1978-86
Jefferson Creek near Jefferson, CO	06698000	11.8	1910-12, 1978-86
Tarryall Creek near Jefferson, CO	06698500	183	1910-11, 1912-17, 1977-81
Rock Creek near Jefferson, CO	06699000	45.5	1986-90
Tarryall Creek near Lake George, CO	06699500	236	1910-12, 1916, 1925-55
South Platte River above Cheesman Lake, CO	06700000	1,628	1899-1901, 1924-43
Goose Creek above Cheesman Lake, CO	06700500	86.6	1899, 1924-82
South Platte River above North Fork at South Platte, CO	06702000	2,098	1905-12
North Fork South Platte River at Grant, CO	06702500	49.0	1910-17
Geneva Creek at Grant, CO	06705500	77.5	1908-18
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

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

Station name	Station number	Drainage area (sq mi)	Period of record (calendar years)
South Platte River at Littleton, CO	06710000	3,069	1941-86
Turkey Creek above Bear Creek Lake, near Morrison, CO	06711040	50.6	1986-89
South Platte River at Florida Avenue, at Denver, CO	06711590	--	1981-82
Cherry Creek near Melvin, CO	06712500	360	1939-69
South Platte River at 50th Avenue at Denver, CO	06714130	3,810	1980-81
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 near Lawson, CO	06716500	147	1946-86
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
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 at Longmont Dam near Lyons, CO	06722000	106	1925-53
South Saint Vrain Creek near Ward, CO	06722500	14.4	1925-27, 1928-31, 1954-73
Middle Saint Vrain Creek near Raymond, CO	06722900	16.8	1956-58
Middle Saint Vrain Creek near Allens Park, CO	06723000	28.0	1925-30, a
South Saint Vrain Creek above Lyons, CO	06723400	81.4	1971-80
Lefthand Creek near Boulder, CO	06724500	52.0	1929-31, 1947-53, 1976-80
Lefthand Creek at Mouth at Longmont, CO	06725000	72.0	1927-42, 1953-55, 1976-79
Saint Vrain Creek near Longmont, CO	06725100	370	1964-68
North Boulder Creek at Silver Lake, CO	06726000	8.70	1913-32
North Boulder Creek near Nederland, CO	06726500	30.4	1929-31
South Boulder Creek near Rollinsville, CO	06729000	42.7	1910-18, 1945-49
South Boulder Creek at Pinecliff, CO	06729300	72.7	1979-80
Coal Creek near Plainview, CO	06730300	15.1	1959-82
Boulder Creek at Mouth near Longmont, CO	06730500	439	1927-49, 1951-55, 1978-90
Boulder Brook near Estes Park, CO	06731800	3.83	1968-70
Glacier Creek near Estes Park, CO	06732000	20.8	1941-57, 1968-70
Beaver Brook near Estes Park, CO	06732300	1.49	1968-70
Fall River at Estes Park, CO	06732500	39.8	1945-53, a
Big Thompson River at Estes Park, CO	06733000	137	1946-86
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

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

Station name	Station number	Drainage area (sq mi)	Period of record (calendar years)
Little Beaver Creek near Rustic, CO	06748530	12.3	1960-73
South Fork Cache La Poudre River near Rustic, CO	06748600	92.4	1956-79
Cache La Poudre River below Elkhorn, CO	06749000	409	1946-59
North Fork Cache La Poudre River near Livermore, CO	06751500	567	1947-65
Lonetree Creek near Nunn, CO	06753500	199	1951-57
Crow Creek near Barnsville, CO	06756500	1,324	1951-57
South Platte River at Masters, CO	06756995	12,175	1976-88
South Platte River at Sublette, CO	06757000	12,170	1926-42, 1943-55
Kiowa Creek at K-79 Reservoir near Eastonville, CO	06757600	3.20	1955-65
Kiowa Creek at Elbert, CO	06758000	28.6	1955-65
West Kiowa Creek at Elbert, CO	06758100	35.9	1962-65
Kiowa Creek at Kiowa, CO	06758200	111	1955-65
Kiowa Creek at Bennett, CO	06758300	236	1960-65
Bijou Creek near Wiggins, CO	06759000	1,314	1950-56
Bijou Creek near Fort Morgan, CO	06759100	1,500	1976-87
South Platte River at Fort Morgan, CO	06759500	14,810	1943-58
South Platte River at Balzac, CO	06760000	16,852	1916-80
South Platte River near Crook, CO	06760500	19,238	1953-58
North Fork Republican River near Wray, CO	06822000	1,019	1937-46, 1951-57, 1962-64
South Fork Republican River near Idalia, CO	06825000	1,300	1950-71, 1972-81
Landsman Creek near Hale, CO	06825500	268	1950-76, 1977-81
South Fork Republican River near Hale, CO	06826500	1,825	1946-48, 1951-86
East Fork Arkansas River near Leadville, CO	07079500	50.0	1890-1903, 1910-24
Tennessee Creek near Leadville, CO	07081000	48.0	1890-1903, 1910-1924
Arkansas River near Leadville, CO	07081200	97.2	1967-83
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
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, a
Arkansas River at Salida, CO	07091500	1,218	1895-97, 1901-03, 1909-80
South Arkansas River at Poncha, CO	07092000	140	1910-18
Poncha Creek at Poncha, CO	07093000	56.0	1910-18
South Arkansas River near Salida, CO	07093500	208	1922-23, 1929-40
South Colony Creek nr Westcliffe, CO	07094600	6.03	1974-78
Middle Taylor Creek near Westcliffe, CO	07094900	3.19	1974-78, 1984-85
Beaver Creek near Portland, CO	07099100	214	1971-81
Arkansas River near Portland, CO	07099200	4,280	1964-79
Turkey Creek near Fountain, CO	07099215	13.0	1978-89
Little Turkey Creek near Fountain, CO	07099220	9.59	1978-88
Turkey Creek above Teller Reservoir near Stone City, CO	07099230	62.3	1978-88
Turkey Creek near Stone City, CO	07099235	71.5	1978-83, 1987
Arkansas River near Pueblo, CO	07099500	4,686	1885-87, 1889, 1894-1975
Monument Creek at Palmer Lake, CO	07103747	25.9	1977-90
Monument Creek at Monument, CO	07103750	28.5	1976-77
West Monument Creek near Pikeview, CO	07103900	15.4	1957-70
Kettle Creek near Black Forest, CO	07103950	9.01	1976-86
Templeton Gap Floodway at Colorado Springs, CO	07104500	8.73	1951-81
B Ditch Drain near Security, CO	07105780	--	1981-88
Clover Ditch near Widefield, CO	07105820	--	1981-88
Little Fountain Creek above Keaton Reservoir near Fort Carson, CO	07105920	11.0	1978-88
Little Fountain Creek near Fort Carson, CO	07105928	11.8	1978-89
Little Fountain Creek near Fountain, CO	07105940	26.9	1978-88

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

Station name	Station number	Drainage area (sq mi)	Period of record (calendar years)
Rock Creek above Fort Carson Reservation, CO	07105945	6.79	1978-84
Rock Creek near Fountain, CO	07105960	16.9	1978-88
Saint Charles River at San Isabel, CO	07107000	16.0	1936-41
Greenhorn Creek near Rye, CO	07107900	9.56	1974-79
Greenhorn Creek near Colorado City, CO	07108050	29.6	1974-79
Saint Charles River near Pueblo, CO	07108500	467	1941-53, 1955
Saint Charles River near Vineland, CO	07108800	473	1968-74
Saint Charles River at Mouth near Pueblo, CO	07109000	475	1922-25
Sixmile Creek near Avondale, CO	07110000	45.0	1922-24, 1941-46
Chico Creek near North Avondale, CO	07110500	864	1941-46
Huerfano River at Manzanares Crossing near Redwing, CO	07111000	73.0	1923-82
Huerfano River at Malachite, CO	07111500	107	1923-25
Huerfano River near Badito, CO	07112000	499	1941-46
Huerfano River at Badito, CO	07112500	532	1912, 1923-25, 1938-41, 1946-54
Huerfano River at Huerfano, CO	07113000	717	1923-28
Huerfano River near Mustang, CO	07113500	803	1942-47
Cucharas River at Boyd Ranch near La Veta, CO	07114000	56.0	1934-82
Cucharas River near La Veta, CO	07114500	75.0	1923-34
Huerfano River below Huerfano Valley Dam nr Undercliffe, CO	07116000	1,673	1939-67
Arkansas River at Nepesta, CO	07117500	9,460	1898-1902, 1904-06, 1936
Chicosa Creek near Fowler, CO	07117600	109	1968-74
Apishapa River near Aguilar, CO	07118000	126	1939-50
Apishapa River at Aguilar, CO	07118500	149	1938-39, 1978-81
Apishapa River near White Rock, CO	07119000	737	1942-47
Big Arroyo near Thatcher, CO	07120620	15.5	1983-90 a
Timpas Creek near Rocky Ford, CO	07121000	451	1922-27, 1940-50
Fort Lyon Canal near Hasty, CO	07122200	--	1968-75
Crooked Arroyo near La Junta, CO	07122500	--	1922-25
Horse Creek near Sugar City, CO	07123500	1,080	1940-47
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
Carpas Canyon near Jansen, CO	07124350	4.57	1978-81
Purgatoire River at Trinidad, CO	07124500	795	1895-99, 1905-12, 1915-60, 1961-82
Purgatoire River near Hoehne, CO	07125000	857	1954-68
Frijole Creek near Alfalfa, CO	07125100	80.0	1957-68
San Francisco Creek near Alfalfa, CO	07125500	160	1954-68
Purgatoire River near Alfalfa, CO	07126000	1,320	1905-07, 1924-28, 1951-68
Van Bremer Arroyo near Thatcher, CO	07126130	80.6	1983-85
Burke Arroyo Tributary near Thatcher, CO	07126320	4.66	1983-87
Red Rock Canyon Creek at Mouth, near Thatcher, CO	07126415	48.8	1983-90 a
Bent Canyon Creek at Mouth near Timpas, CO	07126480	56.2	1983-90 a
Purgatoire River at Highland Dam near Las Animas, CO	07128000	3,376	1898, 1931-55
Rule Creek near Caddoa, CO	07129500	435	1941-46
Caddoa Creek at Caddoa, CO	07131000	131	1941-46
Willow Creek near Lamar, CO	07133050	42.0	1974-77
Big Sandy Creek above Amity Canal near Korman, CO	07134000	3,396	1941-46
Big Sandy Creek near Lamar, CO	07134100	3,307	1968-82
Two Butte Creek near Holly, CO	07135000	817	1942-46
Arkansas River at Holly, CO	07135500	25,073	1894, 1901-02, 1907-53
Wild Horse Creek at Holly, CO	07136000	270	1922-35, 1938-50
Holly Drain near Holly, CO	07136500	--	1924-50
Willow Creek at Creede, CO	08216500	51.7	1951-82

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

Station name	Station number	Drainage area (sq mi)	Period of record (calendar years)
Rio Grande at Wason below Creede, CO	08217000	705	1907-54
Goose Creek near Wagonwheel Gap, CO	08218000	53.6	1924-26, 1939-52
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
Rio Grande at Alamosa, CO	08223000	1,710	1912-80
Rock Creek near Monte Vista, CO	08223500	32.9	1935-55, 1966-70
San Luis Creek near Poncha Pass, CO	08224110	6.57	1979-85
San Luis Creek above Villa Grove, CO	08224113	11.2	1979-85
Raspberry Creek near Villa Grove, CO	08224200	1.78	1967-70
Kerber Creek at Ashley Ranch near Villa Grove, CO	08224500	38.0	1923-26, 1936-82
Noland Gulch Tributary Reservoir Inflow, near Villa Grove, CO	08226600	0.08	1979-89
Cotton Creek near Mineral Hot Springs, CO	08226700	13.6	1967-70
Saguache Creek near Saguache, CO	08227000	595	1910-12, 1914-82
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
La Garita Creek near La Garita, CO	08231000	61.0	1919-82
Mosca Creek near Mosca, CO	08234200	3.67	1967-70
Alamosa Creek above Terrace Reservoir, CO	08236000	107	1911-12, 1914-27, 1934-82
Alamosa Creek below Terrace Reservoir, CO	08236500	116	1909-55
La Jara Creek at Gallegos Ranch near Capulin, CO	08238000	98.0	1916-17, 1919-23, 1936-82
Yellow Warbler Reservoir Inflow near Antonito, CO	08238350	0.18	1979-89
Turkey Reservoir Inflow near Conejos, CO	08238380	0.24	1979-89
Bobolink Reservoir near Conejos, CO	08238400	0.23	1979-89
Trinchera Creek above Turners Ranch near Ft Garland, CO	08240500	45.0	1923-82
Trinchera Creek above Mountain Home Reservoir nr Ft Garland, CO	08241000	61.0	1923-55
Sangre De Cristo Creek near Ft Garland, CO	08241500	190	1916, 1923-30, 1931-82
Ute Creek near Ft Garland, CO	08242500	32.0	1916, 1923-82
Trinchera Creek below Smith Reservoir near Blanca, CO	08243500	396	1928-82
Conejos River at Platoro, CO	08245500	44.4	1936-53
Conejos River at Counsellors Cabin near Mogote, CO	08246000	211	1943-47
San Antonio River at mouth near Manassa, CO	08248500	348	1923-82
Culebra Creek near Chama, CO	08249400	72.4	1967-70
Culebra Creek at San Luis, CO	08250000	220	1927-82
Culebra Creek below San Luis, CO	08250500	255	1938-55
Rio Grande at CO-NM State Line	08252000	--	1953-82

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

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1989 water year. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the period of record shown for each station.

Discontinued continuous-record surface-water-quality stations

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
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
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. nr Plainview, CO	06719740	42.7	Temp., S.C., pH., D.O.	1983-84
Cache La Poudre River near Greeley, CO	06752500	1,877	Temp., S.C., pH., D.O.	1975
South Platte River near Kersey, CO	06754000	8,598	Temp.	1950-53
Kiowa Creek at Elbert, CO	06758000	28.6	Sed.	1957-68, 1960-62, 1964-65
West Kiowa Creek at Elbert, CO	06758100	35.9	Sed.	1962-65
Kiowa Creek at Kiowa, CO	06758200	111	Sed.	1956-65
South Platte River at Julesburg, CO) (Chan. 2)	06763990	--	Temp. S.C.	1967-73 1971-73
North Fork Republican River near Wray, CO	06822000	1,019	Temp., Sed.	1962-63
Halfmoon Creek near Malta, CO	07083000	23.6	Temp.	1967-82
Fountain Creek near Pinon, CO	07106300	849	Temp., S.C.	1976-79
Apishapa River at Aguilar, CO	07118500	149	Sed.	1979-81
Apishapa River near Fowler, CO	07119500	1,125	Temp., S.C.	1966-68
Big Arroyo near Thatcher, CO	07120620	15.5	Temp., S.C., Sed.	1983-90 a
Arkansas River near La Junta, CO	07122000	--	Temp., S.C.	1966-68
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
Carpis 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
Burke Arroyo Tributary near Thatcher, CO	07126320	4.66	Temp., S.C. Sed.	1983-86 1984-86
Red Rock Canyon Creek at Mouth, near Thatcher, CO	07126415	41.4	Temp., S.C.	1983-90 a
Bent Canyon Creek at Mouth near Timpas, CO	07126480	56.2	Temp., S.C.	1983-90 a
Purgatoire River at Highland Dam near Las Animas, CO	07128000	3,376	S.C.	1967-68
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
Rio Grande above Culebra Creek near Lobatos, CO	08249200	--	Temp. S.C.	1964-66 1946-66

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.

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

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06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO

LOCATION.--Lat 40°29'46", long 105°51'52", in S¹/₂ sec.12, T.6 N., R.76 W. (unsurveyed), Jackson County, Hydrologic Unit 10180001, on right bank 500 ft upstream from Michigan ditch, 2.2 mi southeast of Cameron Pass, 8 mi east of Gould, and 27 mi southeast of Walden.

DRAINAGE AREA.--1.53 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 10,390 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 25 to Nov. 8, Nov. 11 to Apr. 20, and July 25 to Sept. 10. Records fair, except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.68	.37	.31	.25	.23	.26	.33	1.8	4.9	9.1	3.0	1.3
2	.63	.36	.31	.25	.23	.27	.33	1.8	5.3	7.9	3.0	1.5
3	.57	.35	.31	.25	.23	.29	.33	1.9	6.7	6.2	2.9	2.0
4	.57	.35	.31	.25	.23	.30	.33	2.1	8.1	5.9	2.9	1.6
5	.55	.35	.31	.24	.23	.30	.33	2.3	8.0	6.0	2.9	1.3
6	.53	.34	.30	.24	.23	.30	.33	2.7	8.1	6.3	2.8	1.3
7	.51	.33	.30	.24	.23	.30	.33	3.1	8.1	7.2	2.9	1.2
8	.50	.32	.30	.24	.23	.30	.35	3.2	8.6	7.6	2.8	1.1
9	.48	.23	.30	.23	.23	.30	.36	3.2	9.3	6.3	2.7	1.0
10	.48	.30	.30	.23	.23	.30	.38	2.9	10	5.5	2.6	.93
11	.47	.32	.29	.23	.23	.30	.39	2.8	11	5.6	2.5	.90
12	.46	.34	.29	.22	.24	.30	.41	3.0	13	6.6	2.4	.89
13	.45	.35	.29	.22	.24	.30	.41	3.1	15	5.7	2.3	.86
14	.44	.35	.29	.22	.24	.30	.41	3.5	16	4.9	2.2	.85
15	.43	.35	.29	.22	.24	.30	.41	4.2	15	4.6	2.1	.85
16	.43	.35	.28	.22	.24	.30	.44	5.8	11	4.2	2.0	.84
17	.42	.35	.28	.22	.25	.30	.45	7.2	9.4	4.1	1.9	1.5
18	.41	.34	.28	.22	.25	.30	.45	8.4	9.6	3.7	1.9	1.3
19	.40	.34	.28	.22	.25	.30	.45	10	11	3.6	1.7	1.3
20	.40	.34	.28	.22	.25	.30	.46	11	14	3.8	1.6	1.3
21	.40	.34	.28	.22	.25	.30	.46	12	15	3.7	1.5	1.2
22	.40	.34	.27	.22	.25	.30	.48	12	13	3.4	1.3	1.2
23	.40	.34	.27	.22	.25	.30	.48	11	14	3.4	1.3	1.1
24	.39	.33	.27	.22	.25	.30	.46	12	14	3.4	1.6	.99
25	.39	.32	.27	.22	.25	.32	.46	12	14	3.5	1.9	1.2
26	.39	.32	.27	.22	.25	.32	.47	11	13	3.5	2.3	1.2
27	.39	.32	.26	.22	.25	.32	.51	9.7	11	3.4	2.6	1.2
28	.39	.32	.25	.22	.25	.33	.68	8.0	11	3.3	2.0	1.1
29	.39	.32	.25	.22	.25	.33	1.0	6.8	10	3.2	1.6	.98
30	.39	.31	.25	.22	---	.33	1.4	6.1	9.8	3.1	1.4	.93
31	.37	---	.25	.23	---	.33	---	5.3	---	3.0	1.2	---
TOTAL	14.11	9.99	8.79	7.06	6.98	9.40	14.08	189.9	326.9	151.7	67.8	34.92
MEAN	.46	.33	.28	.23	.24	.30	.47	6.13	10.9	4.89	2.19	1.16
MAX	.68	.37	.31	.25	.25	.33	1.4	12	16	9.1	3.0	2.0
MIN	.37	.23	.25	.22	.23	.26	.33	1.8	4.9	3.0	1.2	.84
AC-FT	28	20	17	14	14	19	28	377	648	301	134	69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1992, BY WATER YEAR (WY)

	MEAN	.81	.53	.42	.35	.30	.31	.38	3.74	16.3	8.93	2.77	1.30
MAX	1.94	1.08	.67	.57	.55	.86	.64	9.50	27.1	24.6	6.83	3.32	
(WY)	1983	1985	1978	1988	1986	1986	1986	1974	1990	1983	1983	1984	
MIN	.32	.20	.25	.17	.16	.17	.22	1.12	10.9	3.21	1.20	.49	
(WY)	1980	1979	1979	1991	1977	1974	1982	1982	1992	1987	1988	1988	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1974 - 1992
ANNUAL TOTAL	1003.84	841.63	
ANNUAL MEAN	2.75	2.30	3.01
HIGHEST ANNUAL MEAN			4.61
LOWEST ANNUAL MEAN			1.97
HIGHEST DAILY MEAN	29	Jun 15	45
LOWEST DAILY MEAN	.15	Jan 21	.08
ANNUAL SEVEN-DAY MINIMUM	.16	Jan 15	.14
INSTANTANEOUS PEAK FLOW		b20	79
INSTANTANEOUS PEAK STAGE		3.23	3.59
ANNUAL RUNOFF (AC-FT)	1990	1670	2180
10 PERCENT EXCEEDS	9.7	8.1	9.8
50 PERCENT EXCEEDS	.39	.43	.58
90 PERCENT EXCEEDS	.23	.24	.24

a-Also occurred Jan 13-30.

b-Also occurred Jun 14.

06695000 SOUTH PLATTE RIVER ABOVE ELEVENMILE CANYON RESERVOIR, NEAR HARTSEL, CO

LOCATION.--Lat 38°58'03", long 105°34'51", in NE¹/₄ sec.32, T.12 S., R.73 W., Park County, Hydrologic Unit 10190001, on left bank 200 ft downstream from highway bridge, 2.5 mi upstream from water line of Elevenmile Canyon Reservoir, at elevation 8,561 ft, and 13 mi southeast of Hartsel.

DRAINAGE AREA.--880 mi².

PERIOD OF RECORD.--June 1933 to current year (no winter records prior to 1940). Monthly discharge only for some periods, published in WSP 1310. Statistics computed for the period 1982 to current year.

REVISED RECORDS.--WSP 1630: 1958. WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and Parshall flume. Datum of gage is 8,612.83 ft, Denver Board of Water Commissioners Datum. Prior to May 27, 1939, water-stage recorder near present site at different datum. May 27, 1939, to Nov. 4, 1961, at datum 0.46 ft, lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Antero Reservoir, capacity, 22,300 acre-ft, prior to Sept. 15, 1981, and by Spinney Mountain Reservoir, 3.6 mi upstream, capacity, 152,900 acre-ft, since Sept. 15, 1981. Many small diversions upstream from station for irrigation of about 24,000 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	78	53	87	55	51	95	124	73	60	158	87
2	107	78	54	88	54	51	103	113	57	65	164	116
3	81	77	58	90	54	51	162	105	54	69	155	116
4	81	77	64	88	54	52	192	93	54	53	144	123
5	76	76	73	88	54	52	192	72	54	42	148	131
6	68	81	73	88	56	51	192	72	54	81	151	132
7	68	87	72	87	54	51	189	72	55	157	153	129
8	69	87	71	87	54	52	189	72	52	167	152	132
9	69	87	74	87	54	52	165	72	45	179	152	136
10	69	87	75	87	54	52	151	72	45	210	152	126
11	69	86	74	87	54	51	151	72	45	201	152	113
12	69	96	74	87	54	51	151	68	45	187	151	103
13	69	113	75	89	54	51	151	65	47	181	141	96
14	68	114	74	87	53	51	151	65	50	149	116	98
15	68	113	76	89	54	51	126	64	54	144	114	109
16	68	113	76	87	54	50	64	64	53	166	112	117
17	88	113	75	87	53	50	77	64	54	151	125	121
18	102	115	75	87	55	72	77	65	54	136	120	126
19	102	95	75	93	54	96	77	65	54	117	110	130
20	102	62	80	86	52	96	72	65	54	110	127	148
21	77	56	88	86	52	96	59	65	63	110	136	141
22	61	56	87	86	52	96	59	88	61	108	139	130
23	60	56	87	86	52	96	59	98	51	107	141	130
24	60	58	88	86	53	96	59	85	52	108	162	130
25	84	60	87	86	52	95	59	105	118	99	153	130
26	104	58	87	86	53	94	59	110	203	101	78	126
27	108	57	88	86	52	95	59	97	158	120	63	123
28	107	52	90	74	52	94	59	78	108	101	52	127
29	98	52	87	55	51	95	73	75	86	73	52	127
30	77	55	88	55	---	95	120	78	61	99	51	127
31	77	---	87	55	---	95	---	85	---	134	51	---
TOTAL	2518	2395	2385	2597	1549	2181	3392	2488	2014	3785	3875	3680
MEAN	81.2	79.8	76.9	83.8	53.4	70.4	113	80.3	67.1	122	125	123
MAX	112	115	90	93	56	96	192	124	203	210	164	148
MIN	60	52	53	55	51	50	59	64	45	42	51	87
AC-FT	4990	4750	4730	5150	3070	4330	6730	4930	3990	7510	7690	7300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1992, BY WATER YEAR (WY)

	MEAN	87.4	65.0	62.5	55.8	53.5	80.5	95.8	115	186	206	189	113
MAX	191	81.7	129	135	114	242	141	332	415	339	381	151	
(WY)	1985	1987	1990	1990	1990	1986	1983	1987	1985	1984	1984	1988	
MIN	30.1	29.1	28.2	21.7	21.9	23.2	66.5	40.0	38.8	122	125	44.9	
(WY)	1982	1984	1985	1983	1982	1982	1982	1991	1991	1992	1992	1982	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1982 - 1992

ANNUAL TOTAL	28570		32859										
ANNUAL MEAN	78.3		89.8							a	110		
HIGHEST ANNUAL MEAN											148		1985
LOWEST ANNUAL MEAN											73.3		1982
HIGHEST DAILY MEAN	210	Jul 24				210	Jul 10			655	Jun 12	1985	
LOWEST DAILY MEAN	b	28	Jun 4			42	Jul 5			.20	Oct 25	1981	
ANNUAL SEVEN-DAY MINIMUM	29	Jun 4				47	Jun 8			1.9	Oct 20	1981	
INSTANTANEOUS PEAK FLOW						337	Aug 25			c	3970	Apr 27	1970
INSTANTANEOUS PEAK STAGE						2.25	Aug 25				7.60	Apr 28	1970
ANNUAL RUNOFF (AC-FT)	56670		65180								79700		
10 PERCENT EXCEEDS	151		148								232		
50 PERCENT EXCEEDS	66		85								75		
90 PERCENT EXCEEDS	37		52								35		

a-Average discharge for 42 years (water years 1940-81), 77.3 ft³/s; 56000 acre-ft/yr, prior to completion of Spinney Mountain Dam.

b-Also occurred, Jun 5, 11.

c-Maximum daily discharge. Maximum instantaneous discharge, not determined, occurred Apr 28, 1970.

06696000 SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO

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

DRAINAGE AREA.--963 mi².

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

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and Parshall flume. Elevation of gage is 8,458 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 26, 1940, at site 1 mi downstream at datum 8,423.95 ft, National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Estimated daily discharge: Dec. 27. Records good. Natural flow of stream affected by transmountain diversions through East and West Hoosier ditches at Hoosier Pass prior to 1941, storage in Elevenmile Canyon Reservoir (see elsewhere in this report) and Antero Reservoir, capacity, 22,300 acre-ft, diversions for irrigation, and return flow from irrigated areas.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	67	68	87	71	55	100	77	74	85	109	82
2	86	67	67	87	68	55	101	78	72	77	115	85
3	84	67	65	87	66	55	107	82	68	72	121	86
4	73	67	65	88	64	63	119	86	64	70	130	89
5	72	68	66	88	64	66	132	84	61	64	129	89
6	67	69	68	89	64	64	143	82	58	63	133	92
7	65	70	69	90	63	63	151	80	58	67	131	95
8	63	71	70	89	62	63	158	77	55	76	131	98
9	61	71	71	89	61	69	163	76	55	88	134	95
10	60	73	72	89	60	67	161	74	53	99	136	95
11	60	76	73	89	59	65	160	73	54	117	140	98
12	60	78	75	89	58	63	160	68	53	128	143	98
13	58	82	76	90	58	62	159	67	51	138	145	94
14	58	85	74	90	58	61	157	66	48	140	142	89
15	56	88	74	90	57	60	159	64	48	138	136	90
16	56	95	74	90	58	59	155	61	46	140	133	91
17	56	104	74	89	59	59	147	58	40	147	161	92
18	58	100	74	89	59	59	138	59	38	147	164	92
19	59	106	76	89	56	63	125	58	39	140	112	97
20	64	100	76	89	55	66	116	55	40	134	111	105
21	65	95	77	88	54	71	104	54	43	131	113	123
22	62	89	80	88	54	79	97	52	46	123	115	111
23	59	82	81	88	54	83	92	54	46	121	116	107
24	55	74	83	87	55	86	84	58	48	117	144	109
25	56	72	83	87	55	88	78	62	51	116	168	110
26	57	76	84	86	55	89	75	67	65	115	172	106
27	61	72	84	87	55	91	72	76	83	111	186	105
28	63	68	85	87	55	95	70	78	89	111	131	104
29	68	67	86	83	55	97	68	77	97	107	104	105
30	69	68	87	78	---	98	73	75	94	105	94	105
31	68	---	87	74	---	99	---	75	---	105	89	---
TOTAL	1986	2367	2344	2710	1709	2213	3624	2153	1737	3392	4088	2937
MEAN	64.1	78.9	75.6	87.4	58.9	71.4	121	69.5	57.9	109	132	97.9
MAX	87	106	87	90	71	99	163	86	97	147	186	123
MIN	55	67	65	74	54	55	68	52	38	63	89	82
AC-FT	3940	4690	4650	5380	3390	4390	7190	4270	3450	6730	8110	5830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1992, BY WATER YEAR (WY)

	MEAN	53.1	41.3	25.9	24.3	25.7	40.1	93.1	93.9	143	181	152	71.8
MAX	221	166	107	133	117	201	436	775	614	610	459	288	
(WY)	1931	1955	1990	1990	1990	1986	1970	1970	1949	1949	1984	1930	
MIN	2.12	2.26	2.20	1.50	1.00	3.00	7.08	4.77	7.78	16.9	14.8	4.73	
(WY)	1941	1940	1940	1933	1933	1933	1939	1961	1961	1940	1940	1953	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1930 - 1992

ANNUAL TOTAL	26510		31260										
ANNUAL MEAN	72.6		85.4							79.6			
HIGHEST ANNUAL MEAN										218		1970	
LOWEST ANNUAL MEAN										14.1		1940	
HIGHEST DAILY MEAN										2820		Apr 28 1970	
LOWEST DAILY MEAN	176	Jul 25				186	Aug 27			b		Jan 25 1930	
ANNUAL SEVEN-DAY MINIMUM	a	Jun 27				38	Jun 18			1.00		Feb 1 1933	
INSTANTANEOUS PEAK FLOW	22	Jun 23				42	Jun 16			1.0		Apr 28 1970	
INSTANTANEOUS PEAK STAGE						206	Aug 26			3000		Apr 28 1970	
ANNUAL RUNOFF (AC-FT)						2.16	Aug 26			8.34		Apr 28 1970	
ANNUAL RUNOFF (AC-FT)	52580					62000				57660			
10 PERCENT EXCEEDS	139					132				206			
50 PERCENT EXCEEDS	67					78				39			
90 PERCENT EXCEEDS	33					56				8.0			

a-Also occurred Jun 28.

b-No flow at times in January 1930, February 1931, and November 1935.

06699005 TARRYALL CREEK BELOW ROCK CREEK, NEAR JEFFERSON, CO

LOCATION.--Lat 39°27'13", long 105°41'43", in NW1/4NW1/4 sec.8, T.9 S., R.74 W., Park County, Hydrologic Unit 10190001, on left bank 1,800 ft downstream from Rock Creek, 1.0 mi northwest of Bordenville, and 9 mi southeast of Jefferson.

DRAINAGE AREA.--230 mi².

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

REVISED RECORDS.--WDR CO-86-1: Drainage area. WDR CO-87-1: 1986 (M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,020 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 28 to May 1, and Aug. 24-27. Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	19	12	5.4	5.0	5.3	17	32	74	46	37	33
2	23	19	11	5.2	5.0	5.4	19	33	64	43	37	31
3	22	18	10	5.0	4.8	5.6	21	32	49	42	38	30
4	20	18	9.5	5.0	5.0	5.8	23	33	47	39	38	28
5	19	18	9.0	5.0	5.0	6.0	26	32	64	36	37	24
6	19	18	8.8	5.0	5.0	6.0	28	34	69	41	37	19
7	20	18	8.5	5.0	5.0	6.0	31	38	82	47	37	17
8	20	18	8.3	5.0	5.0	6.0	34	43	92	60	37	17
9	20	18	8.2	5.0	5.0	6.0	37	47	93	66	37	15
10	19	17	8.0	5.0	5.0	6.0	40	45	94	52	40	13
11	19	17	8.0	5.0	5.0	6.0	44	39	86	50	54	13
12	18	17	8.0	5.0	5.0	6.0	48	40	114	51	44	13
13	18	17	8.0	5.0	5.0	6.0	52	46	87	60	46	12
14	17	17	8.0	5.0	5.0	6.4	54	38	78	42	41	12
15	17	17	8.0	5.0	5.0	6.6	50	38	66	36	38	13
16	16	17	8.0	5.0	5.0	7.0	45	41	53	39	34	14
17	17	17	8.0	5.0	5.0	7.6	43	52	54	34	45	16
18	16	17	8.0	5.0	5.0	8.0	40	58	55	29	41	15
19	16	17	8.0	5.0	5.0	8.0	37	48	56	27	37	17
20	16	17	8.0	5.0	5.0	8.0	35	54	68	28	30	21
21	16	17	8.0	5.0	5.0	8.0	32	65	69	32	29	19
22	15	16	8.0	5.0	5.0	8.0	30	73	63	30	30	17
23	15	15	7.6	5.0	5.0	8.0	28	79	57	32	28	17
24	17	15	7.2	5.0	5.0	8.8	26	80	86	37	70	16
25	20	14	7.0	5.0	5.0	10	25	81	100	40	60	16
26	18	14	6.8	5.0	5.0	11	26	101	155	58	50	16
27	18	14	6.6	5.0	5.0	11	28	89	107	45	43	16
28	19	13	6.4	5.0	5.0	11	29	82	86	40	37	16
29	19	13	6.2	5.0	5.2	11	30	67	75	36	31	16
30	19	12	6.0	5.0	---	13	32	69	52	34	30	13
31	19	---	5.6	5.0	---	15	---	89	---	37	32	---
TOTAL	573	494	248.7	155.6	145.0	242.5	1010	1698	2295	1289	1225	535
MEAN	18.5	16.5	8.02	5.02	5.00	7.82	33.7	54.8	76.5	41.6	39.5	17.8
MAX	26	19	12	5.4	5.2	15	54	101	155	66	70	33
MIN	15	12	5.6	5.0	4.8	5.3	17	32	47	27	28	12
AC-FT	1140	980	493	309	288	481	2000	3370	4550	2560	2430	1060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

	MEAN	31.0	18.5	10.9	7.28	8.79	13.1	37.2	76.8	149	105	80.2	42.3
MAX	59.4	31.8	17.9	12.5	20.5	29.2	85.4	148	234	254	161	83.0	
(WY)	1985	1985	1984	1987	1985	1985	1987	1987	1983	1984	1984	1983	
MIN	17.2	12.6	5.48	3.02	5.00	7.82	17.6	39.4	76.5	41.6	39.5	17.8	
(WY)	1988	1988	1988	1988	1992	1992	1984	1986	1992	1992	1992	1992	

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1983 - 1992

	ANNUAL TOTAL	12694.1	9910.8	
ANNUAL MEAN	34.8	27.1	46.6	
HIGHEST ANNUAL MEAN			79.7	1984
LOWEST ANNUAL MEAN			27.1	1992
HIGHEST DAILY MEAN	205	Jun 7	155	Jun 26
LOWEST DAILY MEAN	a 4.8	Feb 7	4.8	Feb 3
ANNUAL SEVEN-DAY MINIMUM	4.9	Feb 4	5.0	Jan 28
INSTANTANEOUS PEAK FLOW			167	Jun 26
INSTANTANEOUS PEAK STAGE			3.66	Jun 26
ANNUAL RUNOFF (AC-FT)	25180		19660	
10 PERCENT EXCEEDS	85		60	
50 PERCENT EXCEEDS	19		18	
90 PERCENT EXCEEDS	5.0		5.0	
				6.4

a-Also occurred Feb 8-10.

b-Also occurred Jan 4-29, 1988.

c-From floodmarks.

RESERVOIRS IN SOUTH PLATTE RIVER BASIN

06695500 ELEVENMILE CANYON RESERVOIR.--Lat 38°54'19", long 105°28'30", in N¹/2SW¹/4 sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, at north end of dam on South Platte River, 8 mi southwest of Lake George. DRAINAGE AREA, 963 mi². PERIOD OF RECORD, October 1932 to current year. Prior to September 1938, published in WSP 1310. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners); gage readings have been reduced to elevations above National Geodetic Vertical Datum of 1929.

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

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

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 100,700 acre-ft, Apr. 8-13, 15, Aug. 25, elevation, 8,597.86 ft; minimum observed, 99,180 acre-ft, June 18-20, elevation, 8,597.41 ft.

06701000 CHEESMAN LAKE.--Lat 39°12'26", long 105°16'18", in NW¹/4SW¹/4 sec.6, T.10 S., R.70 W., Douglas County, Hydrologic Unit 10190002, at dam on South Platte River, 4.1 mi southwest of Deckers. DRAINAGE AREA, 1,752 mi². PERIOD OF RECORD, September 1900 to December 1901, September 1902 to current year. Prior to October 1938, published in WSP 1310. Published as Lake Cheesman prior to 1947. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners).

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

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

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 79,460 acre-ft, Aug. 26, gage height, 212.45 ft; minimum observed, 60,660 acre-ft, Oct. 25-27, gage height, 189.22 ft.

MONTHEND ELEVATION IN FEET AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation a (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
06695500	ELEVENMILE CANYON RESERVOIR			06701000	CHEESMAN LAKE	
Sept. 30.....	8,597.61	99,860	-	191.75	62,560	-
Oct. 31.....	8,597.49	99,450	-410	189.52	60,890	-1,670
Nov. 30.....	8,597.49	99,450	0	194.66	64,790	+3,900
Dec. 31.....	8,597.58	99,760	+310	195.13	65,150	+360
CAL YR 1991....	-	-	+1,130	-	-	+5,820
Jan. 31.....	8,597.54	99,620	-140	194.60	64,740	-410
Feb. 29.....	8,597.46	99,350	-270	193.07	63,560	-1,180
Mar. 31.....	8,597.64	99,970	+620	197.31	66,860	+3,300
Apr. 30.....	8,597.54	99,620	-350	206.33	74,200	+7,340
May 31.....	8,597.58	99,760	+140	197.50	67,010	-7,190
June 30.....	8,597.61	99,860	+100	207.40	75,110	+8,100
July 31.....	8,597.66	100,000	+140	211.59	78,710	+3,600
Aug. 31.....	8,597.56	99,690	-310	211.75	78,850	+140
Sept. 30.....	8,597.67	100,100	+410	196.00	65,830	-13,020
WTR YR 1992....	-	-	+240	-	-	+3,270

a-National Geodetic Vertical Datum of 1929.

06701500 SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO

LOCATION.--Lat 39°12'33", long 105°16'02", in SE¹/₄NW¹/₄ sec.6, T.10 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 1,400 ft downstream from toe of Cheesman Dam and 3.8 mi southwest of Deckers.

DRAINAGE AREA.--1,752 mi².

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

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

GAGE.--Water-stage recorder with satellite telemetry, and Parshall flume. Datum of gage is 6,609.29 ft above National Geodetic Vertical Datum of 1929. Prior to May 14, 1956, at site 370 ft upstream at datum 0.50 ft, higher.

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	51	70	94	106	89	66	432	62	78	220	374
2	42	41	69	94	106	89	66	432	65	92	284	476
3	44	41	70	120	106	90	66	432	65	92	311	562
4	45	41	69	137	106	63	66	430	66	92	259	601
5	45	41	82	137	106	44	66	429	66	92	198	599
6	45	41	108	137	106	46	72	429	67	91	198	595
7	45	42	119	111	98	46	81	428	68	92	230	526
8	44	42	119	84	89	47	81	414	68	91	269	425
9	44	42	120	85	89	47	117	391	120	91	269	322
10	44	42	121	85	89	47	198	301	133	91	294	230
11	44	42	107	85	89	47	229	265	75	91	311	160
12	44	42	81	85	89	47	189	345	62	91	261	161
13	44	42	81	86	89	48	147	371	62	91	154	162
14	105	42	81	108	89	48	147	371	62	91	100	162
15	183	54	81	122	89	48	85	371	62	113	101	162
16	214	71	81	122	89	48	39	372	111	162	154	204
17	233	71	81	122	89	49	39	374	160	177	201	231
18	253	71	81	122	90	50	40	397	160	176	166	251
19	264	71	90	122	97	50	39	432	161	176	128	289
20	264	71	96	122	106	57	48	474	124	176	128	303
21	263	71	96	123	106	71	108	504	100	176	171	361
22	218	71	96	122	106	85	189	432	101	176	223	400
23	189	71	96	122	106	95	250	377	113	160	223	399
24	177	70	96	121	106	111	250	349	143	123	151	399
25	125	70	96	121	106	122	250	322	107	109	77	400
26	103	70	96	121	106	122	285	224	66	82	179	400
27	103	70	96	121	106	122	346	126	63	79	376	400
28	95	70	96	112	95	122	370	75	63	167	341	384
29	79	70	96	106	89	122	399	60	63	210	292	362
30	71	70	96	106	---	113	426	61	66	190	245	361
31	65	---	94	106	---	85	---	62	---	174	243	---
TOTAL	3615	1704	2861	3461	2843	2270	4754	10482	2704	3892	6757	10661
MEAN	117	56.8	92.3	112	98.0	73.2	158	338	90.1	126	218	355
MAX	264	71	121	137	106	122	426	504	161	210	376	601
MIN	42	41	69	84	89	44	39	60	62	78	77	160
AC-FT	7170	3380	5670	6860	5640	4500	9430	20790	5360	7720	13400	21150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1992, BY WATER YEAR (WY)

MEAN	123	65.2	45.8	50.5	49.3	51.0	147	282	326	345	342	197
MAX	380	266	118	130	143	208	932	1716	1067	984	984	431
(WY)	1985	1985	1991	1990	1990	1986	1942	1970	1949	1949	1984	1990
MIN	12.9	6.33	5.26	5.26	2.76	3.11	2.00	11.0	38.5	53.5	66.7	33.5
(WY)	1965	1960	1926	1926	1957	1957	1957	1938	1989	1967	1978	1978

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1925 - 1992

ANNUAL TOTAL	53777	56004	
ANNUAL MEAN	147	153	169
HIGHEST ANNUAL MEAN			450
LOWEST ANNUAL MEAN			60.1
HIGHEST DAILY MEAN	630	601	4580
LOWEST DAILY MEAN	^a 28	^b 39	^c 1.6
ANNUAL SEVEN-DAY MINIMUM	31	41	1.6
INSTANTANEOUS PEAK FLOW		605	4640
INSTANTANEOUS PEAK STAGE		2.91	13.40
ANNUAL RUNOFF (AC-FT)	106700	111100	122700
10 PERCENT EXCEEDS	379	371	429
50 PERCENT EXCEEDS	96	106	91
90 PERCENT EXCEEDS	42	47	17

a-Also occurred Feb 16-18.

b-Also occurred Apr 17 and 19.

c-Also occurred Apr 9-14, 1957.

06706000 NORTH FORK SOUTH PLATTE RIVER BELOW GENEVA CREEK, AT GRANT, CO

LOCATION.--Lat 39°27'26", long 105°39'29", in NW¹/₄ sec.10, T.7 S., R.74 W., Park County, Hydrologic Unit 10190002, on left bank at Grant, 1,550 ft downstream from Geneva Creek, and 1.3 mi downstream from east portal of Harold D. Roberts tunnel.

DRAINAGE AREA.--127 mi².

PERIOD OF RECORD.--July 1908 to November 1913 (published as "at Cassells"), June 1942 to current year. Monthly discharge only for some periods, published in WSP 1310. December 1913 to March 1918, equivalent records may be obtained by summation of flow of North Fork South Platte River at Grant (above Geneva Creek) and Geneva Creek at Grant.

REVISED RECORDS.--WSP 956: Drainage area at site at Cassells. WSP 1116: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and concrete control. Datum of gage is 8,560.81 ft above National Geodetic Vertical Datum of 1929, adjustment of 1960. See WSP 1710 or 1730 for history of changes prior to July 23, 1948. July 23, 1948, to Nov. 15, 1968, water-stage recorder at site 50 ft downstream at datum 3.49 ft, lower.

REMARKS.--Estimated daily discharges: Oct. 18, 20, 21, Nov. 3, and Nov. 4. Records good. Small diversions upstream from station for irrigation of about 200 acres. Diversions from Colorado River basin to North Fork South Platte River upstream from station through Harold D. Roberts tunnel (see 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192	124	130	103	106	103	21	81	352	470	270	45
2	127	162	130	103	109	106	21	78	346	462	270	44
3	127	162	127	103	109	109	22	74	366	420	270	42
4	124	170	124	103	109	109	24	82	434	413	270	41
5	124	170	118	106	109	109	25	87	448	406	270	82
6	124	174	115	106	106	106	27	97	298	413	270	138
7	174	173	115	106	106	109	30	147	115	427	265	188
8	270	192	118	106	106	103	30	173	109	427	265	265
9	270	220	115	106	106	100	31	140	138	420	265	260
10	270	220	115	106	106	109	34	98	287	413	270	260
11	270	215	118	106	106	109	37	85	413	413	276	265
12	270	206	103	106	109	109	39	90	478	427	276	260
13	270	210	100	106	109	109	41	84	470	427	270	235
14	103	206	103	106	109	109	39	85	470	413	270	265
15	31	197	115	106	109	109	36	91	485	406	265	265
16	30	174	115	106	109	109	39	95	508	413	265	269
17	28	170	109	106	109	109	39	98	500	399	282	43
18	28	166	109	103	109	109	37	112	500	399	276	40
19	27	142	109	103	109	109	31	120	508	392	270	44
20	26	130	109	103	106	97	31	134	470	399	265	45
21	24	134	109	103	103	82	30	139	448	346	265	42
22	23	127	109	100	103	70	34	128	448	292	265	41
23	24	124	106	106	103	65	58	124	448	292	260	39
24	24	130	106	106	106	34	45	133	478	292	287	39
25	26	138	106	106	106	19	33	159	462	304	138	37
26	26	138	103	106	106	19	34	259	427	287	63	37
27	26	138	103	106	103	19	37	371	420	255	49	36
28	24	138	103	97	103	19	46	349	385	265	44	36
29	17	134	103	106	103	19	50	333	385	276	42	36
30	40	130	103	106	---	21	72	366	392	276	41	34
31	73	---	103	106	---	21	---	366	---	270	44	---
TOTAL	3212	4914	3451	3247	3092	2529	1073	4778	11988	11514	6898	3473
MEAN	104	164	111	105	107	81.6	35.8	154	400	371	223	116
MAX	270	220	130	106	109	109	72	371	508	470	287	269
MIN	17	124	100	97	103	19	21	74	109	255	41	34
AC-FT	6370	9750	6850	6440	6130	5020	2130	9480	23780	22840	13680	6890

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1992, BY WATER YEAR (WY)

	MEAN	340	189	48.6	44.2	40.5	34.2	46.9	150	283	227	155	84.2
MAX	340	189	130	161	132	116	162	303	493	560	450	268	
(WY)	1979	1979	1990	1981	1981	1978	1967	1970	1909	1978	1978	1909	
MIN	20.5	19.6	11.4	8.57	8.43	10.6	18.2	67.4	74.0	49.5	34.6	26.0	
(WY)	1945	1944	1944	1944	1944	1944	1944	1963	1963	1963	1954	1944	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1909 - 1992

ANNUAL TOTAL	62474	60169	
ANNUAL MEAN	171	164	^a 71.6
HIGHEST ANNUAL MEAN			239
LOWEST ANNUAL MEAN			35.9
HIGHEST DAILY MEAN	613	508	860
LOWEST DAILY MEAN	17	17	6.5
ANNUAL SEVEN-DAY MINIMUM	24	20	7.2
INSTANTANEOUS PEAK FLOW		538	990
INSTANTANEOUS PEAK STAGE		1.80	4.72
ANNUAL RUNOFF (AC-FT)	123900	119300	51870
10 PERCENT EXCEEDS	398	399	270
50 PERCENT EXCEEDS	118	109	55
90 PERCENT EXCEEDS	45	34	17

a-Adjusted for inflow from Harold D. Roberts tunnel since 1964.

06709000 PLUM CREEK NEAR SEDALIA, CO

LOCATION.--Lat 39°26'18", long 104°58'57", in NE¹/4SE¹/4 sec.15, T.7 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on south side of county road no. 20 bridge, over Plum Creek, 1.0 mi west of Sedalia, and 1.4 mi downstream of the confluence of East and West Plum Creeks.

DRAINAGE AREA.--274 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Aug. 1942 to Sept. 1947, water-stage recorder at site 150 ft upstream at different datum. Prior to Aug. 1942, non-recording gage at bridge.

REMARKS.--Estimated daily discharges: Jan. 9 to Feb. 12 and Aug. 13-17. Records poor. Diversions upstream from station for irrigation. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	12	8.6	13	15	24	62	79	52	47	3.3	9.4
2	1.7	12	9.3	12	16	22	60	64	62	45	3.1	8.3
3	1.6	11	10	14	16	20	60	65	55	39	3.0	8.9
4	2.2	9.1	9.7	17	15	37	65	61	47	41	4.4	9.1
5	3.2	9.0	11	15	16	38	70	53	42	37	3.9	7.2
6	3.0	8.8	11	14	17	32	71	57	49	37	4.1	6.0
7	2.6	7.7	14	16	18	29	76	56	52	31	3.3	3.7
8	2.2	7.4	13	14	17	33	83	50	47	24	2.7	3.4
9	2.3	7.0	13	13	19	34	84	39	45	26	2.7	4.0
10	2.1	7.4	13	15	21	36	88	42	45	21	2.9	8.0
11	2.1	7.2	12	16	23	39	107	39	41	23	3.3	15
12	2.4	6.5	13	15	25	41	119	35	41	26	4.1	13
13	2.7	5.9	13	14	28	37	139	32	38	23	4.7	9.6
14	2.6	6.0	12	13	29	41	169	33	36	23	5.4	7.2
15	2.6	7.5	13	11	25	41	164	27	29	26	6.0	5.1
16	2.7	11	15	12	28	37	160	28	29	26	6.4	4.3
17	3.6	15	16	12	29	38	165	26	23	26	7.0	3.8
18	3.9	15	15	11	26	33	156	25	24	15	7.6	4.0
19	5.2	22	15	12	22	34	151	22	32	13	7.2	4.4
20	5.2	19	15	12	28	35	146	19	41	12	6.6	4.5
21	5.2	19	15	12	31	32	155	20	33	17	5.4	4.3
22	5.2	19	14	13	33	38	142	26	36	19	5.0	4.2
23	4.9	25	13	14	34	38	123	28	21	20	6.2	4.2
24	4.7	29	11	15	28	36	127	24	25	21	32	3.8
25	4.9	28	9.3	14	29	40	130	27	52	17	39	3.3
26	4.9	22	8.8	13	22	36	107	27	72	13	31	3.2
27	4.9	20	8.0	13	23	32	106	28	55	8.9	21	3.4
28	5.5	20	11	14	26	58	96	36	52	5.2	17	4.2
29	7.7	9.8	13	14	27	58	93	37	49	4.7	10	4.1
30	9.6	8.9	13	14	---	56	87	29	51	4.5	13	3.0
31	11	---	12	14	---	56	---	34	---	4.7	8.4	---
TOTAL	124.3	407.2	379.7	421	686	1161	3361	1168	1276	696.0	279.7	176.6
MEAN	4.01	13.6	12.2	13.6	23.7	37.5	112	37.7	42.5	22.5	9.02	5.89
MAX	11	29	16	17	34	58	169	79	72	47	39	15
MIN	1.6	5.9	8.0	11	15	20	60	19	21	4.5	2.7	3.0
AC-FT	247	808	753	835	1360	2300	6670	2320	2530	1380	555	350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

MEAN	8.83	16.1	13.3	11.9	19.1	21.8	54.9	110	41.9	17.0	25.0	5.66
MAX	31.8	30.6	29.1	23.0	27.8	37.5	112	332	134	71.2	147	13.6
(WY)	1943	1943	1943	1943	1944	1992	1992	1944	1947	1947	1945	1947
MIN	1.32	3.34	5.00	4.78	6.50	9.92	15.7	5.06	2.70	1.91	.29	.000
(WY)	1945	1945	1944	1991	1991	1991	1943	1946	1946	1945	1943	1943

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1942 - 1992

ANNUAL TOTAL	5498.0	10136.5	
ANNUAL MEAN	15.1	27.7	29.1
HIGHEST ANNUAL MEAN			58.3
LOWEST ANNUAL MEAN			10.6
HIGHEST DAILY MEAN	62	Jun 12	169
LOWEST DAILY MEAN	a 1.0	Jul 30	1.6
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 16	2.3
INSTANTANEOUS PEAK FLOW			203
INSTANTANEOUS PEAK STAGE			c 4.70
ANNUAL RUNOFF (AC-FT)	10910	20110	d 7700
10 PERCENT EXCEEDS	38	59	60
50 PERCENT EXCEEDS	9.7	17	12
90 PERCENT EXCEEDS	2.2	4.0	1.2

a-Also occurred Jul 31, Aug 1, Sep 9, 16-18, and Sep 23.

b-No flow at times during 1943, 1944, and 1946.

c-Maximum gage height, 5.61 ft, Jan 21, backwater from ice.

d-Site and datum then in use, from rating curve extended above 350 ft³/s on basis of slope-area determination of peak flow.

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 upstream side of bridge on Titan Road, 2.4 mi north of Louviers.

DRAINAGE AREA.--315 mi².

PERIOD OF RECORD.--May 1, 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 2-12, 17-24, Nov. 30 to Dec. 12, Dec. 14-19, Dec. 25 to Jan. 28, Feb. 7-23, and Mar. 9. Records poor. Diversions upstream from station for irrigation. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	5.2	8.0	10	8.1	74	42	54	30	27	.00	26
2	.00	8.0	8.0	12	8.2	74	24	42	31	22	.00	25
3	.00	6.0	10	12	4.3	69	26	43	31	15	.00	16
4	.00	4.0	12	11	2.7	88	32	39	31	18	.00	10
5	.00	6.0	16	10	4.7	51	28	42	24	20	.00	5.9
6	.00	6.0	16	9.0	4.2	41	25	58	23	18	.00	5.0
7	.00	7.0	15	8.0	6.0	36	33	60	25	15	.00	3.6
8	.00	7.0	15	8.0	8.0	50	37	55	29	16	.00	2.2
9	.00	8.0	14	9.0	12	100	37	53	25	16	.00	3.2
10	.00	9.0	15	10	15	52	55	31	26	15	.00	5.4
11	.00	9.0	15	11	18	47	75	25	29	15	.00	5.3
12	.00	9.0	16	8.0	21	47	81	25	26	16	.00	3.6
13	.00	9.4	17	8.0	23	49	111	23	33	13	.00	2.2
14	.00	7.2	18	8.0	23	49	156	16	24	12	.00	1.7
15	.00	6.9	18	7.0	22	46	202	15	18	11	.00	.62
16	.00	9.5	17	8.0	22	50	209	14	16	11	.00	.24
17	.00	10	16	8.0	23	46	232	15	27	12	.30	.11
18	.00	10	14	8.0	27	46	327	16	21	12	.50	.00
19	.00	11	13	8.0	33	33	252	17	19	13	.18	.50
20	.00	13	13	8.0	38	25	166	16	31	13	.00	.80
21	.00	12	13	9.0	42	22	112	16	17	11	.00	.94
22	.00	11	9.3	9.0	48	30	99	13	17	10	.00	1.0
23	.00	11	10	9.0	51	26	92	11	16	10	.00	.30
24	.00	14	8.5	10	55	30	82	8.3	19	10	.28	.05
25	.00	17	9.0	10	54	30	72	10	53	9.3	49	.00
26	.45	16	9.0	10	60	24	60	8.2	81	9.0	61	.00
27	.99	17	9.0	10	60	18	46	8.4	78	7.4	61	.03
28	1.3	17	10	10	59	51	61	13	78	4.5	46	.82
29	2.8	12	9.0	10	65	33	56	12	74	1.8	33	1.2
30	4.1	10	8.0	9.1	---	41	55	12	73	.95	28	.18
31	5.3	---	8.0	9.6	---	45	---	14	---	.01	20	---
TOTAL	14.94	298.2	388.8	286.7	817.2	1423	2885	784.9	1025	383.96	326.98	121.89
MEAN	.48	9.94	12.5	9.25	28.2	45.9	96.2	25.3	34.2	12.4	10.5	4.06
MAX	5.3	17	18	12	65	100	327	60	81	27	61	26
MIN	.00	4.0	8.0	7.0	2.7	18	24	8.2	16	.01	.00	.00
AC-FT	30	591	771	569	1620	2820	5720	1560	2030	762	649	242

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)

	MEAN	17.6	21.2	16.6	14.4	20.0	35.2	74.5	197	53.5	16.9	17.1	7.99
MAX	71.8	75.9	44.3	29.7	42.7	62.1	126	779	135	45.4	63.4	31.1	
(WY)	1985	1985	1985	1985	1988	1988	1987	1984	1984	1984	1984	1984	
MIN	.48	5.16	6.30	4.86	5.14	18.3	23.2	10.4	5.89	1.16	.69	.000	
(WY)	1992	1990	1991	1991	1990	1991	1989	1989	1990	1989	1986	1990	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1984 - 1992

ANNUAL TOTAL	6119.32	8756.57	
ANNUAL MEAN	16.8	23.9	
HIGHEST ANNUAL MEAN			33.2
LOWEST ANNUAL MEAN			68.3
HIGHEST DAILY MEAN	152	Jun 2	1770
LOWEST DAILY MEAN	a .00	Jul 6	b .00
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 16	.00
INSTANTANEOUS PEAK FLOW			2300
INSTANTANEOUS PEAK STAGE			c 8.32
ANNUAL RUNOFF (AC-FT)	12140	17370	24040
10 PERCENT EXCEEDS	46	55	81
50 PERCENT EXCEEDS	9.0	13	17
90 PERCENT EXCEEDS	.00	.00	.40

a-No flow many days.

b-No flow many days, most years.

c-Maximum gage height, 9.14 ft, Mar 9, backwater from ice.

d-Maximum gage-height, 9.14 ft, Mar 9, 1992, backwater from ice.

06709600 CHATFIELD LAKE NEAR LITTLETON, CO

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

DRAINAGE AREA.--3,018 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations above National Geodetic Vertical Datum of 1929.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,690 acre-ft, May 26, 1980, elevation, 5,447.58 ft; minimum since first filling in June 1979; 17,300 acre-ft, Nov. 17, 1986, elevation 5,424.46 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,740 acre-ft, Apr. 19, elevation, 5,432.48 ft; minimum, 20,610 acre-ft, July 7, elevation, 5,427.11 ft.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,427.82	22,530	-
Oct. 31.	5,428.64	23,580	+1,050
Nov. 30.	5,429.77	25,080	+1,500
Dec. 31.	5,431.68	27,700	+2,620
CAL YR 1991.	-	-	+6,550
Jan. 31.	5,432.03	*27,090	*-610
Feb. 29.	5,432.02	27,080	- 10
Mar. 31.	5,432.11	27,210	+130
Apr. 30.	5,430.58	25,070	-2,140
May 31.	5,427.19	20,710	-4,360
June 30.	5,427.43	21,000	+290
July 31.	5,429.25	23,300	+2,300
Aug. 31.	5,428.47	22,300	-1,000
Sept. 30.	5,428.90	22,840	+540
WTR YR 1992.	-	-	+310

*-New area-capacity table.

06710245 SOUTH PLATTE RIVER AT UNION AVENUE, AT ENGLEWOOD, CO

LOCATION.--Lat 39°37'52", long 105°00'50", in NW¹/4SW¹/4 sec.9, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on right bank 280 ft downstream from Big Dry Creek, 285 ft upstream from Union Avenue bridge in Englewood, and 7.5 mi downstream from Chatfield Dam.

DRAINAGE AREA.--3,043 mi².

PERIOD OF RECORD.--April 11, 1989 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,300 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 20 to Dec. 19, Dec. 24 to Jan. 6, Jan. 20, 30, and Feb. 3-4. Records fair, except for estimated daily discharges and discharges less than 20 ft³/s or greater than 300 ft³/s, which are poor. Flow regulated by Chatfield Reservoir (station 06709600) 7.1 mi upstream. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	16	30	11	78	62	250	206	300	145	61	35
2	29	63	28	13	78	62	205	359	199	207	61	35
3	27	76	26	15	76	62	153	357	139	136	60	32
4	36	84	25	20	74	222	146	310	77	159	55	31
5	31	82	23	30	74	140	114	313	101	91	129	30
6	29	127	22	50	73	127	113	275	219	125	130	31
7	27	150	21	68	73	150	120	184	214	136	45	31
8	27	106	20	91	74	157	134	188	254	78	38	30
9	24	95	19	107	75	179	144	189	282	61	36	30
10	23	100	18	72	75	173	146	198	139	128	60	31
11	22	94	18	67	76	158	147	217	169	211	127	31
12	22	89	17	68	74	132	152	228	227	297	171	32
13	23	29	16	78	73	126	161	122	143	233	192	31
14	23	24	15	105	73	118	182	111	160	131	201	30
15	23	29	14	101	72	112	215	106	266	133	133	27
16	22	49	13	88	71	110	294	128	297	134	162	27
17	21	72	12	75	69	106	286	138	247	126	132	27
18	21	59	12	66	68	104	126	139	158	92	147	28
19	21	66	11	73	71	108	119	147	111	96	176	28
20	20	55	11	70	71	108	233	175	121	152	125	29
21	20	50	11	71	71	109	368	142	152	137	114	28
22	20	45	11	67	71	118	334	142	151	118	92	27
23	20	40	11	72	74	111	191	88	149	93	87	26
24	31	30	10	62	71	89	164	88	141	119	490	27
25	21	30	10	58	81	92	262	156	142	123	85	27
26	20	35	10	59	118	107	273	198	167	137	36	27
27	17	60	10	62	59	108	280	178	311	83	34	27
28	23	45	10	60	59	276	288	251	441	53	32	27
29	26	35	10	60	64	155	279	225	339	83	31	27
30	21	32	10	70	---	178	213	205	280	133	30	27
31	18	---	10	84	---	259	---	225	---	119	31	---
TOTAL	738	1867	484	1993	2136	4118	6092	5988	6096	4069	3303	876
MEAN	23.8	62.2	15.6	64.3	73.7	133	203	193	203	131	107	29.2
MAX	36	150	30	107	118	276	368	359	441	297	490	35
MIN	17	16	10	11	59	62	113	88	77	53	30	26
AC-FT	1460	3700	960	3950	4240	8170	12080	11880	12090	8070	6550	1740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	MEAN	54.9	71.6	50.3	36.2	36.2	73.2	135	173	198	176	179	73.3
MAX		80.7	125	113	64.3	73.7	133	203	193	222	241	241	101
(WY)		1991	1991	1990	1992	1992	1992	1992	1992	1990	1990	1991	1991
MIN		23.8	27.0	15.6	15.9	11.5	32.3	84.3	114	168	131	107	29.2
(WY)		1992	1990	1992	1991	1991	1991	1990	1991	1991	1992	1992	1992

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1989 - 1992

ANNUAL TOTAL	32393.5	37760		
ANNUAL MEAN	88.7	103		
HIGHEST ANNUAL MEAN			110	1990
LOWEST ANNUAL MEAN			99.3	1991
HIGHEST DAILY MEAN	418	Aug 5	490	Aug 24 1992
LOWEST DAILY MEAN	9.7	Feb 18	10	Dec 24 1991
ANNUAL SEVEN-DAY MINIMUM	10	Feb 23	10	Feb 23 1991
INSTANTANEOUS PEAK FLOW			1050	Aug 24 1991
INSTANTANEOUS PEAK STAGE			6.09	Aug 24 1991
ANNUAL RUNOFF (AC-FT)	64250	74900	1520	Jun 1 1991
10 PERCENT EXCEEDS	223	223	249	
50 PERCENT EXCEEDS	55	78	84	
90 PERCENT EXCEEDS	12	21	19	

a-Also occurred Dec 25-31.

b-Maximum gage height, 7.16 ft, Feb 3, 1992, backwater from ice.

06710385 BEAR CREEK ABOVE EVERGREEN, CO

LOCATION.--Lat 39°37'58", long 105°19'59", in SE¹/4NE¹/4 sec.9, T.5 S., R.71 W., Jefferson County, Hydrologic Unit 10190002, on right bank 0.6 mi upstream from Evergreen Lake dam at Evergreen.

DRAINAGE AREA.--104 mi².

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

GAGE.--Water-stage recorder. Elevation of gage 7,076 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 1, 1986, at site 200 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 30 to Apr. 6. 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	18	18	17	14	18	34	79	63	56	28	32
2	39	18	17	17	14	18	35	78	61	56	27	28
3	37	19	18	18	15	18	35	67	59	50	27	26
4	35	19	19	18	15	19	36	67	56	46	27	25
5	34	22	20	19	15	19	38	65	55	44	25	24
6	33	23	20	19	15	19	39	65	56	42	26	23
7	33	23	20	19	15	20	40	72	55	41	25	23
8	31	23	19	19	16	21	41	66	54	42	24	22
9	31	24	19	20	17	21	44	64	55	42	29	21
10	30	26	19	20	17	22	47	65	60	39	25	21
11	29	27	19	19	18	23	51	55	67	38	28	21
12	29	29	19	18	18	24	49	55	74	43	32	21
13	28	30	18	17	18	25	57	54	63	47	37	20
14	27	30	18	16	18	26	63	55	59	38	27	19
15	27	29	18	15	18	26	70	53	58	36	23	19
16	26	27	18	15	18	26	85	52	54	44	23	19
17	26	26	17	15	19	26	83	52	52	45	35	20
18	25	25	17	15	19	28	82	65	52	38	33	20
19	24	23	17	15	19	32	72	59	51	34	26	20
20	24	21	18	15	20	32	67	55	53	38	23	22
21	24	20	18	15	20	32	63	60	53	35	23	20
22	24	19	19	16	20	32	62	69	52	31	23	20
23	24	19	19	16	20	32	58	57	51	30	22	19
24	26	20	18	16	19	33	54	56	51	33	80	18
25	28	21	18	16	18	33	55	54	60	37	70	18
26	28	21	18	15	18	33	55	55	71	39	46	18
27	27	21	18	15	18	33	56	62	80	32	36	17
28	27	20	17	15	18	34	60	60	70	29	31	17
29	22	20	17	14	18	34	68	56	65	28	29	17
30	20	19	17	14	---	35	74	58	60	28	28	18
31	19	---	17	14	---	35	---	64	---	28	30	---
TOTAL	881	682	564	512	507	829	1673	1894	1770	1209	968	628
MEAN	28.4	22.7	18.2	16.5	17.5	26.7	55.8	61.1	59.0	39.0	31.2	20.9
MAX	44	30	20	20	20	35	85	79	80	56	80	32
MIN	19	18	17	14	14	18	34	52	51	28	22	17
AC-FT	1750	1350	1120	1020	1010	1640	3320	3760	3510	2400	1920	1250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
MEAN	34.5	28.5	18.7	14.7	13.3	17.3	42.2	91.6	96.2	60.3	65.8	42.6
MAX	85.1	56.2	32.8	18.3	17.5	26.7	89.7	230	144	76.5	189	103
(WY)	1985	1985	1985	1985	1992	1992	1987	1987	1987	1985	1984	1984
MIN	20.5	16.5	13.4	10.4	8.89	10.8	13.9	46.4	49.8	39.0	31.2	20.9
(WY)	1989	1989	1989	1990	1990	1991	1991	1989	1990	1992	1992	1992

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1985 - 1992

ANNUAL TOTAL	15592.9	12117	
ANNUAL MEAN	42.7	33.1	42.0
HIGHEST ANNUAL MEAN			61.5
LOWEST ANNUAL MEAN			30.0
HIGHEST DAILY MEAN	181	85	350
LOWEST DAILY MEAN	8.6	14	8.0
ANNUAL SEVEN-DAY MINIMUM	9.0	14	8.4
INSTANTANEOUS PEAK FLOW		142	388
INSTANTANEOUS PEAK STAGE		3.21	3.80
ANNUAL RUNOFF (AC-FT)	30930	24030	30440
10 PERCENT EXCEEDS	102	60	95
50 PERCENT EXCEEDS	24	26	29
90 PERCENT EXCEEDS	10	17	13

a-Also occurred Feb 16, 1990.

b-Site then in use.

06710500 BEAR CREEK AT MORRISON, CO

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

DRAINAGE AREA.--164 mi².

PERIOD OF RECORD.--Streamflow records, 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 National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Oct. 31 to Nov. 5, Nov. 21-25, and Dec. 1 to Mar. 12. Records good except for estimated daily discharges, which are fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	27	23	15	15	21	41	84	76	75	25	38
2	40	26	24	15	15	21	44	83	71	86	25	33
3	42	26	26	14	15	22	45	77	67	71	24	30
4	41	28	29	14	15	22	54	76	65	61	26	29
5	41	29	29	14	15	22	54	75	62	58	23	27
6	39	30	28	13	15	23	56	74	66	51	24	27
7	33	32	27	13	15	23	64	77	67	47	23	26
8	34	27	27	13	16	24	65	74	61	47	22	24
9	32	30	26	12	16	24	67	74	60	46	25	23
10	31	30	25	12	16	24	66	74	64	38	24	23
11	30	29	25	12	16	25	76	65	65	37	26	22
12	32	25	24	12	17	25	74	65	74	45	30	22
13	30	26	24	13	17	28	80	64	65	54	34	20
14	30	24	23	13	17	31	85	65	60	44	27	20
15	29	30	22	13	17	29	93	64	58	41	24	20
16	29	27	22	13	17	32	103	62	54	48	23	20
17	28	30	21	13	18	33	104	61	52	52	38	20
18	27	23	21	13	18	33	101	70	51	46	34	20
19	27	28	20	13	18	29	91	66	50	39	29	20
20	28	19	20	13	19	27	84	64	50	43	23	21
21	27	21	19	13	19	28	77	68	64	46	23	19
22	26	22	19	13	19	30	77	76	65	37	23	20
23	26	23	19	14	19	27	74	68	67	35	25	19
24	29	25	18	14	20	28	68	66	68	37	97	19
25	30	27	18	14	20	28	68	65	72	40	87	17
26	29	29	17	14	20	31	68	64	98	46	57	15
27	29	27	17	14	20	33	68	70	103	37	45	15
28	28	25	16	14	21	45	71	68	100	31	39	14
29	20	25	16	14	21	44	75	65	90	29	33	16
30	28	21	16	14	---	44	80	64	81	27	34	17
31	28	---	15	15	---	51	---	72	---	28	35	---
TOTAL	968	791	676	416	506	907	2173	2160	2046	1422	1027	656
MEAN	31.2	26.4	21.8	13.4	17.4	29.3	72.4	69.7	68.2	45.9	33.1	21.9
MAX	45	32	29	15	21	51	104	84	103	86	97	38
MIN	20	19	15	12	15	21	41	61	50	27	22	14
AC-FT	1920	1570	1340	825	1000	1800	4310	4280	4060	2820	2040	1300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1900 - 1992, BY WATER YEAR (WY)

	MEAN	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	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	5.41
(WY)	1935	1957	1940	1950	1933	1933	1982	1963	1954	1963	1978	1978	1978

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1900 - 1992
ANNUAL TOTAL	17776	13748	
ANNUAL MEAN	48.7	37.6	53.0
HIGHEST ANNUAL MEAN			125
LOWEST ANNUAL MEAN			14.6
HIGHEST DAILY MEAN	203	104	1410
LOWEST DAILY MEAN	a 13	b 12	c 80
ANNUAL SEVEN-DAY MINIMUM	14	12	d 3.0
INSTANTANEOUS PEAK FLOW		171	d 8600
INSTANTANEOUS PEAK STAGE		5.07	
ANNUAL RUNOFF (AC-FT)	35260	27270	38400
10 PERCENT EXCEEDS	108	74	121
50 PERCENT EXCEEDS	29	28	26
90 PERCENT EXCEEDS	16	15	11

a-Also occurred Feb 26, 27.

b-Also occurred Jan 10-12.

c-Result of freezeup.

d-Estimated.

06710605 BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO

LOCATION.--Lat 39°39'08", long 105°10'23", in NW¹/4NE¹/4 sec.1, T.5 S. R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank, 0.9 mi downstream from Strain Gulch, 1.0 mi east of Morrison, 1.1 mi downstream from Mt. Vernon Creek.

DRAINAGE AREA.--176 mi².

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

GAGE.--Water-stage recorder. Elevation of gage 5,645 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 21, 1989, at datum 3.37 ft, higher.

REMARKS.--Estimated daily discharges: Oct. 1, 2, Oct. 28 to Nov. 8, Nov. 15-22, Nov. 25-29, Dec. 28 to Jan. 26, Feb. 2-10, 14, 15, 25-27, Mar. 8, June 7-12, and Aug. 4 to Sept. 22. 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	9.0	9.3	12	16	19	26	76	58	41	7.9	14
2	25	10	10	12	16	17	32	72	56	49	4.4	14
3	23	12	15	12	15	16	31	65	53	36	5.7	13
4	23	14	19	12	15	28	34	58	49	31	7.8	12
5	23	15	20	12	15	24	31	57	45	29	8.8	12
6	24	15	20	13	14	20	29	54	46	27	9.6	12
7	23	16	20	13	14	20	41	59	47	26	10	11
8	23	17	19	13	15	20	46	53	47	26	10	11
9	23	20	20	13	17	21	51	51	47	26	11	11
10	21	21	19	13	17	23	53	51	46	24	13	11
11	19	20	20	13	18	27	62	46	46	23	16	10
12	20	17	19	12	19	29	56	42	64	28	17	9.0
13	20	19	18	12	19	29	64	40	54	36	21	7.6
14	19	17	16	14	19	31	68	39	47	28	18	6.2
15	18	17	18	15	19	30	83	38	44	24	17	4.5
16	18	17	19	15	19	31	101	30	40	27	17	3.6
17	18	17	20	15	19	31	106	30	40	28	18	2.4
18	17	17	20	15	16	28	111	45	36	28	16	1.8
19	18	17	20	15	17	19	100	43	30	20	13	1.4
20	19	17	19	15	15	14	87	38	26	21	11	1.1
21	18	16	18	14	14	14	76	43	27	24	11	.90
22	17	15	19	14	15	15	78	57	27	18	11	.86
23	16	7.9	17	14	15	11	71	46	27	17	13	3.9
24	17	13	13	14	16	11	64	40	30	17	52	7.7
25	11	17	11	14	17	12	64	39	36	20	32	7.7
26	3.9	18	11	14	18	15	64	41	56	23	24	8.1
27	2.5	18	11	14	18	17	61	48	57	20	18	7.7
28	4.5	18	11	15	19	24	62	47	55	16	16	7.3
29	5.5	17	11	16	19	26	73	43	47	14	15	7.3
30	6.0	16	12	16	---	26	72	41	44	13	14	7.3
31	8.0	---	12	16	---	39	---	50	---	11	14	---
TOTAL	532.4	479.9	506.3	427	485	687	1897	1482	1327	771	472.2	227.36
MEAN	17.2	16.0	16.3	13.8	16.7	22.2	63.2	47.8	44.2	24.9	15.2	7.58
MAX	29	21	20	16	19	39	111	76	64	49	52	14
MIN	2.5	7.9	9.3	12	14	11	26	30	26	11	4.4	.86
AC-FT	1060	952	1000	847	962	1360	3760	2940	2630	1530	937	451

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	MEAN	14.7	16.6	18.4	16.6	17.7	24.6	59.5	115	80.0	30.2	28.3	18.9
MAX	20.4	32.1	29.5	23.1	23.4	44.8	158	377	211	56.4	66.8	33.0	
(WY)	1991	1987	1987	1987	1987	1987	1987	1987	1987	1987	1991	1991	
MIN	4.34	.38	11.9	12.4	12.2	12.8	2.83	6.95	14.9	5.23	2.80	4.17	
(WY)	1990	1990	1989	1991	1990	1991	1989	1989	1989	1989	1989	1989	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1987 - 1992

ANNUAL TOTAL	12528.49	9294.16	
ANNUAL MEAN	34.3	25.4	36.7
HIGHEST ANNUAL MEAN			85.1
LOWEST ANNUAL MEAN			10.4
HIGHEST DAILY MEAN	a 192	Jun 2	492
LOWEST DAILY MEAN	.42	Mar 31	b .25
ANNUAL SEVEN-DAY MINIMUM	1.6	Mar 30	.27
INSTANTANEOUS PEAK FLOW			825
INSTANTANEOUS PEAK STAGE		4.84	5.84
ANNUAL RUNOFF (AC-FT)	24850	18430	26620
10 PERCENT EXCEEDS	84	53	72
50 PERCENT EXCEEDS	19	18	20
90 PERCENT EXCEEDS	8.0	10	3.5

a-Also occurred Jun 7.

b-Also occurred Nov 12 and 13, 1990.

06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO

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

DRAINAGE AREA.--260 mi².

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

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,295 ft above National Geodetic Vertical Datum of 1929, 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.--Estimated daily discharges: Oct. 28 to Nov. 1, Nov. 16 to Dec. 4, Jan. 14-16, 19-21, and Jan. 23. Records good except for estimated daily discharges, which are fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	29	28	25	26	27	59	92	117	50	17	17
2	41	30	27	24	27	27	54	92	79	58	15	18
3	39	28	26	24	27	26	53	89	66	47	14	18
4	41	29	32	24	26	100	55	83	60	39	13	16
5	41	40	41	25	24	64	75	77	58	38	14	14
6	40	41	40	25	24	41	74	79	59	35	13	14
7	39	42	40	27	24	34	80	75	65	31	13	15
8	36	39	39	26	24	44	96	75	66	32	13	14
9	34	37	37	25	25	58	100	74	59	31	13	12
10	33	40	34	26	25	49	100	81	59	29	12	21
11	31	40	34	25	25	50	114	73	59	29	20	21
12	30	38	32	27	26	53	118	64	67	45	28	17
13	30	36	32	26	25	51	123	58	70	48	38	15
14	30	34	30	26	24	51	127	56	60	40	44	14
15	29	39	28	26	21	47	142	53	57	40	44	12
16	32	38	30	26	21	48	159	47	52	41	43	10
17	34	37	31	26	23	49	167	42	48	49	49	8.5
18	28	37	30	26	21	51	157	46	44	42	57	9.5
19	29	36	30	26	20	41	148	51	50	34	61	11
20	28	35	31	25	23	32	138	48	48	38	49	11
21	30	34	30	25	22	28	120	47	44	43	47	11
22	29	33	30	24	21	31	113	68	37	34	48	10
23	28	33	30	25	25	23	104	61	33	34	50	10
24	34	32	29	25	24	19	96	51	36	29	296	11
25	33	31	24	26	25	16	88	63	42	32	175	11
26	27	30	24	26	24	15	89	67	57	45	70	11
27	23	30	22	26	25	45	82	71	61	32	44	13
28	24	29	22	27	25	86	79	64	66	24	33	12
29	25	28	22	27	26	58	80	63	59	20	24	13
30	26	27	23	26	---	52	89	57	52	21	22	14
31	28	---	23	27	---	59	---	72	---	19	18	---
TOTAL	999	1032	931	794	698	1375	3079	2039	1730	1129	1397	404.0
MEAN	32.2	34.4	30.0	25.6	24.1	44.4	103	65.8	57.7	36.4	45.1	13.5
MAX	47	42	41	27	27	100	167	92	117	58	296	21
MIN	23	27	22	24	20	15	53	42	33	19	12	8.5
AC-FT	1980	2050	1850	1570	1380	2730	6110	4040	3430	2240	2770	801

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1992, BY WATER YEAR (WY)

	MEAN	22.1	22.5	21.3	19.6	19.1	22.2	51.8	148	97.0	35.1	36.5	24.1
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1927 - 1992

ANNUAL TOTAL	18745.7	15607.0	
ANNUAL MEAN	51.4	42.6	43.7
HIGHEST ANNUAL MEAN			157
LOWEST ANNUAL MEAN			6.53
HIGHEST DAILY MEAN	334	Jun 1	296 Aug 24
LOWEST DAILY MEAN	^a 8.0	Apr 1	8.5 Sep 17
ANNUAL SEVEN-DAY MINIMUM	8.1	Mar 30	10 Sep 16
INSTANTANEOUS PEAK FLOW			490 Aug 24
INSTANTANEOUS PEAK STAGE			4.37 Aug 24
ANNUAL RUNOFF (AC-FT)	37180	30960	31680
10 PERCENT EXCEEDS	117	78	91
50 PERCENT EXCEEDS	33	33	16
90 PERCENT EXCEEDS	19	17	5.7

a-Also occurred Apr 2-5.

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

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO

LOCATION.--Lat 39°39'54", long 105°00'13", in NW¹/4NE¹/4 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, 1.4 mi downstream from Bear Creek.

DRAINAGE AREA.--3,387 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 5,250 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Aug. 31 to Sept. 8. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	50	70	50	93	86	235	291	514	188	64	58
2	76	93	80	51	97	91	210	433	306	277	61	57
3	70	116	65	43	95	89	167	423	201	196	59	56
4	86	106	64	50	92	438	174	370	131	228	58	55
5	78	115	65	48	89	256	184	373	143	139	126	54
6	72	140	66	50	85	182	181	342	275	165	140	53
7	69	161	66	88	88	202	191	249	272	182	51	52
8	67	150	64	102	94	236	207	247	300	138	44	51
9	63	127	60	124	95	321	231	244	360	138	44	48
10	62	132	56	93	93	273	233	259	203	157	59	52
11	57	130	55	91	91	233	253	260	246	255	130	57
12	58	127	57	90	92	203	257	269	365	368	208	48
13	61	78	59	97	86	187	269	160	215	319	237	45
14	61	70	62	113	85	173	306	145	213	162	253	42
15	58	81	50	132	81	163	360	135	319	166	169	35
16	59	104	52	196	84	159	446	151	340	190	217	32
17	59	143	51	93	86	159	425	156	305	185	188	31
18	57	123	52	88	81	169	270	154	221	129	210	35
19	59	140	54	104	83	162	258	164	186	126	249	39
20	56	115	48	93	83	141	346	194	196	235	172	41
21	61	109	51	89	87	145	457	154	227	180	155	37
22	57	105	53	84	80	173	427	198	216	147	127	40
23	60	74	52	92	92	135	300	127	202	126	126	34
24	78	60	49	85	90	100	255	112	190	138	1210	35
25	70	64	47	86	94	101	344	209	198	168	363	32
26	58	82	43	81	139	109	346	249	234	191	133	38
27	55	135	43	84	81	133	347	232	382	119	100	39
28	66	89	43	84	80	436	344	306	518	72	79	38
29	73	78	42	83	87	179	345	280	407	87	68	41
30	54	71	45	86	---	183	298	255	349	133	62	36
31	48	---	42	97	---	239	---	286	---	118	60	---
TOTAL	1989	3168	1706	2747	2603	5856	8666	7427	8234	5422	5222	1311
MEAN	64.2	106	55.0	88.6	89.8	189	289	240	274	175	168	43.7
MAX	86	161	80	196	139	438	457	433	518	368	1210	58
MIN	48	50	42	43	80	86	167	112	131	72	44	31
AC-FT	3950	6280	3380	5450	5160	11620	17190	14730	16330	10750	10360	2600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

MEAN	203	200	107	93.3	95.0	161	468	1061	759	540	499	186
MAX	1050	733	268	216	166	261	1074	2576	2224	1549	1574	724
(WY)	1985	1985	1985	1985	1985	1983	1984	1987	1983	1983	1984	1984
MIN	64.2	39.3	49.6	45.4	35.5	51.7	123	209	243	175	168	43.7
(WY)	1992	1990	1989	1991	1991	1991	1991	1989	1990	1992	1992	1992

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1983 - 1992

ANNUAL TOTAL	54309	54351	
ANNUAL MEAN	149	148	323
HIGHEST ANNUAL MEAN			692
LOWEST ANNUAL MEAN			148
HIGHEST DAILY MEAN	982	1210	3910
LOWEST DAILY MEAN	25	31	25
ANNUAL SEVEN-DAY MINIMUM	32	36	31
INSTANTANEOUS PEAK FLOW		2620	4090
INSTANTANEOUS PEAK STAGE		4.38	5.25
ANNUAL RUNOFF (AC-FT)	107700	107800	233700
10 PERCENT EXCEEDS	353	301	954
50 PERCENT EXCEEDS	81	109	167
90 PERCENT EXCEEDS	36	50	52

a-Also occurred Mar 31, 1991.

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1985 to current year.

pH: March 1985 to current year.

WATER TEMPERATURE: March 1985 to current year.

DISSOLVED OXYGEN: March 1985 to current year.

INSTRUMENTATION.--Water-quality monitor since March 1985. Values recorded hourly.

REMARKS.--Daily maximum and minimum specific conductance data available in District office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum mean, 995 microsiemens, Jan. 31, 1990; minimum mean, 223 microsiemens, May 16, 1987.

pH: Maximum, 9.9 units, July 14, 15, 18, 1987; minimum, 6.4 units, Oct. 18, 1989.

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

DISSOLVED OXYGEN: Maximum, 17.4 mg/L, Mar. 14, 1985; minimum, 3.4 mg/L, July 31, 1987.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum mean, 841 microsiemens, Sept. 30; minimum mean, 325 microsiemens Aug. 24.

pH: Maximum, 9.3 units, May 2; minimum, 6.9 units, Dec. 1.

WATER TEMPERATURE: Maximum, 26.9°C, July 6; minimum, 0.3°C, Dec. 14.

DISSOLVED OXYGEN: Maximum, 16.8 mg/L, Feb. 12; minimum, 4.8 mg/L, Aug. 3-5.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	777	---	---	559	502	406	397	428	603	830
2	---	---	718	---	---	576	527	436	449	417	615	798
3	---	---	734	---	---	572	549	447	476	440	630	767
4	---	---	789	---	---	452	544	445	535	432	670	---
5	---	---	724	---	---	507	532	466	543	492	541	---
6	---	---	715	---	---	675	527	460	461	462	460	---
7	---	---	718	---	---	729	512	479	439	447	---	---
8	---	---	721	---	---	599	605	494	475	443	532	---
9	---	---	717	---	---	595	603	472	483	427	570	---
10	---	512	740	---	584	616	462	490	454	499	---	---
11	---	498	738	---	582	585	452	434	467	423	---	---
12	---	512	738	---	591	581	445	403	402	405	---	---
13	---	592	756	---	600	548	430	475	453	410	426	---
14	---	622	731	---	587	539	419	478	452	462	401	---
15	---	667	668	---	598	513	462	476	414	459	439	---
16	---	628	700	---	602	494	493	462	401	484	402	---
17	---	642	681	---	606	471	424	460	408	493	456	---
18	---	617	726	---	592	467	483	453	445	500	---	---
19	---	649	758	---	608	553	482	436	485	524	---	---
20	---	691	---	---	594	540	438	430	518	469	431	---
21	---	650	---	---	587	708	406	461	490	465	449	---
22	---	689	---	---	601	746	433	433	485	463	491	---
23	---	745	---	---	605	687	396	480	484	521	484	---
24	---	798	---	---	598	705	409	565	481	488	325	---
25	---	728	---	---	576	693	408	564	471	---	459	---
26	---	663	---	---	491	620	378	467	455	---	606	---
27	---	599	---	---	593	568	392	500	419	---	647	---
28	---	671	---	---	586	431	387	410	374	---	679	---
29	---	793	---	---	562	582	386	441	380	---	743	---
30	---	747	---	---	---	581	389	455	390	---	774	841
31	---	---	---	---	---	522	---	459	---	477	812	---
MEAN	---	---	---	---	---	582	454	462	450	---	---	---

PH (STANDARD UNITS), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	3.3	.4	---	---	---	---	9.4	4.2
2	---	---	---	---	2.5	.4	---	---	---	---	11.1	4.0
3	---	---	---	---	3.9	.4	---	---	---	---	8.8	4.7
4	---	---	---	---	5.6	1.0	---	---	---	---	8.3	4.9
5	---	---	---	---	6.2	1.9	---	---	---	---	9.0	4.6
6	---	---	---	---	6.8	2.0	---	---	---	---	12.1	4.6
7	---	---	---	---	7.4	2.5	---	---	---	---	10.6	4.7
8	---	---	---	---	6.7	2.7	---	---	5.8	2.0	9.5	2.2
9	---	---	---	---	6.4	1.6	---	---	8.0	2.2	6.0	1.6
10	---	---	10.0	7.7	5.5	1.4	---	---	7.6	2.6	8.7	1.9
11	---	---	11.2	6.2	4.6	2.4	---	---	8.3	4.0	10.8	2.8
12	---	---	11.1	4.5	6.1	2.5	---	---	9.1	4.3	12.1	4.9
13	---	---	10.9	4.7	4.9	1.5	---	---	6.4	2.7	12.4	4.9
14	---	---	8.7	4.4	4.7	.3	---	---	8.1	3.7	11.1	5.2
15	---	---	6.4	5.0	5.2	.5	---	---	7.4	2.0	13.3	5.1
16	---	---	5.7	3.2	6.6	1.4	---	---	5.1	2.1	13.2	5.4
17	---	---	6.2	1.9	5.3	1.6	---	---	6.3	2.2	11.6	6.1
18	---	---	7.1	2.4	4.5	1.3	---	---	6.2	1.0	9.9	6.5
19	---	---	5.8	1.9	5.6	2.0	---	---	7.0	.7	11.6	6.0
20	---	---	6.5	.9	---	---	---	---	6.8	3.1	12.1	4.6
21	---	---	7.9	3.5	---	---	---	---	9.3	3.8	7.9	4.2
22	---	---	5.5	3.2	---	---	---	---	7.9	3.6	11.7	3.7
23	---	---	4.7	1.0	---	---	---	---	8.5	4.9	11.7	4.7
24	---	---	5.8	.8	---	---	---	---	8.2	2.3	10.6	6.1
25	---	---	6.7	2.2	---	---	---	---	6.6	4.0	13.0	5.0
26	---	---	8.2	3.3	---	---	---	---	8.0	2.5	13.7	6.5
27	---	---	8.4	3.0	---	---	---	---	10.3	4.8	12.8	7.2
28	---	---	5.0	3.8	---	---	---	---	10.9	4.2	9.8	7.8
29	---	---	4.7	1.5	---	---	---	---	11.0	4.0	14.4	7.0
30	---	---	3.6	.5	---	---	---	---	---	---	15.4	6.6
31	---	---	---	---	---	---	---	---	---	---	9.7	6.7
MONTH	---	---	---	---	---	---	---	---	---	---	15.4	1.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.9	5.6	19.9	12.2	14.8	11.9	21.2	17.8	22.7	17.3	20.4	14.6
2	12.1	7.0	17.9	12.5	21.1	12.2	22.5	17.0	24.6	16.9	21.9	15.2
3	15.9	6.3	19.1	12.2	22.0	13.7	25.7	16.4	22.1	18.2	20.5	15.2
4	15.5	7.5	20.2	12.4	21.5	14.6	25.4	17.9	24.4	17.2	---	---
5	13.8	8.1	20.2	12.6	18.4	15.0	25.7	17.7	23.9	17.8	---	---
6	15.6	7.8	20.6	12.7	21.3	14.2	26.9	18.8	23.7	18.0	---	---
7	15.7	7.7	20.0	13.2	20.0	14.4	23.8	18.6	---	---	---	---
8	16.3	8.2	20.0	13.8	19.1	13.9	20.8	18.0	---	---	---	---
9	15.0	8.9	19.5	13.2	19.7	15.1	26.0	17.3	---	---	---	---
10	16.1	9.2	17.4	13.3	22.3	13.9	25.3	18.7	---	---	---	---
11	14.2	9.5	21.1	12.0	20.9	14.5	24.4	19.1	---	---	---	---
12	16.4	9.8	16.6	13.4	22.8	13.0	22.4	18.4	---	---	---	---
13	17.5	9.9	20.5	12.3	23.6	16.0	25.3	18.4	---	---	---	---
14	14.9	10.8	19.3	12.9	22.8	15.6	26.2	17.8	24.5	18.3	---	---
15	15.9	10.8	20.4	13.4	23.1	16.3	24.0	18.1	25.7	17.3	---	---
16	12.0	10.2	21.0	13.2	22.0	15.9	20.3	16.7	22.7	18.7	---	---
17	14.2	9.6	20.9	13.4	23.0	14.9	24.0	16.9	21.5	17.9	---	---
18	13.5	8.9	23.7	13.6	24.4	15.9	25.9	17.2	---	---	---	---
19	13.2	8.6	22.6	15.0	22.6	17.2	24.5	18.0	---	---	---	---
20	14.7	8.3	23.5	15.0	21.3	16.9	23.6	18.0	24.5	17.1	---	---
21	16.2	8.7	21.6	15.5	21.9	16.6	24.7	17.6	23.4	17.4	---	---
22	14.2	10.5	18.0	14.7	25.2	16.3	24.3	17.5	23.0	17.6	---	---
23	16.6	9.6	18.6	14.0	25.7	18.3	23.9	17.1	21.8	17.7	---	---
24	17.1	9.1	19.1	13.9	23.1	18.0	24.5	17.5	19.0	15.1	---	---
25	16.9	9.6	17.1	13.8	20.0	17.5	---	---	19.8	15.2	---	---
26	18.0	9.8	19.9	13.3	22.3	17.0	---	---	20.8	15.6	---	---
27	18.3	10.9	16.1	13.1	23.5	17.3	---	---	21.9	13.8	---	---
28	19.2	11.5	17.7	13.0	22.9	17.9	---	---	26.5	14.6	---	---
29	19.6	11.5	19.4	13.1	22.7	17.7	---	---	22.2	12.3	---	---
30	20.5	12.4	17.6	13.5	25.1	18.4	---	---	20.6	12.0	19.8	11.9
31	---	---	16.4	13.4	---	---	24.2	17.5	21.6	10.3	---	---
MONTH	20.5	5.6	23.7	12.0	25.7	11.9	---	---	---	---	---	---

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

06712000 CHERRY CREEK NEAR FRANKTOWN, CO

LOCATION.--Lat 39°21'21", long 104°45'46", in NE¹/₄ sec.15, T.8 S., R.66 W., Douglas County, Hydrologic Unit 10190003, on right bank 1.5 mi upstream from Russellville Gulch, and 2.5 mi south of Franktown.

DRAINAGE AREA.--169 mi².

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

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

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,170 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1730 for history of changes prior to Oct. 1, 1953.

REMARKS.--Estimated daily discharges: Nov. 28 to Dec. 3, Dec. 13-15, 18, 24-30, Jan. 2, 9, 13, 15, 19, 22, 23, 27-30, Feb. 5, 7, and Feb. 8. Records good except for estimated daily 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 elsewhere in 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	4.0	4.3	4.6	6.6	25	26	4.9	20	5.2	1.7	1.9
2	2.9	3.4	4.4	4.8	6.8	25	23	4.6	18	5.2	1.7	1.7
3	2.9	2.9	4.4	4.9	6.9	27	20	4.7	9.3	5.1	1.7	1.7
4	2.9	3.2	4.4	4.9	6.5	80	18	4.5	9.1	4.9	1.7	1.7
5	2.7	3.4	4.6	4.9	6.5	74	17	4.4	7.4	4.4	1.7	1.6
6	2.7	3.8	4.6	5.2	6.6	39	16	4.3	6.8	4.1	2.1	1.6
7	2.8	4.2	4.6	4.4	6.6	26	16	4.0	7.0	3.9	2.4	1.6
8	2.8	4.3	4.7	4.1	6.7	29	15	4.1	6.9	4.1	2.1	1.7
9	2.8	4.1	4.8	4.8	6.7	20	15	4.1	18	4.2	2.0	1.8
10	2.9	4.3	5.5	5.0	6.6	17	15	4.4	11	3.8	2.1	1.8
11	2.9	4.1	4.9	5.3	6.8	14	14	4.4	8.7	3.6	2.5	1.8
12	3.0	4.1	4.8	4.8	7.4	25	12	4.4	7.2	5.4	2.4	1.8
13	3.1	3.9	4.8	5.4	8.8	65	12	5.1	6.5	7.0	2.3	1.7
14	3.0	3.9	4.8	5.8	9.1	76	11	4.9	5.6	4.8	2.2	1.7
15	3.1	4.0	4.8	5.9	8.9	72	10	4.5	5.2	4.0	2.1	1.7
16	3.1	4.5	4.8	5.9	8.5	59	12	3.8	4.5	3.8	2.2	1.7
17	3.3	4.9	4.7	5.8	8.3	50	15	3.8	4.0	4.2	2.4	1.7
18	3.3	4.7	4.6	5.4	7.9	48	13	3.8	3.8	3.7	2.3	1.8
19	3.3	4.7	4.7	5.6	7.9	43	12	3.7	4.1	3.0	2.3	1.8
20	3.2	5.4	4.8	6.0	9.1	31	12	3.4	4.7	2.9	2.1	1.8
21	3.3	5.0	4.9	5.6	13	26	11	3.5	4.7	3.0	1.9	1.9
22	3.3	5.3	5.1	5.8	14	30	11	3.7	5.1	3.0	2.0	1.9
23	3.2	5.1	4.8	5.9	15	42	11	3.7	5.0	2.7	2.0	1.9
24	3.3	5.1	4.8	6.0	12	30	9.7	3.7	4.7	2.7	30	2.0
25	3.3	5.0	4.8	5.9	12	26	9.3	3.8	8.6	3.8	17	2.0
26	3.4	5.3	4.7	5.9	11	24	7.5	4.2	15	3.8	9.9	2.0
27	3.4	5.5	4.7	6.1	17	23	7.7	4.9	8.9	3.8	6.0	2.0
28	3.6	5.5	4.6	6.2	21	93	7.3	5.2	6.5	2.1	3.8	2.0
29	3.5	5.0	4.6	6.2	25	73	6.5	4.9	6.0	1.9	3.0	2.0
30	3.7	4.5	4.6	6.3	---	49	5.5	4.8	5.7	1.8	2.2	2.0
31	4.2	---	4.7	6.3	---	32	---	5.0	---	1.8	1.9	---
TOTAL	97.8	133.1	146.3	169.7	289.2	1293	390.5	133.2	238.0	117.7	121.7	54.3
MEAN	3.15	4.44	4.72	5.47	9.97	41.7	13.0	4.30	7.93	3.80	3.93	1.81
MAX	4.2	5.5	5.5	6.3	25	93	26	5.2	20	7.0	30	2.0
MIN	2.7	2.9	4.3	4.1	6.5	14	5.5	3.4	3.8	1.8	1.7	1.6
AC-FT	194	264	290	337	574	2560	775	264	472	233	241	108

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	MEAN	4.45	5.59	5.03	5.05	8.48	23.5	20.3	16.0	8.61	7.19	8.75	3.44
MAX	29.1	30.7	25.2	17.7	29.3	184	138	138	42.6	43.8	59.9	18.2	
(WY)	1985	1985	1985	1985	1948	1960	1984	1973	1983	1957	1945	1984	
MIN	.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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1940 - 1992

ANNUAL TOTAL	1895.0	3184.5	
ANNUAL MEAN	5.19	8.70	9.72
HIGHEST ANNUAL MEAN			31.9
LOWEST ANNUAL MEAN			2.89
HIGHEST DAILY MEAN	65 Jun 10	93 Mar 28	1400 May 6 1973
LOWEST DAILY MEAN	1.5 Jul 7	1.6 Sep 5	.20 Jul 13 1946
ANNUAL SEVEN-DAY MINIMUM	1.7 Jul 1	1.7 Sep 2	.29 Jul 10 1946
INSTANTANEOUS PEAK FLOW		303 Mar 28	9170 Aug 5 1945
INSTANTANEOUS PEAK STAGE		4.62 Mar 28	4.91 Aug 5 1945
ANNUAL RUNOFF (AC-FT)	3760	6320	7040
10 PERCENT EXCEEDS	8.7	19	17
50 PERCENT EXCEEDS	4.0	4.8	4.3
90 PERCENT EXCEEDS	2.6	2.0	1.3

a-Also occurred Sep 6 and 7.

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

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

393109104464500 CHERRY CREEK NEAR PARKER, CO

LOCATION.--Lat 39°31'09", long 104°46'45", in SE¹/4NW¹/4NE¹/4 sec.21, T.6 S., R.67 W., Douglas County, Hydrologic Unit 10190003, on right bank 200 ft upstream from Main Street, 0.8 mi west of City of Parker, and 1,100 ft downstream from mouth of Sulphur Gulch.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1991 to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 5,805 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 5, and Dec. 10 to Jan. 30. Records fair except for estimated daily discharges, which are poor. Several diversions upstream from station for irrigation. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.3	.86	1.3	7.5	24	40	6.7	14	5.1	1.9	2.2
2	1.1	1.2	1.0	1.3	8.5	24	37	4.9	17	5.7	1.8	1.7
3	1.1	1.1	1.0	1.3	7.9	25	34	6.2	11	4.6	1.9	1.7
4	1.1	1.2	1.0	1.4	7.3	46	30	6.8	7.7	4.1	1.9	1.8
5	1.1	1.2	1.2	1.5	6.4	55	29	6.9	6.8	3.8	1.9	1.8
6	1.1	1.2	1.3	1.4	6.2	55	27	5.9	5.2	3.3	1.9	1.9
7	1.1	1.2	1.3	1.4	5.9	35	24	5.8	4.9	3.0	1.9	1.9
8	1.1	1.3	1.2	1.4	6.7	35	24	5.6	4.8	3.3	1.9	2.0
9	1.2	1.5	1.4	1.6	7.6	26	23	5.3	6.8	3.0	1.9	1.9
10	1.2	1.4	1.3	2.1	8.2	31	21	5.6	10	2.5	1.9	1.9
11	1.2	1.5	1.3	2.6	8.8	28	21	5.0	7.3	2.3	1.9	1.8
12	1.2	1.6	1.3	3.4	8.2	30	19	5.0	5.9	24	2.0	1.7
13	1.2	1.6	1.3	3.2	9.8	47	18	6.9	4.9	20	1.9	1.8
14	1.2	1.3	1.4	2.9	9.5	61	17	6.6	4.4	3.7	1.9	1.8
15	1.2	1.2	1.5	2.9	9.5	63	17	6.1	3.8	3.4	1.9	1.7
16	1.2	1.2	1.4	3.2	9.5	57	18	5.1	3.4	3.2	1.9	1.7
17	1.3	1.3	1.3	3.6	7.9	48	20	5.6	2.9	2.9	1.8	1.7
18	1.3	1.3	1.2	4.2	7.0	45	19	6.3	2.8	2.4	1.6	1.6
19	1.3	1.1	1.3	4.6	8.2	45	18	4.7	3.6	2.2	1.5	1.7
20	1.3	1.1	1.3	5.0	9.5	39	17	4.0	11	2.3	1.6	1.6
21	1.3	1.2	1.3	5.3	12	35	18	3.9	5.1	2.4	1.6	1.7
22	1.3	1.2	1.3	5.6	14	35	17	3.9	3.5	2.2	1.6	1.7
23	1.3	.94	1.3	5.8	15	40	16	4.2	3.1	2.3	1.7	1.7
24	1.4	1.1	1.4	5.9	14	45	15	4.3	2.8	2.4	8.4	1.6
25	1.4	1.2	1.4	6.0	13	41	14	4.3	21	3.0	32	1.7
26	1.4	1.2	1.4	6.1	11	35	13	4.4	80	3.5	11	1.7
27	1.4	1.4	1.4	6.3	13	34	12	4.4	61	5.0	5.2	1.6
28	1.5	1.2	1.4	6.5	20	57	11	4.4	17	2.8	3.2	1.5
29	1.5	1.1	1.4	6.7	21	83	9.2	4.4	8.4	2.3	2.5	1.5
30	1.5	.94	1.3	6.9	---	57	7.8	4.4	6.2	2.1	2.2	1.6
31	1.4	---	1.2	7.0	---	46	---	4.5	---	1.8	2.6	---
TOTAL	39.0	37.28	39.66	118.4	293.1	1327	606.0	162.1	346.3	134.6	108.9	52.2
MEAN	1.26	1.24	1.28	3.82	10.1	42.8	20.2	5.23	11.5	4.34	3.51	1.74
MAX	1.5	1.6	1.5	7.0	21	83	40	6.9	80	24	32	2.2
MIN	1.1	.94	.86	1.3	5.9	24	7.8	3.9	2.8	1.8	1.5	1.5
AC-FT	77	74	79	235	581	2630	1200	322	687	267	216	104

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

	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992
MEAN	1.26	1.24	1.28	3.82	10.1	42.8	20.2	5.23	11.5	4.34	3.51	1.74
MAX	1.26	1.24	1.28	3.82	10.1	42.8	20.2	5.23	11.5	4.34	3.51	1.74
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992
MIN	1.26	1.24	1.28	3.82	10.1	42.8	20.2	5.23	11.5	4.34	3.51	1.74
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1992 WATER YEAR

ANNUAL TOTAL	3264.54
ANNUAL MEAN	8.92
HIGHEST DAILY MEAN	83 Mar 29
LOWEST DAILY MEAN	.86 Dec 1
ANNUAL SEVEN-DAY MINIMUM	1.0 Nov 28
INSTANTANEOUS PEAK FLOW	246 Jul 12
INSTANTANEOUS PEAK STAGE	6.43 Jul 12
ANNUAL RUNOFF (AC-FT)	6480
10 PERCENT EXCEEDS	26
50 PERCENT EXCEEDS	3.2
90 PERCENT EXCEEDS	1.2

06712990 CHERRY CREEK LAKE NEAR DENVER, CO

LOCATION.--Lat 39°39'03", long 104°51'13", in NW¹/4NE¹/4 sec.2, T.5 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, 0.8 mi southwest from intersection of Interstate Highway 225 and Parker Road, 0.2 mi from right end of dam, 1.6 mi northwest of intersection of Parker and Airline Roads, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--385 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam. Dam completed in June 1950; storage began May 15, 1957. Capacity, 92,820 acre-ft, at elevation 5,598.00 ft, crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,090 acre-ft, Mar. 31, elevation, 5,551.48 ft; minimum, 11,590 acre-ft, Nov. 13-17, elevation, 5,548.52.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,548.62	11,670	-
Oct. 31.	5,548.57	11,630	-40
Nov. 30.	5,549.01	11,980	+350
Dec. 31.	5,549.30	12,220	+240
CAL YR 1991.	-	-	-540
Jan. 31.	5,549.70	12,560	+340
Feb. 29.	5,550.07	12,860	+300
Mar. 31.	5,551.48	14,090	+1,230
Apr. 30.	5,550.58	13,300	-790
May 31.	5,550.04	12,820	-480
June 30.	5,550.10	12,890	+70
July 31.	5,549.79	12,630	-260
Aug. 31.	5,550.08	12,870	+240
Sept. 30.	5,549.84	12,670	-200
WTR YR 1992.	-	-	+1,000

a-Also occurred Apr 3, 6, and 7.
b-No flow many days.
c-No flow most of time since May 1957.

06713300 CHERRY CREEK AT GLENDALE, CO.

LOCATION.--Lat 39°42'22", long 104°56'13", in SW¹/4NW¹/4 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 5 miles downstream from Cherry Creek Reservoir.

DRAINAGE AREA.--404 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 5,320 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Cherry Creek Lake (see elsewhere in this report). Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	6.3	5.7	6.6	9.2	4.1	63	16	117	13	19	17
2	8.0	6.1	5.5	6.1	8.0	4.2	66	17	36	26	19	15
3	7.2	6.2	6.7	6.6	7.1	4.1	68	18	15	17	30	10
4	17	7.2	7.5	5.5	5.9	115	69	17	15	16	21	11
5	10	8.4	7.0	5.6	5.0	36	70	15	24	15	15	15
6	8.6	8.2	6.8	5.4	4.7	11	71	16	32	13	13	14
7	8.2	7.4	6.8	5.5	4.7	7.0	72	16	26	10	12	12
8	8.1	6.4	6.5	5.8	4.7	13	65	16	20	9.3	11	14
9	8.5	6.3	6.0	5.8	4.5	40	14	16	21	8.6	10	17
10	8.5	7.0	6.0	7.4	4.4	37	8.4	16	15	8.0	9.1	24
11	8.2	5.6	6.0	8.7	4.6	41	9.8	16	17	7.4	9.1	25
12	7.3	5.4	6.6	8.0	4.9	48	9.1	16	18	40	28	13
13	7.0	5.2	6.2	6.7	4.7	44	8.3	16	18	22	10	9.1
14	7.0	4.9	5.8	6.8	4.7	40	18	15	16	8.7	8.3	7.5
15	6.9	9.1	5.8	6.9	4.4	39	15	15	16	9.7	7.6	7.3
16	6.9	21	6.0	8.0	4.4	39	16	15	17	16	7.0	7.0
17	7.0	30	6.0	8.0	4.4	41	15	18	15	36	14	6.2
18	6.6	21	5.9	6.8	4.3	46	15	14	14	14	11	5.9
19	6.3	33	6.1	7.0	4.1	49	21	15	22	13	8.8	6.1
20	6.0	22	6.4	7.7	4.1	49	19	34	30	98	8.5	6.1
21	6.1	23	6.4	8.2	4.4	52	18	23	29	33	9.0	5.9
22	6.3	14	6.3	7.8	4.0	57	18	16	27	19	9.2	5.2
23	6.5	8.6	6.2	8.8	4.5	52	17	12	18	51	8.0	5.3
24	15	7.0	5.9	10	3.9	59	16	11	17	28	416	4.9
25	6.5	6.9	5.7	11	3.7	53	16	37	15	25	157	4.6
26	6.0	8.4	5.7	11	3.9	52	17	25	14	42	11	4.1
27	5.8	11	5.7	10	4.0	53	18	23	14	29	8.6	3.9
28	11	8.4	5.7	11	4.1	213	19	20	14	19	8.1	3.9
29	12	8.3	5.8	12	4.1	48	18	18	20	20	7.7	3.6
30	9.5	6.3	5.9	11	---	36	17	17	17	20	8.3	3.4
31	7.0	---	6.0	11	---	49	---	28	---	19	11	---
TOTAL	256.0	328.6	190.6	246.7	139.4	1431.4	886.6	567	689	705.7	925.3	287.0
MEAN	8.26	11.0	6.15	7.96	4.81	46.2	29.6	18.3	23.0	22.8	29.8	9.57
MAX	17	33	7.5	12	9.2	213	72	37	117	98	416	25
MIN	5.8	4.9	5.5	5.4	3.7	4.1	8.3	11	14	7.4	7.0	3.4
AC-FT	508	652	378	489	276	2840	1760	1120	1370	1400	1840	569

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1992, BY WATER YEAR (WY)

	MEAN	14.8	11.3	12.1	14.3	20.7	37.9	44.4	37.2	37.5	23.5	25.6	18.6
MAX	38.0	22.2	29.8	45.7	53.2	75.2	74.5	77.3	63.1	36.3	42.9	37.9	
(WY)	1986	1988	1988	1985	1988	1985	1986	1987	1985	1985	1991	1990	
MIN	7.38	4.84	3.41	3.66	3.46	4.51	9.81	18.3	13.7	15.7	8.41	9.22	
(WY)	1990	1990	1990	1990	1990	1991	1991	1992	1990	1988	1986	1986	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1985 - 1992

ANNUAL TOTAL	5737.8	6653.3	
ANNUAL MEAN	15.7	18.2	23.4
HIGHEST ANNUAL MEAN			36.2
LOWEST ANNUAL MEAN			16.7
HIGHEST DAILY MEAN	266	Aug 3	416
LOWEST DAILY MEAN	1.1	Apr 1	3.4
ANNUAL SEVEN-DAY MINIMUM	1.7	Mar 31	4.0
INSTANTANEOUS PEAK FLOW			841
INSTANTANEOUS PEAK STAGE			7.27
ANNUAL RUNOFF (AC-FT)	11380	13200	16970
10 PERCENT EXCEEDS	33	39	66
50 PERCENT EXCEEDS	8.4	10	13
90 PERCENT EXCEEDS	3.0	5.1	4.8

a-Maximum gage height, 7.54 ft, Jun 8, 1987.

06713500 CHERRY CREEK AT DENVER, CO

LOCATION.--Lat 39°44'58", long 105°00'08", in NE¹/₄ sec.33, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank on downstream side of Wazee Street Bridge in Denver, 0.5 mi upstream from mouth.

DRAINAGE AREA.--409 mi².

PERIOD OF RECORD.--August 1942 to September 1969, February 1980 to September 1983, and annual maximums 1984, 1985, April 1986 to current year.

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

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,175.48 ft above National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to July 16, 1951. July 16, 1951 to Sept. 30, 1969, water-stage recorder at present site and datum.

REMARKS.--No estimated daily discharges. Records fair. 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 elsewhere in this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 26, 1885, reached a discharge of 20,000 ft³/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 ft³/s, as determined by rise of South Platte River at Denver.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	12	12	13	12	14	74	25	149	18	25	27
2	18	12	11	12	11	12	78	26	58	54	25	26
3	16	11	11	12	9.6	8.5	80	29	31	26	34	19
4	33	13	12	11	9.0	200	80	28	26	24	27	20
5	18	15	12	11	8.9	56	82	24	37	23	19	25
6	16	15	13	10	8.8	17	81	26	40	21	16	24
7	16	14	13	14	8.8	11	81	25	41	15	14	21
8	16	11	11	13	8.9	27	81	27	40	15	15	23
9	16	9.7	11	11	8.6	61	31	28	33	15	14	24
10	16	13	12	14	9.5	46	21	28	26	18	13	28
11	17	9.3	12	15	11	51	20	26	26	13	15	31
12	16	10	13	13	11	56	19	29	26	57	30	18
13	16	10	13	11	11	48	17	30	27	33	15	16
14	17	10	12	10	9.5	43	32	28	26	11	14	16
15	15	20	12	11	8.6	40	25	29	23	11	14	15
16	15	38	12	13	8.7	40	27	29	25	22	15	15
17	16	56	12	13	8.4	41	26	34	20	51	28	18
18	17	36	12	10	8.5	48	28	27	18	24	15	20
19	17	60	12	11	8.4	51	34	25	26	24	12	20
20	17	39	12	12	8.4	48	30	45	43	92	13	19
21	17	43	12	13	9.7	54	28	28	40	51	14	19
22	15	30	12	13	12	60	27	26	39	35	16	18
23	18	17	12	14	12	52	27	23	27	59	16	19
24	31	13	12	15	11	60	26	23	26	41	505	18
25	19	13	11	14	11	56	25	63	27	35	88	20
26	16	17	11	14	11	52	26	38	19	88	25	18
27	15	18	13	13	12	52	28	37	20	39	20	18
28	24	15	14	14	14	270	28	29	24	27	21	17
29	22	17	12	14	15	68	25	27	27	27	19	17
30	17	13	9.7	13	---	52	26	26	24	26	19	16
31	13	---	9.8	14	---	60	---	41	---	26	22	---
TOTAL	557	610.0	368.5	391	296.3	1754.5	1213	929	1014	1021	1138	605
MEAN	18.0	20.3	11.9	12.6	10.2	56.6	40.4	30.0	33.8	32.9	36.7	20.2
MAX	33	60	14	15	15	270	82	63	149	92	505	31
MIN	13	9.3	9.7	10	8.4	8.5	17	23	18	11	12	15
AC-FT	1100	1210	731	776	588	3480	2410	1840	2010	2030	2260	1200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

	MEAN	13.0	10.5	9.06	8.73	14.7	24.5	24.9	33.8	28.3	22.4	38.1	15.3
MAX	31.2	30.3	54.4	27.5	73.8	179	119	119	117	161	236	64.9	
(WY)	1943	1988	1988	1943	1948	1948	1983	1983	1944	1983	1945	1965	
MIN	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1942 - 1992

ANNUAL TOTAL	9350.7	9897.3	
ANNUAL MEAN	25.6	27.0	20.2
HIGHEST ANNUAL MEAN			70.7
LOWEST ANNUAL MEAN			6.00
HIGHEST DAILY MEAN	323	Aug 3	1350
LOWEST DAILY MEAN	6.5	Mar 24	8.4
ANNUAL SEVEN-DAY MINIMUM	7.7	Mar 14	8.6
INSTANTANEOUS PEAK FLOW			1100
INSTANTANEOUS PEAK STAGE			5.51
ANNUAL RUNOFF (AC-FT)	18550	19630	14650
10 PERCENT EXCEEDS	53	51	38
50 PERCENT EXCEEDS	17	19	9.3
90 PERCENT EXCEEDS	8.9	11	4.2

a-Also occurred Feb 19 and 20.

b-Also occurred Jun 17 and 18, 1948.

c-Site and datum then in use.

d-Maximum gage height, 11.91 ft, Jun 17, 1965, backwater from South Platte River.

06714000 SOUTH PLATTE RIVER AT DENVER, CO

LOCATION.--Lat 39°45'35", long 105°00'10", in NW¹/4SE¹/4 sec.28, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank 90 ft upstream from Nineteenth Street Bridge in Denver and 0.4 mi downstream from Cherry Creek.

DRAINAGE AREA.--3,861 mi².

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 National Geodetic Vertical Datum, adjustment of 1960. Prior to Aug. 12, 1909, nonrecording gages, and Aug. 12, 1909, to Aug. 28, 1931, water-stage recorder, at several sites within 0.5 mi of present site at various datums. Aug. 29, 1931, to June 28, 1965, water-stage recorder at site 70 ft downstream at datum 3.66 ft, lower. June 29, 1965, to Mar. 18, 1966, water-stage recorder at site 70 ft downstream at present datum.

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	99	122	126	163	163	403	306	1150	266	154	138
2	139	132	112	124	166	164	377	446	511	539	146	137
3	129	150	110	118	155	156	328	466	325	270	154	124
4	162	158	126	120	149	1220	330	424	243	283	146	119
5	144	173	128	120	156	403	340	419	248	190	180	120
6	134	189	129	116	149	263	343	411	377	206	229	112
7	130	203	130	164	149	272	343	321	411	198	136	112
8	124	194	128	175	158	375	347	321	509	170	118	114
9	114	173	126	194	160	574	325	339	521	149	116	112
10	116	185	120	175	156	440	314	379	314	199	117	122
11	112	178	114	175	151	411	350	340	320	314	215	132
12	112	175	122	175	151	364	336	368	497	626	365	110
13	112	116	125	172	154	340	332	262	317	494	326	100
14	105	122	118	175	149	314	386	240	293	234	360	101
15	103	162	118	175	149	291	412	224	381	257	251	94
16	87	216	114	173	149	280	492	236	419	285	314	92
17	99	298	110	173	154	280	503	243	380	374	343	91
18	96	226	120	158	149	310	350	229	280	215	299	94
19	103	291	116	156	146	314	339	237	256	194	343	103
20	99	241	118	165	145	272	390	299	280	524	251	107
21	103	226	120	168	158	283	515	237	289	329	237	101
22	101	200	122	161	152	332	511	306	283	251	213	97
23	105	146	118	163	159	283	381	223	256	288	215	99
24	147	128	115	163	158	258	321	200	248	244	3300	96
25	122	128	114	166	156	254	392	428	267	251	773	96
26	107	134	112	163	209	237	398	373	295	400	260	98
27	106	203	114	154	154	251	398	364	448	240	210	99
28	122	158	116	156	151	1230	381	419	654	161	183	97
29	139	156	114	151	161	381	387	394	505	163	156	103
30	112	139	114	151	---	317	351	351	442	206	148	92
31	105	---	115	168	---	394	---	471	---	215	142	---
TOTAL	3645	5299	3680	4893	4516	11426	11375	10276	11719	8735	10400	3212
MEAN	118	177	119	158	156	369	379	331	391	282	335	107
MAX	162	298	130	194	209	1230	515	471	1150	626	3300	138
MIN	87	99	110	116	145	156	314	200	243	149	116	91
AC-FT	7230	10510	7300	9710	8960	22660	22560	20380	23240	17330	20630	6370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	216	199	146	131	145	211	471	1011	824	543	517	242					
MAX	1184	809	366	282	273	420	1377	2970	2759	1913	1774	911					
(WY)	1985	1985	1985	1985	1984	1983	1984	1980	1983	1983	1984	1984					
MIN	66.8	94.4	84.1	64.9	80.7	94.9	99.1	218	164	183	177	76.5					
(WY)	1978	1976	1978	1979	1977	1978	1982	1978	1981	1977	1981	1977					

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1976 - 1992
ANNUAL TOTAL	86989	89176	
ANNUAL MEAN	238	244	a 389
HIGHEST ANNUAL MEAN			961
LOWEST ANNUAL MEAN			138
HIGHEST DAILY MEAN	1690	3300	b 4020
LOWEST DAILY MEAN	59	87	c 43
ANNUAL SEVEN-DAY MINIMUM	75	96	d 50
INSTANTANEOUS PEAK FLOW		6170	e 12200
INSTANTANEOUS PEAK STAGE		8.42	f 7.77
ANNUAL RUNOFF (AC-FT)	172500	176900	282100
10 PERCENT EXCEEDS	475	403	816
50 PERCENT EXCEEDS	158	175	194
90 PERCENT EXCEEDS	85	112	84

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

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

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

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

e-Maximum gage height for statistical period, 8.42 ft, Aug 24, 1991.

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

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

DRAINAGE AREA.--3,884 mi².

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

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

GAGE.--Water-stage recorder. Elevation of gage is 5,105 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	14	15	6.3	39	16	392	16	526	30	51	15
2	12	14	13	5.8	36	17	370	23	73	247	34	13
3	7.3	14	13	5.1	34	16	319	25	16	39	32	11
4	12	18	12	5.5	32	841	323	56	13	215	57	10
5	13	13	8.3	5.9	33	125	335	66	14	129	65	11
6	12	11	12	6.5	30	106	290	66	19	149	114	12
7	118	12	13	59	32	96	223	64	61	175	44	11
8	114	12	12	135	31	214	199	175	112	116	19	13
9	106	12	11	148	34	518	79	248	137	103	20	17
10	108	11	10	140	32	463	38	291	18	162	18	16
11	105	12	10	142	31	406	51	253	13	253	81	11
12	41	12	10	135	31	361	71	282	69	508	286	10
13	33	10	8.6	126	30	321	320	177	19	513	231	31
14	29	11	5.4	136	28	282	366	153	15	198	297	83
15	32	11	5.3	136	29	263	72	137	14	147	165	25
16	28	14	7.0	133	28	255	327	149	16	215	242	18
17	24	121	8.7	135	27	249	451	159	15	295	275	17
18	23	60	8.8	122	25	271	293	144	14	125	218	19
19	21	134	9.2	123	23	294	288	148	65	104	286	19
20	18	69	8.2	129	22	249	303	212	145	321	189	16
21	20	60	7.2	132	19	263	301	150	136	272	172	14
22	17	37	6.4	98	19	326	202	219	138	154	147	24
23	16	13	8.2	69	20	241	32	139	114	178	146	30
24	17	12	8.3	72	19	128	20	113	107	180	3170	25
25	16	10	8.6	71	17	143	27	344	171	146	376	22
26	15	9.0	8.0	69	20	118	34	229	208	328	28	23
27	14	11	7.9	63	17	135	35	105	115	136	21	25
28	17	15	8.6	51	15	1140	63	57	67	22	17	24
29	18	16	7.5	35	19	385	98	59	29	42	23	20
30	17	14	6.8	34	---	307	17	21	55	83	18	19
31	15	---	5.8	38	---	374	---	70	---	95	21	---
TOTAL	1084.3	782.0	283.8	2566.1	772	8923	5939	4350	2514	5680	6863	604
MEAN	35.0	26.1	9.15	82.8	26.6	288	198	140	83.8	183	221	20.1
MAX	118	134	15	148	39	1140	451	344	526	513	3170	83
MIN	7.3	9.0	5.3	5.1	15	16	17	16	13	22	17	10
AC-FT	2150	1550	563	5090	1530	17700	11780	8630	4990	11270	13610	1200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1992, BY WATER YEAR (WY)

MEAN	154	143	82.8	107	91.1	159	411	946	539	463	467	153
MAX	1286	927	199	235	325	305	1335	2675	2462	1769	1410	755
(WY)	1985	1985	1986	1984	1984	1984	1984	1987	1983	1983	1984	1984
MIN	10.0	9.00	8.79	13.7	8.57	8.75	21.0	75.1	47.3	183	186	20.1
(WY)	1989	1989	1991	1990	1982	1982	1991	1986	1990	1992	1990	1992

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1982 - 1992

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1982 - 1992
ANNUAL TOTAL	33841.2	40361.2	
ANNUAL MEAN	92.7	110	329
HIGHEST ANNUAL MEAN			825
LOWEST ANNUAL MEAN			90.0
HIGHEST DAILY MEAN	1330	3170	4110
LOWEST DAILY MEAN	4.6	5.1	3.2
ANNUAL SEVEN-DAY MINIMUM	6.6	5.8	5.5
INSTANTANEOUS PEAK FLOW		8070	14300
INSTANTANEOUS PEAK STAGE		6.78	8.09
ANNUAL RUNOFF (AC-FT)	67120	80060	238300
10 PERCENT EXCEEDS	283	289	833
50 PERCENT EXCEEDS	17	36	115
90 PERCENT EXCEEDS	7.4	11	9.7

06714220 SENAC CREEK AT NORTH BORDER SLUDGE AREA NEAR AURORA, CO

LOCATION.--Lat 39°39'06", long 104°40'34", NW1/4NW1/4 Sec.4, T.5 S., R.65 W., Arapahoe County, Hydrologic Unit 10190003, on left bank 0.9 mi downstream from where stream crosses under E. Quincy Ave. 2 mi east of Lowry landfill site.

DRAINAGE AREA.--7.81 mi².

PERIOD OF RECORD.--August 1989 to current year (seasonal record only).

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 5,705 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 29 to July 26. Records poor. Flow is partially regulated by the City of Aurora, Aurora Reservoir, located approximately 2 mi upstream of gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (estimate) 250 ft³/s, May 31, 1991, gage height, 4.76 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge and gage height not determined; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
2	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
3	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
4	---	---	---	---	---	---	.00	.00	.00	.00	.00	.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	.00	.00	.00	.00
10	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
11	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
12	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
13	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
14	---	---	---	---	---	---	.00	.00	.00	.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	.10	.00	.00
26	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
27	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
29	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
30	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
31	---	---	---	---	---	---	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	0.00	0.00	0.00	0.10	0.00	0.00
MEAN	---	---	---	---	---	---	.000	.000	.000	.003	.000	.000
MAX	---	---	---	---	---	---	.00	.00	.00	.10	.00	.00
MIN	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	.00	.00	.00	.2	.00	.00

06719505 CLEAR CREEK AT GOLDEN, CO

LOCATION.--Lat 39°45'11", long 105°14'05", in NE¹/4NW¹/4 sec.33, T.3 S., R.70 W., Jefferson County, Hydrologic Unit 10190004, on left bank 100 ft downstream from U.S. Highway 6 bridge at west edge of Golden, 0.7 mi downstream from headgate of Church ditch, and 13.3 mi downstream from North Clear Creek.

DRAINAGE AREA.--400 mi².

WATER-DISCHARGE RECORDS

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. Sediment data available April to September 1981.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,695 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 11, Nov. 21-28, Dec. 15 to Mar. 2, Mar. 4, 5, and Mar. 9. Records fair 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	50	44	38	29	33	50	179	464	585	158	144
2	102	49	46	38	30	34	54	192	423	537	169	145
3	98	48	48	38	29	34	54	196	400	513	164	137
4	94	50	51	37	27	36	61	208	408	474	166	128
5	87	52	54	37	28	37	64	218	439	436	155	126
6	85	52	57	38	28	37	69	230	432	424	166	121
7	94	52	54	36	28	36	69	302	448	447	165	116
8	83	53	52	35	29	37	65	269	453	459	159	108
9	79	54	52	33	29	38	74	261	463	442	156	103
10	86	54	48	32	29	39	85	260	490	390	142	98
11	87	53	47	31	30	41	109	223	542	363	172	99
12	89	53	47	30	30	43	102	222	599	355	154	94
13	76	52	45	30	30	44	100	232	619	359	128	99
14	73	50	41	28	29	48	104	280	649	321	128	93
15	71	54	41	26	29	48	108	284	644	276	130	91
16	82	53	42	27	29	48	124	310	616	268	134	97
17	75	55	42	27	29	48	112	306	573	236	169	103
18	54	52	41	27	28	48	107	370	585	218	129	106
19	63	51	41	27	28	46	101	443	690	212	131	98
20	64	45	41	27	28	43	90	512	738	223	132	99
21	63	45	41	27	29	42	78	599	775	218	126	93
22	68	46	41	27	29	43	76	659	766	183	133	90
23	69	48	42	27	29	47	74	591	755	180	141	86
24	72	46	42	27	29	44	69	631	769	178	308	85
25	79	45	43	28	29	41	65	622	797	230	266	85
26	74	46	42	28	30	41	60	621	841	236	194	88
27	75	48	41	28	31	41	70	633	793	202	149	89
28	75	49	40	28	32	53	85	567	690	180	150	85
29	53	49	40	28	32	57	105	518	693	166	151	78
30	53	45	40	29	---	52	145	489	630	161	142	69
31	53	---	39	29	---	58	---	479	---	158	147	---
TOTAL	2376	1499	1385	948	846	1337	2529	11906	18184	9630	4914	3053
MEAN	76.6	50.0	44.7	30.6	29.2	43.1	84.3	384	606	311	159	102
MAX	102	55	57	38	32	58	145	659	841	585	308	145
MIN	53	45	39	26	27	33	50	179	400	158	126	69
AC-FT	4710	2970	2750	1880	1680	2650	5020	23620	36070	19100	9750	6060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	MEAN	85.6	62.3	49.6	43.7	42.5	42.6	72.8	296	746	453	201	124
MAX	192	115	86.6	70.5	66.9	58.9	112	655	1271	1030	475	231	
(WY)	1985	1985	1984	1984	1985	1984	1984	1984	1984	1983	1984	1984	1984
MIN	54.3	39.2	33.5	30.6	29.2	31.2	39.0	123	382	161	100	78.8	
(WY)	1982	1982	1990	1979	1992	1976	1982	1981	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1975 - 1992
ANNUAL TOTAL	64409	58607	
ANNUAL MEAN	176	160	185
HIGHEST ANNUAL MEAN			316
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN	1070	841	1920
LOWEST DAILY MEAN	28	26	18
ANNUAL SEVEN-DAY MINIMUM	32	27	24
INSTANTANEOUS PEAK FLOW		851	2370
INSTANTANEOUS PEAK STAGE		4.09	6.44
ANNUAL RUNOFF (AC-FT)	127800	116200	134200
10 PERCENT EXCEEDS	529	475	525
50 PERCENT EXCEEDS	59	75	78
90 PERCENT EXCEEDS	36	29	37

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1981 to current year.

pH: March to September 1981.

WATER TEMPERATURE: March 1981 to current year.

DISSOLVED OXYGEN: March to September 1981.

SUSPENDED-SEDIMENT DISCHARGE: March to September 1981.

INSTRUMENTATION.--Water-quality monitor since March 1981.

REMARKS.--Records rated fair. Daily maximum and minimum specific conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum mean, 597 microsiemens, Jan. 9, 1983; minimum mean, 38 microsiemens, July 1, 1983.

pH: Maximum, 8.7 units, Mar. 27, April 10, 1981; minimum, 6.6 units, July 16, 1981.

WATER TEMPERATURE: Maximum, 23.0°C, Aug. 4, 1981; minimum, freezing point on many days during winter months most years.

DISSOLVED OXYGEN: Maximum, 14.2 mg/L, May 7, 1981; minimum, 5.2 mg/L, July 16, 1981.

SEDIMENT CONCENTRATION: Maximum daily, 282 mg/L, May 29, 1981; minimum daily, 3 mg/L, Sept. 21-24, 1981.

SEDIMENT LOAD: Maximum daily, 230 tons, June 3, 1981; minimum daily, 0.62 ton, Sept. 23-24, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum mean, 395 microsiemens, Mar. 12, 30; minimum mean, 57 microsiemens, May 21.

WATER TEMPERATURES: Maximum, 18.7°C, July 26 and 30; minimum, freezing point on many days during winter months.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	231	283	340	349	358	381	212	96	---	145	159
2	192	236	285	337	349	360	379	215	92	---	146	152
3	198	247	297	346	347	358	377	214	92	---	---	151
4	200	227	281	331	347	342	366	189	91	---	---	154
5	209	209	272	323	358	364	358	181	93	---	---	154
6	211	214	274	330	365	---	339	165	90	---	---	156
7	200	222	276	327	364	383	326	165	89	---	---	157
8	205	225	289	328	351	371	321	132	89	---	---	159
9	207	226	296	341	344	368	311	117	91	---	---	160
10	205	232	305	347	339	377	300	117	---	---	---	162
11	211	240	301	334	337	385	264	117	---	---	---	166
12	206	244	299	327	337	395	261	131	---	---	---	168
13	216	249	301	332	340	390	254	129	---	---	---	168
14	214	249	321	342	341	378	247	125	---	---	---	167
15	213	249	342	354	346	379	241	121	---	---	---	170
16	212	253	332	352	354	373	235	114	---	129	---	170
17	213	255	330	338	355	372	226	112	---	126	---	166
18	226	263	330	339	370	368	225	106	---	131	145	163
19	219	260	319	349	375	369	233	90	---	129	151	163
20	225	265	306	346	365	372	230	64	---	128	155	163
21	227	265	315	340	345	375	231	57	---	122	155	153
22	218	268	323	346	344	370	233	58	---	132	154	164
23	212	280	320	357	358	385	238	62	---	136	154	175
24	212	290	318	355	376	375	253	105	---	137	154	179
25	208	270	327	334	379	376	285	84	---	135	144	183
26	214	249	351	334	375	383	284	91	---	135	153	177
27	212	237	350	338	365	378	273	87	---	140	159	174
28	213	242	350	343	362	371	267	87	---	142	163	176
29	232	247	344	340	356	381	242	83	---	147	163	183
30	264	259	342	341	---	395	219	82	---	148	162	183
31	252	---	341	340	---	383	---	90	---	149	161	---
MEAN	214	247	314	340	355	---	280	119	---	---	---	166

06719505 CLEAR CREEK AT GOLDEN, CO--Continued

TEMPERATURE, WATER (DEG.C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.9	9.5	.0	.0	.0	.0	.0	.0	---	---	---	---
2	13.0	9.3	.0	.0	.0	.0	.0	.0	---	---	---	---
3	12.6	9.3	.0	.0	.0	.0	.0	.0	---	---	---	---
4	10.3	4.7	.0	.0	.0	.0	.0	.0	---	---	---	---
5	6.8	3.2	.0	.0	.0	.0	.0	.0	---	---	---	---
6	7.8	3.6	2.5	.0	.0	.0	.0	.0	---	---	---	---
7	9.5	5.3	2.1	.8	.0	.0	.0	.0	---	---	---	---
8	8.9	6.6	2.0	.0	.0	.0	.0	.0	---	---	---	---
9	10.1	6.5	4.8	1.8	.0	.0	.0	.0	---	---	---	---
10	9.9	6.3	4.8	4.2	.0	.0	.0	.0	---	---	---	---
11	10.0	6.5	4.8	2.3	.0	.0	.0	.0	---	---	---	---
12	10.0	6.8	2.8	.8	.0	.0	.0	.0	---	---	---	---
13	9.7	7.1	2.3	.7	.0	.0	.0	.0	---	---	---	---
14	8.5	5.6	1.9	.1	.0	.0	.0	.0	---	---	5.4	2.5
15	9.4	5.8	.8	.2	.0	.0	.0	.0	---	---	7.1	1.5
16	10.4	7.1	.5	.0	.0	.0	.0	.0	---	---	7.2	2.0
17	9.9	7.2	1.4	.0	.0	.0	.0	.0	---	---	6.0	2.7
18	8.1	5.5	1.3	.0	.0	.0	.0	.0	---	---	4.8	3.2
19	7.7	4.3	1.1	.0	.0	.0	.0	.0	---	---	5.8	2.1
20	7.1	4.3	.4	.0	.0	.0	.0	.0	---	---	6.7	.8
21	7.5	4.4	1.9	.0	.0	.0	.0	.0	---	---	3.1	.0
22	8.2	5.6	1.1	.0	.0	.0	.0	.0	---	---	4.8	.0
23	7.2	5.1	.0	.0	.0	.0	.0	.0	---	---	5.5	.4
24	6.4	4.7	.0	.0	.0	.0	.0	.0	---	---	4.8	1.5
25	5.4	3.8	.0	.0	.0	.0	.0	.0	---	---	7.2	.9
26	4.8	2.3	.0	.0	.0	.0	.0	.0	---	---	8.1	3.3
27	5.8	3.0	1.4	.0	.0	.0	.0	.0	---	---	7.8	3.9
28	4.3	.0	.3	.0	.0	.0	.0	.0	---	---	6.4	5.1
29	.0	.0	.0	.0	.0	.0	.0	.0	---	---	8.4	3.3
30	.0	.0	.0	.0	.0	.0	---	---	---	---	9.5	3.5
31	.0	.0	---	---	.0	.0	---	---	---	---	6.4	2.6
MONTH	13.0	.0	4.8	.0	.0	.0	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.3	.5	14.0	9.6	9.3	6.4	13.9	11.2	16.9	12.8	13.4	10.5
2	7.9	3.4	12.9	10.0	12.6	6.3	13.3	10.7	17.8	12.8	15.6	11.3
3	10.8	2.8	13.0	8.6	12.1	8.7	14.4	9.6	15.8	13.9	14.8	10.7
4	8.9	5.3	13.4	8.8	12.5	9.3	14.6	11.0	17.4	12.9	16.0	12.3
5	7.2	5.3	13.1	9.0	12.0	8.5	15.7	11.3	16.0	13.5	15.4	10.8
6	10.4	4.7	13.4	9.2	13.6	9.0	17.4	12.4	15.2	13.0	14.4	10.4
7	10.1	5.5	12.4	10.0	11.7	8.9	15.7	12.2	18.2	12.7	15.3	10.6
8	10.8	4.6	12.0	9.5	10.7	8.3	14.4	12.4	18.1	14.5	15.1	10.5
9	10.1	6.0	11.6	9.2	11.2	8.4	14.8	11.6	18.1	13.8	15.3	11.5
10	12.4	5.1	10.6	8.8	11.9	7.5	16.3	12.9	16.6	14.5	15.3	10.6
11	10.2	6.8	12.8	8.1	11.6	8.9	15.4	13.2	16.6	13.1	15.4	10.7
12	11.8	6.0	11.9	9.3	12.9	8.6	14.8	12.8	15.1	12.8	15.6	11.9
13	11.5	6.6	11.4	9.1	12.8	9.5	15.9	11.9	15.8	12.6	15.5	11.9
14	10.0	7.8	11.8	9.4	12.9	9.2	15.7	12.1	17.5	12.2	14.3	11.5
15	9.7	6.4	12.4	9.6	12.6	9.3	15.3	12.2	17.8	13.1	16.1	12.5
16	8.6	6.3	12.5	9.6	12.1	8.7	14.6	11.7	15.8	13.7	16.1	12.9
17	9.1	4.8	12.9	9.5	11.7	7.5	16.5	12.4	15.6	13.0	15.5	12.0
18	9.6	5.0	12.8	9.7	13.7	8.7	16.7	12.2	17.9	13.3	13.6	10.1
19	7.5	3.9	12.6	9.5	13.2	10.0	14.8	13.0	18.5	13.7	13.3	11.5
20	7.7	3.7	11.4	8.5	14.1	10.3	15.6	12.8	17.4	13.6	14.6	10.8
21	10.7	3.6	11.3	8.8	13.6	10.6	16.9	12.3	16.9	13.5	13.8	10.6
22	8.6	5.3	9.9	8.0	13.6	9.9	16.6	13.1	17.2	14.3	14.0	9.3
23	11.1	5.0	10.1	7.8	13.8	11.0	16.2	12.8	16.3	14.3	15.2	10.8
24	10.2	3.8	11.2	8.3	13.1	10.6	16.7	13.4	14.8	11.2	13.9	11.0
25	12.2	4.9	10.9	8.2	12.6	11.2	16.1	13.9	13.4	9.5	13.5	10.0
26	13.4	6.5	10.8	7.1	12.4	10.4	18.7	13.4	14.5	11.1	11.7	8.1
27	12.7	6.8	10.1	7.6	12.1	9.9	17.8	12.8	14.5	9.7	11.7	8.1
28	15.1	9.4	9.0	7.1	13.5	10.2	16.7	12.9	15.5	10.5	12.1	8.4
29	14.9	9.8	10.0	7.2	14.0	10.6	15.4	12.9	14.6	11.0	12.5	8.7
30	15.2	10.8	9.3	7.6	15.4	10.5	18.7	13.2	14.0	11.5	12.7	8.8
31	---	---	8.5	7.1	---	---	17.3	13.2	13.1	10.8	---	---
MONTH	15.2	.5	14.0	7.1	15.4	6.3	18.7	9.6	18.5	9.5	16.1	8.1

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO

LOCATION.--Lat 39°55'19", long 104°52'00", in SE¹/4NE¹/4 sec.34, T.1 S., R.67 W., Adams County, Hydrologic Unit 10190003, on right bank 500 ft upstream from bridge on State Highway 22 and 0.2 mi northwest of Henderson.

DRAINAGE AREA.--4,713 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1926 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

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 5,003.12 ft above National Geodetic Vertical Datum of 1929. 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 2.00 ft, higher. May 11 to Oct. 2, 1969, nonrecording gage at site 500 ft downstream at present datum.

REMARKS.--Estimated daily discharge: June 9. Records 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	259	242	283	301	391	383	737	209	1080	428	370	281
2	244	246	293	303	379	391	634	199	449	599	356	256
3	226	229	283	312	375	391	633	199	301	387	359	238
4	236	252	283	316	379	1830	619	211	314	401	376	227
5	247	256	289	313	383	763	626	204	308	387	352	211
6	239	246	286	320	375	512	591	194	324	390	371	202
7	301	246	290	335	378	482	507	204	407	410	360	203
8	308	236	290	438	381	604	480	278	507	419	297	207
9	311	229	296	451	386	1080	400	333	603	435	282	201
10	305	222	297	442	395	1110	348	461	439	428	270	202
11	320	219	292	460	392	1010	320	400	442	557	307	195
12	276	218	287	442	390	925	344	361	579	672	462	194
13	254	234	287	428	380	850	509	321	519	855	411	199
14	251	249	286	438	379	770	627	295	526	443	439	250
15	246	239	286	433	361	700	405	306	528	496	361	200
16	246	259	290	433	373	676	548	374	496	738	365	193
17	235	415	290	428	368	646	758	405	458	670	431	195
18	238	438	290	424	367	652	566	398	438	450	402	188
19	241	474	291	424	367	749	483	329	444	390	391	191
20	238	439	297	428	356	646	495	375	652	473	346	194
21	246	438	297	438	361	627	472	396	581	710	344	197
22	243	403	289	415	363	748	402	550	622	442	339	200
23	235	324	298	371	367	664	263	415	512	391	356	192
24	255	305	297	375	377	491	244	374	487	604	5330	179
25	234	294	286	379	375	558	232	577	683	458	1550	188
26	210	290	283	415	368	460	231	476	883	558	449	195
27	199	294	301	415	371	465	239	474	677	515	386	194
28	236	308	297	399	379	2280	229	379	583	242	343	199
29	246	290	297	391	379	935	298	331	576	275	326	197
30	239	290	300	379	---	690	228	275	514	339	310	194
31	246	---	297	383	---	717	---	384	---	395	298	---
TOTAL	7810	8824	9028	12229	10895	23805	13468	10687	15932	14957	17339	6162
MEAN	252	294	291	394	376	768	449	345	531	482	559	205
MAX	320	474	301	460	395	2280	758	577	1080	855	5330	281
MIN	199	218	283	301	356	383	228	194	301	242	270	179
AC-FT	15490	17500	17910	24260	21610	47220	26710	21200	31600	29670	34390	12220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1976	357	1835	1985	144	1978
1977	337	1268	1985	173	1978
1978	300	554	1984	177	1976
1979	320	592	1984	155	1977
1980	328	642	1983	156	1977
1981	396	842	1983	118	1982
1982	558	1732	1980	140	1982
1983	1208	3923	1983	324	1986
1984	1163	4173	1983	334	1981
1985	762	2386	1983	358	1981
1986	659	2074	1984	279	1977
1987	376	1141	1984	157	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1976 - 1992
ANNUAL TOTAL	146725	151136	
ANNUAL MEAN	402	413	^a 565
HIGHEST ANNUAL MEAN			1379
LOWEST ANNUAL MEAN			252
HIGHEST DAILY MEAN	3530	5330	^b 6030
LOWEST DAILY MEAN	90	179	^c 27
ANNUAL SEVEN-DAY MINIMUM	97	192	69
INSTANTANEOUS PEAK FLOW		11400	^d 12300
INSTANTANEOUS PEAK STAGE		9.80	^e 7.58
ANNUAL RUNOFF (AC-FT)	291000	299800	409300
10 PERCENT EXCEEDS	772	629	1100
50 PERCENT EXCEEDS	290	368	342
90 PERCENT EXCEEDS	175	221	176

a-Average discharge for 48 years (water years 1927-74), 366 ft³/s; 265200 acre-ft/yr, prior to completion of Chatfield Dam.

b-Maximum daily discharge for period of record, 13200 ft³/s, May 7, 1973.

c-Minimum daily discharge for period of record, 4.4 ft³/s, Apr 1, 1950.

d-Maximum discharge and stage for period of record, 33000 ft³/s, May 6, 1973, gage height, 11.67 ft, from rating curve extended above 7200 ft³/s, partly on basis of flow-over-road measurement of peak flow; maximum gage height, 12.93 ft, Jun 17, 1965, site and datum then in use.

e-Maximum gage height for statistical period, 9.50 ft, Jun 9, 1987.

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1955 to September 1957, June 1962 to September 1973. Established as NASQAN station in 1988 water year. April 18, 1988, to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
NOV 19...	1030	320	919	8.1	7.5	12	9.5	550	670	190
FEB 03...	1040	312	1020	8.5	8.0	10	9.3	420	--	230
MAR 11...	1100	712	805	8.0	7.0	36	9.6	580	260	190
APR 13...	1430	610	850	8.0	16.5	8.5	7.7	280	310	220
JUN 10...	1130	428	777	7.6	18.0	1.5	7.1	--	--	--
AUG 17...	1315	305	807	7.7	20.5	2.6	7.4	K210	K77	210

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- ^A BONATE WATER WH FET FIELD MG/L AS HCO3	CAR- ^B BONATE WATER WH FET FIELD MG/L AS CO3	ALKA- ^C LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV 19...	58	12	95	3	9.1	180	0	152	130
FEB 03...	68	14	100	3	10	160	48	197	180
MAR 11...	58	12	79	2	7.3	180	0	150	140
APR 13...	65	14	81	2	6.8	170	0	142	150
JUN 10...	--	--	--	--	--	200	0	159	--
AUG 17...	62	13	78	2	7.3	200	0	159	140

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV 19...	86	0.8	9.7	533	520	0.72	461	0.11	4.4
FEB 03...	83	1.0	11	583	631	0.79	491	0.34	4.7
MAR 11...	81	0.8	7.8	469	489	0.64	902	0.07	1.7
APR 13...	65	0.9	8.6	538	498	0.73	886	0.36	2.9
JUN 10...	--	--	--	--	--	--	--	0.31	2.6
AUG 17...	60	1.0	11	481	499	0.65	396	0.63	4.6

A-Field dissolved bicarbonate, determined by incremental titration method.

B-Field dissolved carbonate, determined by incremental titration method.

C-Field total dissolved alkalinity, determined by incremental titration method.

K-Based on non-ideal colony count.

PLATTE RIVER BASIN

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO--Continued
(National stream-quality accounting network station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 19...	4.3	3.4	3.4	2.8	6.2	11	2.4	2.1	2.0
FEB 03...	4.8	5.9	5.6	3.0	8.9	14	3.6	2.8	2.7
MAR 11...	1.6	2.2	2.1	1.1	3.3	5.0	1.2	1.0	0.97
APR 13...	2.9	2.6	2.6	1.4	4.0	6.9	1.8	1.6	1.4
JUN 10...	2.6	2.6	2.6	1.2	3.8	6.4	1.7	1.8	1.8
AUG 17...	4.7	2.0	1.9	1.8	3.8	8.4	2.2	2.0	1.9

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 19...	1030	<10	27	<3	60	18	200
FEB 03...	1040	10	25	<3	50	22	250
MAR 11...	1100	<10	34	<3	30	14	120
APR 13...	1430	10	33	<3	38	20	140
JUN 10...	1130	--	--	--	--	--	--
AUG 17...	1315	<10	31	<3	16	17	130

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 19...	20	4	3	1.0	530	<6
FEB 03...	10	4	4	<1.0	590	<6
MAR 11...	20	3	2	<1.0	510	<6
APR 13...	20	4	2	<1.0	550	<6
JUN 10...	--	--	--	--	--	--
AUG 17...	20	4	2	<1.0	510	<6

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 19...	1030	320	68	58
FEB 03...	1040	312	45	38
MAR 11...	1100	712	98	189
APR 13...	1430	610	--	--
JUN 10...	1130	428	49	57
AUG 17...	1315	305	45	37

06720820 BIG DRY CREEK AT WESTMINSTER, CO

LOCATION.--Lat 39°54'20", long 105°02'04", NE¹/4SE¹/4 sec.6, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank 0.75 mi upstream from bridge on 120th Ave and 5.2 mi downstream from outlet of Standley Lake.

DRAINAGE AREA.--43.8 mi².

PERIOD OF RECORD.--July 1987 to current year.

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

GAGE.--Water-stage recorder and concrete and wooden control. Elevation of gage is 5,215 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 27 to Nov. 1, Jan. 15-22, and Jan. 24-30. Records good 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	1.9	1.5	2.7	1.8	1.1	12	1.8	17	39	23	18
2	1.9	1.8	1.5	2.2	1.7	1.1	19	1.6	4.7	43	20	27
3	1.6	1.6	1.5	3.5	1.6	1.1	19	1.6	3.8	45	19	31
4	1.7	2.2	1.5	3.1	1.5	44	21	1.6	2.5	45	20	36
5	2.0	3.6	1.5	2.2	1.4	21	19	1.6	6.5	47	20	39
6	2.0	2.0	1.5	2.8	1.4	4.9	12	1.6	4.3	55	18	38
7	2.1	1.8	1.4	3.5	1.5	2.7	6.2	1.5	4.4	46	15	42
8	2.2	1.5	1.1	3.3	1.4	2.5	3.6	1.5	28	27	19	37
9	2.0	1.2	1.5	2.9	1.4	19	2.3	2.5	11	24	19	36
10	1.7	1.5	1.6	2.0	1.5	16	2.1	5.3	13	30	23	35
11	1.6	1.3	1.9	2.4	1.5	21	2.7	11	20	30	28	34
12	1.5	1.2	2.0	1.8	1.4	29	3.2	44	27	31	34	36
13	1.5	1.0	1.9	1.6	1.4	28	3.2	26	33	32	25	30
14	1.6	1.0	1.8	1.5	1.4	25	12	29	36	31	18	26
15	1.5	2.0	2.1	1.6	1.3	18	20	35	34	32	16	23
16	1.5	5.3	2.0	1.6	1.2	18	7.2	41	33	28	16	26
17	1.2	13	2.1	1.7	1.5	11	3.5	48	43	30	17	24
18	1.5	6.6	1.8	1.7	1.6	7.9	3.2	48	52	24	17	11
19	1.5	13	1.7	1.8	1.8	11	3.5	44	58	23	23	9.1
20	1.6	9.8	1.2	1.8	2.4	6.3	2.7	44	57	26	25	7.4
21	1.8	13	.98	1.9	2.2	15	25	45	48	35	26	6.1
22	1.7	9.4	1.7	1.9	2.4	30	31	44	41	34	30	5.0
23	1.5	3.5	1.9	2.0	1.8	30	26	27	34	30	44	4.1
24	1.7	2.3	1.8	2.0	1.6	12	26	26	27	33	120	3.6
25	2.0	1.9	1.9	2.0	1.4	9.6	21	33	34	32	37	3.3
26	2.2	2.0	2.1	2.0	1.2	5.0	20	17	40	35	18	3.1
27	2.2	2.3	1.9	2.0	1.2	4.1	19	16	32	29	11	2.9
28	2.1	2.0	2.0	2.0	1.5	58	12	13	29	26	11	2.5
29	2.1	1.6	2.1	2.0	1.3	24	12	10	29	25	9.1	2.2
30	2.0	2.0	2.0	2.0	---	15	8.8	6.4	32	23	9.3	2.2
31	2.0	---	2.2	1.9	---	12	---	11	---	23	15	---
TOTAL	57.2	113.3	53.68	67.4	45.3	503.3	378.2	639.0	834.2	1013	745.4	600.5
MEAN	1.85	3.78	1.73	2.17	1.56	16.2	12.6	20.6	27.8	32.7	24.0	20.0
MAX	3.7	13	2.2	3.5	2.4	58	31	48	58	55	120	42
MIN	1.2	1.0	.98	1.5	1.2	1.1	2.1	1.5	2.5	23	9.1	2.2
AC-FT	113	225	106	134	90	998	750	1270	1650	2010	1480	1190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992
MEAN	4.62	2.65	1.32	1.42	1.44
MAX	9.95	4.54	1.73	2.17	1.81
(WY)	1988	1988	1992	1991	1992
MIN	1.55	1.33	1.14	1.00	1.30
(WY)	1989	1989	1991	1988	1989

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1988 - 1992

ANNUAL TOTAL	5537.77	5050.48	
ANNUAL MEAN	15.2	13.8	13.5
HIGHEST ANNUAL MEAN			18.2
LOWEST ANNUAL MEAN			7.72
HIGHEST DAILY MEAN	94	120	127
LOWEST DAILY MEAN	a .62	.98	b .60
ANNUAL SEVEN-DAY MINIMUM	.66	1.2	.61
INSTANTANEOUS PEAK FLOW		191	273
INSTANTANEOUS PEAK STAGE		3.98	4.63
ANNUAL RUNOFF (AC-FT)	10980	10020	9780
10 PERCENT EXCEEDS	52	35	42
50 PERCENT EXCEEDS	2.2	4.8	2.5
90 PERCENT EXCEEDS	1.3	1.5	1.0

a-Also occurred Jan 7.

b-Also occurred Dec 22, 1989 and Dec 24-26, 1990.

06720990 BIG DRY CREEK AT MOUTH NEAR FORT LUPTON, CO

LOCATION.--Lat 40°04'09", long 104°49'52", in NE¹/4SE¹/4 sec.12, T.1 N., R.67 W., Weld County, Hydrologic Unit 10190003, on left bank 1.1 mi south of State Highway 52, 1.0 mi west of State Highway 85, and 25 mi northeast of Denver.

DRAINAGE AREA.--107 mi².

PERIOD OF RECORD.--October 1991 to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 4,900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 8. Records fair except for estimated daily discharges, 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	26	25	21	25	16	43	17	142	23	46	16
2	33	26	26	21	25	17	43	21	127	37	42	5.9
3	33	26	27	21	25	16	48	31	84	39	44	4.0
4	33	27	27	21	25	29	46	36	71	25	47	2.6
5	33	28	27	21	24	102	48	41	61	31	37	2.3
6	33	30	26	21	24	45	43	25	66	34	33	2.8
7	32	27	26	21	24	31	38	17	69	29	34	4.7
8	32	24	26	20	24	26	32	21	65	26	27	5.2
9	32	22	25	21	23	15	28	30	164	23	24	3.5
10	31	22	25	21	23	69	27	45	57	20	20	6.0
11	31	22	25	22	23	58	29	48	36	27	21	40
12	31	22	24	22	22	65	28	29	36	31	40	63
13	31	21	24	22	22	92	24	21	31	48	34	74
14	30	21	23	22	22	90	41	17	23	23	18	75
15	30	21	23	22	22	70	123	15	26	13	16	67
16	30	24	24	22	22	60	123	30	18	24	13	61
17	30	33	23	22	21	56	133	39	10	22	14	59
18	30	44	23	23	21	50	95	38	8.1	16	18	53
19	29	38	23	24	21	46	88	28	9.1	11	13	44
20	29	51	22	24	21	41	85	29	57	11	13	47
21	29	46	22	24	20	35	64	43	53	15	17	46
22	29	55	22	24	20	47	60	77	42	11	36	44
23	29	40	22	24	20	53	66	75	29	19	39	86
24	29	32	22	24	19	51	48	62	22	59	170	78
25	28	29	21	25	19	36	39	92	27	76	338	72
26	28	27	22	25	18	33	41	94	90	101	159	59
27	28	28	21	25	17	30	42	84	77	112	93	66
28	28	29	21	24	17	66	24	87	67	48	73	70
29	28	29	21	24	17	104	22	84	59	23	57	73
30	28	28	21	24	---	57	12	70	32	26	36	64
31	26	---	21	24	---	46	---	73	---	46	24	---
TOTAL	936	898	730	701	626	1552	1583	1419	1658.2	1049	1596	1294.0
MEAN	30.2	29.9	23.5	22.6	21.6	50.1	52.8	45.8	55.3	33.8	51.5	43.1
MAX	33	55	27	25	25	104	133	94	164	112	338	86
MIN	26	21	21	20	17	15	12	15	8.1	11	13	2.3
AC-FT	1860	1780	1450	1390	1240	3080	3140	2810	3290	2080	3170	2570

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

	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992
MEAN	30.2	29.9	23.5	22.6	21.6	50.1	52.8	45.8	55.3	33.8	51.5	43.1
MAX	30.2	29.9	23.5	22.6	21.6	50.1	52.8	45.8	55.3	33.8	51.5	43.1
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992
MIN	30.2	29.9	23.5	22.6	21.6	50.1	52.8	45.8	55.3	33.8	51.5	43.1
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1992 WATER YEAR

ANNUAL TOTAL	14042.2
ANNUAL MEAN	38.4
HIGHEST DAILY MEAN	338 Aug 25
LOWEST DAILY MEAN	2.3 Sep 5
ANNUAL SEVEN-DAY MINIMUM	3.6 Sep 3
INSTANTANEOUS PEAK FLOW	341 Aug 25
INSTANTANEOUS PEAK STAGE	7.38 Aug 25
ANNUAL RUNOFF (AC-FT)	27850
10 PERCENT EXCEEDS	73
50 PERCENT EXCEEDS	28
90 PERCENT EXCEEDS	17

06721500 NORTH ST VRAIN CREEK NEAR ALLENS PARK, CO

LOCATION.--Lat. 40°13'08", long 105°31'40", in SW¹/4SE¹/4 sec.14, T.3 N., R.73 W., Boulder County, Hydrologic Unit 10190005, on left bank 64 ft upstream from bridge on Colorado Highway 7, 0.8 mi upstream from Horse Creek, and 1.7 mi north of Allens Park.

DRAINAGE AREA.--32.6 mi².

PERIOD OF RECORD.--October 1925 to September 1930. October 1986 to current year.

REVISIONS.--WDR CO-91-1: 1987, 1988, 1989 (M).

GAGE.--Water stage recorder with satellite telemetry. Elevation of gage is 8,280 ft above National Geodetic Vertical Datum of 1929, from topographic map. Oct. 1, 1926 to June 6, 1929, water-stage recorder at present site at different datum. June 6, 1929 to Sept. 30, 1930 at site 300 ft downstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 29 to Mar. 26, Mar. 30 to Apr. 1, and June 30 to July 10. Records good except for estimated daily discharges, which are poor. No diversions upstream from station. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	11	8.2	6.8	6.6	4.9	9.4	70	100	139	49	34
2	18	11	8.6	7.0	6.6	4.8	7.0	72	97	135	47	35
3	17	11	8.6	7.0	6.4	4.7	7.5	55	108	130	45	30
4	17	11	8.4	7.0	6.4	4.6	8.5	60	128	125	45	28
5	16	11	9.0	6.8	6.3	4.6	9.3	69	132	122	45	33
6	16	12	9.0	6.8	6.0	4.7	9.4	84	128	119	47	29
7	16	12	9.0	6.8	6.0	4.6	9.1	100	129	115	49	27
8	15	12	8.4	7.0	6.0	4.6	9.2	89	134	110	46	26
9	14	11	8.2	7.0	6.2	4.5	9.8	91	139	105	47	25
10	14	11	8.2	7.0	6.1	4.4	12	93	138	102	48	24
11	14	12	8.2	7.0	6.0	4.5	14	78	172	100	50	23
12	14	12	8.4	6.8	6.0	4.8	15	74	198	99	49	22
13	14	11	8.2	6.6	6.2	5.0	20	69	188	92	46	22
14	14	11	8.0	6.4	6.1	5.1	24	73	182	85	43	19
15	13	10	8.2	6.4	5.9	5.2	24	79	166	81	41	19
16	13	11	8.6	6.4	5.6	5.4	29	88	138	81	37	18
17	12	10	8.4	6.6	5.6	5.5	26	94	120	80	37	22
18	12	10	8.2	6.2	5.4	5.4	30	110	112	74	38	36
19	12	10	8.0	6.2	5.6	5.4	23	124	128	76	36	28
20	12	9.8	8.4	6.6	5.7	5.4	20	134	154	80	33	26
21	12	9.8	8.6	6.6	5.7	5.5	18	170	166	79	31	24
22	12	9.8	8.4	6.6	5.6	5.8	19	154	153	74	31	23
23	11	9.4	8.0	6.6	5.3	5.7	18	134	162	70	37	21
24	12	9.8	7.8	6.4	5.1	5.8	17	150	167	67	49	20
25	12	10	7.4	6.4	5.0	6.4	17	145	190	70	50	22
26	12	9.8	7.2	6.4	4.8	6.4	20	162	198	69	44	21
27	12	9.8	7.2	6.5	4.7	6.6	27	226	164	63	40	19
28	12	9.8	7.2	6.5	4.8	6.9	42	166	161	57	35	18
29	11	9.6	7.2	6.5	5.0	7.0	56	129	169	54	32	17
30	11	9.2	7.2	6.6	---	7.4	66	112	148	52	30	16
31	10	---	7.0	6.6	---	7.3	---	102	---	50	31	---
TOTAL	420	316.8	251.4	206.1	166.7	168.9	616.2	3356	4469	2755	1288	727
MEAN	13.5	10.6	8.11	6.65	5.75	5.45	20.5	108	149	88.9	41.5	24.2
MAX	20	12	9.0	7.0	6.6	7.4	66	226	198	139	50	36
MIN	10	9.2	7.0	6.2	4.7	4.4	7.0	55	97	50	30	16
AC-FT	833	628	499	409	331	335	1220	6660	8860	5460	2550	1440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1992, BY WATER YEAR (WY)

	MEAN	19.2	12.9	8.51	6.82	5.92	7.09	18.0	96.9	216	133	68.4	33.1
MAX	35.2	18.5	11.8	9.00	8.00	9.00	30.4	134	294	220	126	76.3	
(WY)	1930	1930	1926	1926	1926	1929	1930	1926	1926	1928	1930	1929	
MIN	10.7	8.16	6.69	5.60	4.00	5.45	8.92	70.7	141	76.0	34.0	15.9	
(WY)	1989	1989	1989	1988	1930	1992	1991	1990	1987	1987	1988	1988	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1926 - 1992

ANNUAL TOTAL	17685.0	14741.1	
ANNUAL MEAN	48.5	40.3	52.4
HIGHEST ANNUAL MEAN			67.9
LOWEST ANNUAL MEAN			40.0
HIGHEST DAILY MEAN	366	Jun 15	433
LOWEST DAILY MEAN	a 4.5	Feb 16	4.0
ANNUAL SEVEN-DAY MINIMUM	4.7	Feb 14	4.0
INSTANTANEOUS PEAK FLOW		294	b 1000
INSTANTANEOUS PEAK STAGE		5.84	c 6.17
ANNUAL RUNOFF (AC-FT)	35080	29240	37940
10 PERCENT EXCEEDS	139	128	160
50 PERCENT EXCEEDS	11	14	16
90 PERCENT EXCEEDS	5.8	5.8	6.0

a-Also occurred Feb 17-19.

b-Maximum discharge, estimated, caused by failure of Copeland dam 0.5 mi upstream, gage height not determined.

c-Maximum gage height recorded.

06724000 ST VRAIN CREEK AT LYONS, CO

LOCATION.--Lat 40°13'05", long 105°15'34", in NW¹/₄NW¹/₄ sec.20, T.3 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank 75 ft southwest of U.S. Highway 36 (State Highways 7 and 66) at southeast edge of Lyons, 400 ft upstream from St. Vrain Supply Canal, and 0.4 mi downstream from confluence of North and South St. Vrain Creeks.

DRAINAGE AREA.--212 mi².

PERIOD OF RECORD.--Streamflow records, August 1887 to September 1891, June 1895 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Lyons" 1901, 1903. Water-quality data available, October 1977 to February 1981.

REVISED RECORDS.--WSP 1310: 1898, 1900. WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,292 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 6, 1923, nonrecording gages near present site at different datums. Apr. 6, 1923, to Sept. 30, 1956, water-stage recorder at same site at datum 1.00 ft, higher.

REMARKS.--Estimated daily discharges: Dec. 20-27, June 1, and June 2. Records good except for estimated daily discharges, which are fair. Diversions upstream from station for irrigation of about 2,000 acres. Flow partly regulated by small reservoirs upstream from station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in June 1864 and May 1876. Flood in May or June 1894 reached a stage of 9.13 ft, from information by local resident, discharge, about 9,800 ft³/s. For discussions of these floods, see WSP 997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	20	18	21	17	12	86	159	159	290	82	56
2	36	26	22	20	19	11	92	168	137	282	78	67
3	30	27	22	20	18	17	73	144	130	230	80	65
4	31	27	25	18	17	31	80	124	175	184	115	60
5	31	30	26	19	17	36	91	124	266	180	110	62
6	29	30	23	18	15	25	98	144	280	198	98	56
7	25	31	23	18	15	21	103	186	278	230	96	48
8	22	48	26	17	16	27	101	206	290	254	89	42
9	21	36	24	15	17	34	104	213	330	266	89	37
10	21	40	22	18	17	30	105	227	340	223	93	33
11	15	33	25	17	17	37	123	200	385	198	112	32
12	15	33	25	19	16	43	125	184	530	188	111	28
13	19	31	21	15	16	50	119	163	500	185	107	28
14	21	30	19	16	15	52	117	161	494	155	93	26
15	23	34	24	13	15	53	115	163	452	153	80	30
16	14	34	26	17	17	49	170	177	365	165	72	30
17	14	39	20	17	16	50	172	203	290	177	85	30
18	14	36	21	15	14	49	179	230	245	161	91	39
19	17	34	23	17	15	43	156	270	298	148	82	51
20	19	29	25	16	16	39	141	294	345	189	68	48
21	17	31	24	11	15	42	125	326	390	181	62	39
22	21	27	24	11	15	38	118	381	350	146	68	38
23	17	20	23	15	15	36	110	371	365	140	80	32
24	21	21	17	13	15	36	101	346	380	125	125	31
25	26	25	20	15	15	37	96	348	385	131	142	30
26	20	28	20	19	15	43	96	364	390	144	111	33
27	24	25	19	17	15	41	91	418	330	126	82	30
28	28	26	19	17	14	64	95	324	294	105	66	28
29	25	24	24	18	12	78	104	265	310	93	54	26
30	18	19	22	18	---	74	133	216	270	90	53	23
31	18	---	19	18	---	87	---	183	---	86	43	---
TOTAL	694	894	691	518	456	1285	3419	7282	9753	5423	2717	1178
MEAN	22.4	29.8	22.3	16.7	15.7	41.5	114	235	325	175	87.6	39.3
MAX	42	48	26	21	19	87	179	418	530	290	142	67
MIN	14	19	17	11	12	11	73	124	130	86	43	23
AC-FT	1380	1770	1370	1030	904	2550	6780	14440	19350	10760	5390	2340

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1896 - 1992, BY WATER YEAR (WY)

	MEAN	38.8	24.0	16.8	13.6	13.1	19.3	90.4	292	521	291	134	67.3
MAX	189	137	70.0	59.0	56.0	76.0	347	773	1096	701	299	263	
(WY)	1896	1924	1903	1903	1903	1903	1926	1980	1969	1907	1899	1938	
MIN	3.64	4.65	4.20	3.35	2.31	2.42	14.1	94.5	148	80.6	41.1	21.9	
(WY)	1957	1940	1945	1932	1990	1964	1966	1977	1954	1934	1934	1934	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1896 - 1992

ANNUAL TOTAL	40902.6	34310	
ANNUAL MEAN	112	93.7	127
HIGHEST ANNUAL MEAN			222
LOWEST ANNUAL MEAN			46.3
HIGHEST DAILY MEAN	898	Jun 5	2120
LOWEST DAILY MEAN	9.6	Mar 19	.00
ANNUAL SEVEN-DAY MINIMUM	13	Mar 18	.31
INSTANTANEOUS PEAK FLOW			10500
INSTANTANEOUS PEAK STAGE			9.06
ANNUAL RUNOFF (AC-FT)	81130	68050	92000
10 PERCENT EXCEEDS	311	267	380
50 PERCENT EXCEEDS	31	39	39
90 PERCENT EXCEEDS	16	16	9.0

a-Also occurred Jan 21-22 and Mar 2.

b-Also occurred Jan 20, 1922 and Jan 12-13, 1950.

06725450 ST VRAIN CREEK BELOW LONGMONT, CO

LOCATION.--Lat 40°09'30", long 105°00'48", in NW¹/₄NW¹/₄ sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 1,750 ft upstream from mouth of Boulder Creek, 1.8 mi downstream from Spring Gulch, and 4.7 mi southeast of Longmont.

DRAINAGE AREA.--424 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 4,852 ft, above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	51	51	42	35	38	62	80	175	226	160	104
2	104	51	51	42	35	38	63	82	143	253	155	101
3	95	51	51	44	35	42	62	81	133	216	187	94
4	101	52	52	44	35	89	57	79	125	210	200	92
5	96	52	53	43	36	67	57	68	123	200	169	93
6	86	54	55	45	35	54	56	65	150	207	168	89
7	80	54	52	45	34	47	57	72	213	217	174	83
8	79	51	47	43	34	56	56	73	262	223	175	84
9	70	50	46	42	34	77	53	64	375	226	177	90
10	71	59	46	43	34	74	51	69	389	232	172	84
11	68	53	45	44	35	69	49	81	388	250	171	82
12	67	49	45	46	35	79	51	85	514	257	189	82
13	65	49	44	44	35	88	57	89	492	249	184	77
14	66	48	42	43	37	95	88	78	433	219	174	76
15	64	54	42	44	37	95	93	78	403	226	168	77
16	63	60	44	45	36	95	139	80	292	220	168	75
17	60	67	42	41	36	89	127	99	189	231	170	70
18	60	66	45	38	35	83	126	106	101	219	161	71
19	61	69	50	41	35	81	121	98	84	198	147	81
20	63	59	44	38	36	84	126	111	81	237	141	76
21	63	61	43	38	38	69	121	122	135	195	147	72
22	62	63	42	38	37	71	110	155	145	183	146	70
23	56	57	41	38	35	67	92	157	141	186	179	67
24	56	56	41	42	37	68	89	153	170	171	326	68
25	56	56	41	39	36	63	78	206	203	173	214	70
26	55	55	41	37	35	60	63	211	255	188	152	70
27	54	54	42	37	37	57	68	191	324	176	123	69
28	61	54	41	38	39	78	62	178	255	171	116	70
29	59	56	42	38	37	68	61	162	250	161	110	73
30	57	53	42	37	---	64	63	154	214	163	107	68
31	54	---	43	36	---	62	---	174	---	165	103	---
TOTAL	2183	1664	1406	1275	1035	2167	2358	3501	7157	6448	5133	2378
MEAN	70.4	55.5	45.4	41.1	35.7	69.9	78.6	113	239	208	166	79.3
MAX	131	69	55	46	39	95	139	211	514	257	326	104
MIN	54	48	41	36	34	38	49	64	81	161	103	67
AC-FT	4330	3300	2790	2530	2050	4300	4680	6940	14200	12790	10180	4720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	MEAN	68.2	58.2	51.3	45.0	44.7	52.2	84.0	224	300	152	146	95.5
MAX	159	126	91.5	92.8	94.0	111	259	1155	690	217	185	152	
(WY)	1985	1985	1985	1980	1980	1980	1980	1980	1979	1986	1986	1982	
MIN	45.5	34.5	30.8	25.7	27.9	28.9	27.5	35.8	63.3	100	88.9	53.7	
(WY)	1990	1979	1979	1978	1978	1982	1982	1977	1981	1981	1977	1977	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1976 - 1992		
ANNUAL TOTAL	40708			36705			110		
ANNUAL MEAN	112			100			235		
HIGHEST ANNUAL MEAN							54.8		
LOWEST ANNUAL MEAN							1977		
HIGHEST DAILY MEAN	1020			Jun 2			1940		
LOWEST DAILY MEAN	24			Jan 1			20		
ANNUAL SEVEN-DAY MINIMUM	28			Jan 1			22		
INSTANTANEOUS PEAK FLOW				589			2380		
INSTANTANEOUS PEAK STAGE				3.89			6.37		
ANNUAL RUNOFF (AC-FT)	80740			72800			79750		
10 PERCENT EXCEEDS	176			206			198		
50 PERCENT EXCEEDS	56			69			68		
90 PERCENT EXCEEDS	34			38			34		

a-Also occurred Feb 8-10.

PLATTE RIVER BASIN

06725500 MIDDLE BOULDER CREEK AT NEDERLAND, CO

LOCATION.--Lat 39°57'42", long 105°30'14", in NE¹/4SE¹/4 sec.13, T.1 S., R.73 W., Boulder County, Hydrologic Unit 10190005, on left bank at Nederland just downstream from North Beaver Creek and 1,000 ft upstream from Barker Reservoir.

DRAINAGE AREA.--36.2 mi².

PERIOD OF RECORD.--June 1907 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and compound sharp-crested weir. Datum of gage is 8,186.0 ft, Public Service Co. datum. Prior to Mar. 18, 1909, at datum 4.0 ft, lower. Mar. 18, 1909 to Apr. 23, 1952, at datum 2.5 ft, lower than present datum.

REMARKS.--Estimated daily discharges: Nov. 3-4, 23-25, Nov. 30 to Dec. 2, Dec. 14-16, Jan. 2, 13-16, 22-23, Feb. 18-19, and June 22-23. Records good except for estimated daily discharges, which are fair. No diversion above station. Flow regulated at times by Jasper Lake, capacity, 326 acre-ft. North Beaver Creek entered Middle Boulder Creek downstream from station June 1 to Dec. 31, 1907, March 1911 to Dec. 31, 1916.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	11	7.7	4.5	4.5	4.7	8.5	112	122	143	43	34
2	15	12	8.1	4.1	4.5	4.7	7.5	110	108	128	42	37
3	14	12	8.3	4.1	4.3	4.5	8.5	93	124	102	42	31
4	14	12	7.9	4.1	4.3	4.9	11	104	156	99	48	29
5	13	12	7.8	4.5	4.5	5.1	14	110	160	108	45	31
6	14	13	7.7	4.5	4.3	5.1	17	124	151	118	43	28
7	14	12	7.3	4.9	4.1	5.1	18	158	154	128	42	26
8	13	12	7.3	4.9	4.3	4.5	18	147	154	136	41	24
9	12	12	7.1	5.1	4.3	5.5	22	145	149	130	40	20
10	11	12	6.9	4.9	4.1	5.7	25	130	147	112	42	20
11	11	12	6.7	5.1	3.7	5.3	29	104	169	102	44	19
12	10	11	6.3	5.3	3.7	5.1	29	108	185	99	44	19
13	10	10	6.5	4.9	3.9	5.3	35	114	194	101	41	19
14	10	9.3	6.5	4.9	3.9	5.3	39	126	185	90	36	18
15	10	9.1	6.5	4.9	4.1	5.5	41	136	171	83	34	18
16	9.4	8.9	6.1	4.9	4.1	5.7	46	143	147	82	34	18
17	9.3	8.7	5.5	4.9	4.1	5.7	44	151	124	80	42	25
18	9.1	8.9	5.3	5.1	4.1	5.7	44	167	118	72	41	23
19	9.1	8.9	5.5	5.1	3.7	5.7	38	174	101	72	37	21
20	9.5	9.3	5.7	4.9	3.7	5.5	35	194	97	80	34	23
21	11	9.5	5.7	4.7	3.7	6.7	34	229	74	75	34	20
22	13	8.1	5.6	4.1	3.5	5.5	34	208	90	69	34	18
23	14	8.1	5.5	3.9	3.5	5.5	33	194	149	65	37	16
24	15	8.1	5.3	3.9	3.9	5.7	31	204	174	68	58	15
25	15	8.0	5.3	3.9	4.3	6.1	31	194	190	72	53	17
26	15	8.1	5.3	3.9	4.7	6.1	34	183	199	66	50	18
27	16	8.5	4.7	3.9	4.7	6.5	40	220	167	58	42	17
28	15	8.5	4.7	4.1	4.9	7.3	54	185	162	53	35	15
29	8.3	8.5	5.1	4.3	4.9	7.5	75	156	165	50	31	14
30	10	7.7	4.4	4.5	---	8.5	97	145	147	47	30	14
31	12	---	4.3	4.5	---	8.1	---	130	---	46	30	---
TOTAL	378.7	299.2	192.6	141.3	120.3	178.1	992.5	4698	4433	2734	1249	647
MEAN	12.2	9.97	6.21	4.56	4.15	5.75	33.1	152	148	88.2	40.3	21.6
MAX	17	13	8.3	5.3	4.9	8.5	97	229	199	143	58	37
MIN	8.3	7.7	4.3	3.9	3.5	4.5	7.5	93	74	46	30	14
AC-FT	751	593	382	280	239	353	1970	9320	8790	5420	2480	1280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 1992, BY WATER YEAR (WY)

	MEAN	17.7	11.5	7.14	5.42	5.05	6.44	23.2	124	239	133	52.5	24.7
MAX	47.2	23.1	12.6	8.77	8.42	15.4	57.5	251	399	326	118	65.2	
(WY)	1962	1926	1962	1960	1962	1910	1946	1958	1918	1907	1947	1961	
MIN	7.74	5.43	3.97	2.00	2.75	3.46	6.67	62.0	68.6	26.4	14.0	10.1	
(WY)	1989	1953	1954	1937	1981	1944	1944	1908	1925	1934	1934	1944	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1907 - 1992

ANNUAL TOTAL	17592.7	16063.7	
ANNUAL MEAN	48.2	43.9	54.1
HIGHEST ANNUAL MEAN			83.2
LOWEST ANNUAL MEAN			26.2
HIGHEST DAILY MEAN	359	229	698
LOWEST DAILY MEAN	4.3	3.5	.80
ANNUAL SEVEN-DAY MINIMUM	4.5	3.7	1.3
INSTANTANEOUS PEAK FLOW		269	811
INSTANTANEOUS PEAK STAGE		2.40	5.37
ANNUAL RUNOFF (AC-FT)	34900	31860	39200
10 PERCENT EXCEEDS	164	146	175
50 PERCENT EXCEEDS	13	14	16
90 PERCENT EXCEEDS	4.7	4.5	4.9

a-Also occurred Feb 28 and Dec 31.

b-Also occurred Feb 23.

c-Datum then in use, by computation of peak flow over compound weir.

06726900 BUMMERS GULCH NEAR EL VADO, CO

LOCATION.--Lat 40°00'42", long 105°20'53", in NE¹/4NW¹/4 sec.33, T.1 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank, 0.8 mi north of Highway 119 on Sugarloaf Road, 0.1 mi south of service road to Boulder Filtration Plant, 0.65 mi upstream from mouth and, 3.7 mi from Boulder County courthouse.

DRAINAGE AREA.--3.87 mi².

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,270 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan 1 to Apr. 13, and June 24 to July 23. Records good except for estimated daily discharges which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.36	.44	.34	.22	.36	1.5	1.0	1.2	.42	.28	.39
2	.30	.36	.46	.34	.21	.37	1.5	1.0	.96	.43	.27	.34
3	.28	.38	.46	.36	.20	.35	1.4	1.0	.84	.45	.27	.32
4	.33	.39	.48	.33	.19	.34	1.5	1.0	.84	.47	.27	.30
5	.35	.39	.46	.30	.21	.37	1.7	1.0	.81	.49	.25	.29
6	.33	.38	.46	.31	.23	.40	1.9	.93	.82	.50	.24	.29
7	.31	.35	.46	.28	.22	.44	2.1	.94	.78	.47	.24	.29
8	.29	.34	.46	.25	.21	.42	2.1	.95	.80	.45	.23	.28
9	.29	.40	.46	.22	.23	.40	2.2	1.0	.78	.47	.23	.29
10	.28	.49	.46	.22	.22	.42	2.3	1.0	.74	.45	.23	.29
11	.27	.41	.46	.23	.21	.50	2.3	.96	.70	.46	.23	.29
12	.27	.41	.46	.21	.23	.60	2.2	.98	.75	.42	.30	.28
13	.27	.40	.43	.19	.23	.80	2.2	.97	.68	.44	.27	.30
14	.29	.40	.42	.20	.23	.98	2.1	.92	.66	.44	.24	.30
15	.28	.42	.44	.19	.23	1.1	2.0	.90	.64	.41	.23	.30
16	.26	.41	.44	.18	.22	1.4	2.0	.81	.64	.38	.23	.30
17	.22	.45	.41	.19	.22	1.3	1.8	.86	.83	.39	.40	.31
18	.24	.47	.41	.19	.22	1.2	1.7	.77	.83	.40	.46	.33
19	.26	.47	.42	.20	.24	1.1	1.4	.64	.82	.38	.31	.33
20	.27	.48	.42	.20	.26	.99	1.3	.64	.84	.36	.26	.35
21	.27	.57	.41	.19	.25	.90	1.3	.73	.79	.37	.26	.33
22	.27	.52	.42	.19	.24	.80	1.3	.84	.76	.35	.27	.33
23	.27	.40	.40	.19	.23	.76	1.3	.83	.73	.31	.31	.33
24	.33	.43	.39	.20	.24	.72	1.3	.74	.54	.42	1.5	.35
25	.33	.47	.42	.19	.23	.70	1.2	.99	.43	.57	.89	.36
26	.34	.48	.40	.19	.28	.72	1.2	.94	.45	.47	.71	.36
27	.36	.49	.39	.19	.32	.78	1.1	1.0	.46	.35	.56	.36
28	.38	.49	.39	.20	.34	.96	1.1	.98	.47	.29	.48	.36
29	.36	.46	.39	.19	.35	1.3	1.1	.81	.48	.30	.44	.36
30	.39	.40	.39	.21	---	1.5	1.0	.87	.45	.29	.43	.42
31	.38	---	.37	.23	---	1.6	---	1.1	---	.27	.40	---
TOTAL	9.39	12.87	13.28	7.10	6.91	24.58	49.1	28.10	21.52	12.67	11.69	9.73
MEAN	.30	.43	.43	.23	.24	.79	1.64	.91	.72	.41	.38	.32
MAX	.39	.57	.48	.36	.35	1.6	2.3	1.1	1.2	.57	1.5	.42
MIN	.22	.34	.37	.18	.19	.34	1.0	.64	.43	.27	.23	.28
AC-FT	19	26	26	14	14	49	97	56	43	25	23	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	.34	.34	.31	.28	.30	.50	1.28	1.13	.72
MAX	.98	.65	.43	.47	.45	.79	2.64	3.68	1.44
(WY)	1984	1985	1992	1985	1984	1992	1984	1984	1987
MIN	.087	.14	.14	.21	.20	.35	.34	.35	.24
(WY)	1990	1990	1990	1989	1990	1991	1991	1989	1989

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1984 - 1992

	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1984 - 1992
ANNUAL TOTAL	169.41	206.94	
ANNUAL MEAN	.46	.57	.51
HIGHEST ANNUAL MEAN			.98
LOWEST ANNUAL MEAN			.20
HIGHEST DAILY MEAN	a 2.6 Jun 2	b 2.3 Apr 10	7.2 Apr 25 1984
LOWEST DAILY MEAN	c .19 Jan 3	.18 Jan 16	d .00 Jul 26 1989
ANNUAL SEVEN-DAY MINIMUM	.20 Jan 1	.19 Jan 13	.01 Jul 22 1989
INSTANTANEOUS PEAK FLOW		3.1 Aug 24	26 Aug 11 1990
INSTANTANEOUS PEAK STAGE		2.73 Aug 24	3.39 Aug 11 1990
ANNUAL RUNOFF (AC-FT)	336	410	366
10 PERCENT EXCEEDS	.79	1.1	1.1
50 PERCENT EXCEEDS	.36	.40	.33
90 PERCENT EXCEEDS	.26	.23	.13

a-Also occurred Jun 3.

b-Also occurred Apr 11.

c-Also occurred Jan 4-6.

d-Also occurred Jul 28, 1989.

06727000 BOULDER CREEK NEAR ORODELL, CO

LOCATION.--Lat 40°00'23", long 105°19'49", in NE¹/4SW¹/4 sec.34, T.1 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank along State Highway 119, 0.7 mi southwest of old Orodell, 1.1 mi upstream from Fourmile Creek, and 2.9 mi southwest of courthouse in Boulder.

DRAINAGE AREA.--102 mi².

PERIOD OF RECORD.--August to October 1887, April to October 1888, October 1906 to November 1914, March 1916 to current year. Monthly discharge only for some periods, published in WSP 1310. Figures of daily discharge for Feb. 3-10, 17-25, 1912, published in WSP 326, have been found to be unreliable and should not be used. Published as North Boulder Creek, Colorado 1887-88 and as "at Orodell" March 1907 to December 1916.

REVISED RECORDS.--WSP 1310: 1941(M). WSP 1560: 1914(M). WSP 1730: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,826 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 1, 1907, nonrecording gage, and Sept. 1, 1907 to May 11, 1917, water-stage recorder, at sites 1.1 mi downstream, just upstream from Fourmile Creek, at different datums.

REMARKS.--Estimated daily discharges: Nov. 28 to Dec. 3, May 11, 13, 16, 17, and May 22. Records good except for estimated daily discharges, which are fair. Flow regulated by Barker Reservoir, capacity, 11,500 acre-ft. Low flow during nonirrigation season regulated by Orodell powerplant 1,500 ft upstream from station.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods are known to have occurred in June 1864, May 1876, June 1894, and June 1914, stages and discharges unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	41	27	12	11	12	33	58	123	132	60	58
2	19	24	23	14	3.8	4.8	31	54	108	134	74	63
3	18	24	25	3.8	25	23	38	42	96	125	78	51
4	17	48	24	8.8	16	24	25	48	104	119	78	48
5	17	51	17	25	16	18	27	64	132	108	69	53
6	16	45	21	14	20	18	62	119	134	99	71	42
7	16	45	16	10	19	18	35	159	130	93	68	46
8	17	47	15	17	17	24	51	162	133	111	55	46
9	17	49	11	13	18	20	34	141	150	132	50	41
10	17	48	17	15	16	32	61	139	158	128	42	32
11	17	48	14	15	18	22	46	114	146	111	72	33
12	16	44	11	17	18	18	68	81	132	105	73	27
13	16	48	19	17	21	18	49	65	126	122	77	30
14	16	40	20	13	21	20	76	101	127	116	74	27
15	16	8.7	17	18	21	20	59	138	120	100	65	26
16	16	10	15	14	16	21	89	143	108	116	55	28
17	14	11	15	13	20	22	80	146	115	107	63	27
18	15	44	15	3.0	21	23	94	151	124	100	77	30
19	15	45	11	25	16	23	85	167	130	108	72	29
20	15	48	12	12	13	21	73	183	101	123	55	26
21	15	50	13	14	12	21	66	216	113	116	49	26
22	15	44	11	15	14	12	55	253	145	103	69	26
23	15	42	13	16	13	29	51	216	131	103	78	23
24	16	40	11	10	14	21	50	199	131	108	116	23
25	16	30	8.7	11	12	20	49	194	151	118	107	25
26	16	39	13	5.2	3.9	22	46	180	193	126	88	27
27	15	28	14	15	20	23	44	184	176	121	82	26
28	17	22	14	17	21	32	46	161	164	98	63	23
29	20	21	11	14	13	24	52	139	157	80	53	22
30	39	32	13	14	---	39	62	128	141	75	51	25
31	27	---	13	13	---	36	---	130	---	66	59	---
TOTAL	539	1116.7	479.7	423.8	469.7	680.8	1637	4275	3999	3403	2143	1009
MEAN	17.4	37.2	15.5	13.7	16.2	22.0	54.6	138	133	110	69.1	33.6
MAX	39	51	27	25	25	39	94	253	193	134	116	63
MIN	14	8.7	8.7	3.0	3.8	4.8	25	42	96	66	42	22
AC-FT	1070	2210	951	841	932	1350	3250	8480	7930	6750	4250	2000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 1992, BY WATER YEAR (WY)

	MEAN	27.5	26.3	28.5	26.4	25.6	29.3	51.8	150	319	216	91.4	46.1
MAX	83.4	96.0	83.8	62.4	60.4	84.2	158	307	813	566	210	126	
(WY)	1924	1924	1924	1924	1924	1922	1926	1914	1921	1957	1965	1938	
MIN	5.84	5.33	5.91	3.84	2.57	4.50	13.8	60.1	113	65.1	34.9	12.4	
(WY)	1965	1935	1957	1911	1933	1911	1989	1981	1981	1934	1934	1964	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1907 - 1992

ANNUAL TOTAL	24233.7	20175.7	
ANNUAL MEAN	66.4	55.1	86.3
HIGHEST ANNUAL MEAN			146
LOWEST ANNUAL MEAN			38.9
HIGHEST DAILY MEAN	409	253	1180
LOWEST DAILY MEAN	a 8.7	3.0	b 1.0
ANNUAL SEVEN-DAY MINIMUM	10	11	c 2500
INSTANTANEOUS PEAK FLOW		266	
INSTANTANEOUS PEAK STAGE		2.98	4.31
ANNUAL RUNOFF (AC-FT)	48070	40020	62500
10 PERCENT EXCEEDS	185	131	230
50 PERCENT EXCEEDS	26	32	43
90 PERCENT EXCEEDS	13	13	10

a-Also occurred Dec 25.

b-Also occurred Feb 1-3, 16-24, 1933.

c-From rating curve extended above 1200 ft³/s.

LOCATION.--Lat 40°01'08", long 105°19'32", in NW¹/4SE¹/4 sec.27, T.1 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on right bank 30 ft downstream from private bridge, 0.3 mi upstream from Highway 119 and mouth, and 2.5 mi west of courthouse in Boulder.

PERIOD OF RECORD.--April 1947 to September 1953, April 1978 to September 1982 (peak stage and discharge only),
July 1983 to current year.

REMARKS.--Estimated daily discharges: Oct. 28 to Nov. 5, Nov. 10-22, Nov. 24 to Dec. 1, Dec. 4-6, 15, Dec. 25 to Feb. 19, Mar. 4-16, and July 1-23. Records fair except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.5	2.1	.90	1.0	2.0	12	17	9.9	2.8	.74	1.6
2	1.3	1.4	2.2	.90	1.0	2.0	12	17	8.4	2.7	.77	1.1
3	1.2	1.4	2.2	.90	1.0	2.0	11	16	7.2	2.5	.73	.88
4	1.4	1.5	2.2	.90	1.0	3.8	13	14	6.7	2.5	.77	.84
5	1.9	1.6	2.3	.90	1.0	3.6	14	13	6.7	2.5	.78	.84
6	1.8	1.7	2.2	.90	1.1	4.0	16	12	7.5	2.3	.73	.84
7	1.7	1.7	2.3	.90	1.1	4.2	18	12	7.9	2.3	.73	.84
8	1.5	1.7	2.3	.90	1.1	4.4	18	13	8.4	1.9	.73	.84
9	1.4	1.7	2.4	.90	1.1	4.6	18	14	8.0	1.9	.73	.83
10	1.3	1.8	2.3	.90	1.1	4.2	19	14	7.5	1.7	.73	.78
11	1.4	1.8	2.2	.90	1.2	4.3	20	13	7.1	1.5	.73	.78
12	1.4	1.8	2.2	.90	1.2	5.4	22	13	7.1	1.3	.74	.78
13	1.4	1.9	2.1	.90	1.2	6.8	23	12	6.3	1.3	.80	.78
14	1.4	1.9	2.2	.90	1.2	8.2	26	11	6.3	1.1	.73	.78
15	1.4	1.9	2.3	.90	1.2	9.0	29	10	6.2	1.1	.73	.78
16	1.3	1.9	2.3	.85	1.3	9.2	44	10	5.9	1.0	.73	.78
17	1.2	1.9	2.1	.85	1.4	8.7	53	11	5.7	1.0	.74	.78
18	1.3	1.9	2.1	.85	1.6	7.6	52	11	5.4	1.0	.94	.78
19	1.4	1.8	2.0	.85	1.8	7.0	43	11	5.1	.90	.83	.79
20	1.5	1.8	1.7	.85	1.9	6.3	34	11	4.8	.90	.73	.80
21	1.5	1.8	1.8	.80	1.7	5.8	27	12	4.4	.85	.73	.80
22	1.4	1.8	1.8	.80	1.7	5.7	23	13	4.3	.85	.73	.78
23	1.3	1.8	1.6	.85	1.8	5.4	19	12	4.1	.85	.76	.78
24	1.6	1.9	1.3	.85	1.9	5.4	18	11	3.8	1.4	3.9	.78
25	1.8	2.0	.95	.90	1.8	5.3	16	12	3.9	1.8	3.1	.78
26	1.8	2.0	.95	.90	1.9	5.5	13	11	4.3	1.8	2.3	.78
27	1.8	2.0	.95	.90	1.9	5.8	13	12	4.0	1.2	1.6	.82
28	1.8	2.0	.95	.90	1.9	9.2	13	11	3.6	.78	1.2	.81
29	1.7	2.0	.95	1.0	1.9	11	14	10	3.5	.78	.94	.78
30	1.6	2.0	.95	1.0	---	12	16	9.8	3.1	.78	1.0	.78
31	1.6	---	.95	1.0	---	13	---	10	---	.77	1.1	---
TOTAL	46.5	53.9	56.85	27.65	41.0	191.4	669	378.8	177.1	46.06	32.50	25.11
MEAN	1.50	1.80	1.83	.89	1.41	6.17	22.3	12.2	5.90	1.49	1.05	.84
MAX	1.9	2.0	2.4	1.0	1.9	13	53	17	9.9	2.8	3.9	1.6
MIN	1.2	1.4	.95	.80	1.0	2.0	11	9.8	3.1	.77	.73	.78
AC=FT	92	107	113	55	81	380	1330	751	351	91	64	50

MEAN	1.52	1.73	1.23	1.21	1.40	2.78	13.2	24.7	21.6	4.10	1.84	1.28
MAX	4.59	5.95	2.14	2.10	2.77	6.17	33.2	49.9	62.6	9.95	4.54	4.35
(WY)	1985	1985	1985	1985	1985	1992	1986	1984	1949	1949	1983	1949
MIN	.59	.55	.58	.52	.54	.83	2.97	8.58	5.90	1.49	.47	.10
(WY)	1989	1989	1990	1951	1989	1951	1991	1950	1992	1992	1948	1948

ANNUAL TOTAL	2163.53			1745.87					
ANNUAL MEAN	5.93			4.77				6.37	
HIGHEST ANNUAL MEAN								9.27	1952
LOWEST ANNUAL MEAN								2.67	1989
HIGHEST DAILY MEAN	97	Jun	3	53	Apr	17	192		Jun 7 1949
LOWEST DAILY MEAN	.73	Feb	24	a .73	Aug	3	b .00		Sep 1 1948
ANNUAL SEVEN-DAY MINIMUM	.82	Jan	1	.73	Aug	6	c, d .00		Sep 1 1948
INSTANTANEOUS PEAK FLOW				58	Apr	18	e 256		Jun 6 1949
INSTANTANEOUS PEAK STAGE				3.20	Apr	18	e 3.66		Jun 6 1949
ANNUAL RUNOFF (AC-FT)	4290			3460			4620		
10 PERCENT EXCEEDS	15			13			19		
50 PERCENT EXCEEDS	1.8			1.8			1.8		
90 PERCENT EXCEEDS	.97			.78			.63		

e-Maximum gage height, 4.62 ft, Jun 9, 1989, backwater from debris.

06729500 SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO

LOCATION.--Lat 39°55'52", long 105°17'43", in SE 1/4 sec.26, T.1 S., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank 0.2 mi downstream from South Draw, 1.0 mi west of Eldorado Springs, 1.8 mi downstream from South Boulder diversion canal, 5.0 mi south of Boulder, and 6.7 mi downstream from Gross Reservoir.

DRAINAGE AREA.--109 mi².

PERIOD OF RECORD.--April 1888 to October 1892, May 1895 to September 1901, August 1904 to current year. No winter records for water years 1889-92, 1900. Monthly discharge only for some periods, published in WSP 1310. Prior to January 1911, published as "at" or "near Marshall"; January 1911 to December 1913 as "at Eldorado Springs." Records for periods June 1900 to September 1901, August 1904 to September 1908, and October 1909 to September 1911, are not adjusted for diversions by Community ditch and South Boulder and Coal Creek ditch; all other records contain flow in these ditches. Statistical summary computed for 1957 to current year.

REVISED RECORDS.--WSP 856: 1937(M). WSP 1310: 1937. WSP 1440: 1896. WSP 1710: Drainage area. WSP 1730: 1959-60.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,080 ft, from topographic map. See WSP 1710 or 1730 for history of changes prior to May 10, 1940.

REMARKS.--Estimated daily discharges: Oct. 28-29, Nov. 1-3, 23-24, and Nov. 29 to Mar. 13. Records good except for estimated daily discharges, which are fair. Many small diversions upstream from station for irrigation. Water is imported upstream from Gross Reservoir from Colorado River basin through Moffat water tunnel. Flow regulated since May 1, 1955, by Gross Reservoir, capacity, 43,060 acre-ft, 6.7 mi upstream from station. City of Denver diverts water 1.8 mi 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	5.6	10	4.5	4.0	8.0	39	95	197	139	37	30
2	17	5.6	10	4.5	4.0	8.0	47	106	167	115	33	30
3	17	5.5	8.0	4.5	4.0	8.0	48	106	153	108	33	30
4	17	6.4	7.0	4.5	4.0	8.0	53	106	149	108	33	30
5	17	6.6	6.5	4.5	4.0	8.0	53	134	148	93	33	29
6	17	6.2	6.5	4.5	4.0	12	54	168	150	81	33	29
7	18	6.0	6.5	4.5	5.5	18	61	170	149	81	31	30
8	19	5.3	6.5	4.5	6.0	21	76	179	150	88	31	26
9	16	5.1	6.5	4.5	6.0	23	86	190	176	93	32	23
10	15	6.1	6.5	4.5	6.0	25	86	189	202	92	30	23
11	16	5.2	6.5	4.5	6.0	27	86	192	201	92	29	23
12	16	4.6	6.5	4.5	7.0	29	86	192	203	92	29	23
13	16	4.2	6.5	4.5	8.0	31	91	193	213	82	28	23
14	16	12	6.5	4.5	8.0	34	97	195	223	66	28	23
15	15	26	6.5	4.5	8.0	33	97	196	217	62	27	20
16	15	26	6.5	4.0	8.0	34	98	195	191	60	27	13
17	11	26	7.0	4.0	8.0	34	102	195	169	60	27	14
18	8.5	26	7.0	4.0	8.0	33	108	198	158	60	24	14
19	7.7	25	7.0	4.0	8.0	32	107	198	146	60	22	14
20	7.1	25	7.0	4.0	8.0	31	106	203	155	60	21	14
21	6.8	26	6.5	4.0	8.0	31	104	228	172	61	20	14
22	6.0	25	6.5	4.0	8.0	31	103	287	174	58	20	13
23	5.5	25	6.5	4.0	8.0	30	102	325	166	58	20	14
24	5.3	25	6.5	4.0	8.0	28	101	327	159	53	29	19
25	8.5	25	6.5	4.0	8.0	26	100	308	160	50	39	14
26	5.2	19	6.5	4.0	8.0	24	100	272	159	50	52	15
27	4.6	10	6.5	4.0	8.0	25	90	257	159	49	55	15
28	5.2	10	6.0	4.0	8.0	33	82	253	161	49	55	14
29	5.2	10	6.0	4.0	8.0	37	81	231	165	47	54	13
30	5.1	10	5.0	4.0	---	35	81	216	162	46	55	14
31	5.0	---	4.5	4.0	---	35	---	210	---	41	43	---
TOTAL	361.7	423.4	208.0	131.5	196.5	792.0	2525	6314	5154	2254	1030	606
MEAN	11.7	14.1	6.71	4.24	6.78	25.5	84.2	204	172	72.7	33.2	20.2
MAX	19	26	10	4.5	8.0	37	108	327	223	139	55	30
MIN	4.6	4.2	4.5	4.0	4.0	8.0	39	95	146	41	20	13
AC-FT	717	840	413	261	390	1570	5010	12520	10220	4470	2040	1200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1992, BY WATER YEAR (WY)

	MEAN	19.7	15.7	10.9	9.05	11.1	16.1	47.0	144	259	130	46.2	26.0
MAX	55.0	42.9	23.3	21.0	31.2	31.9	97.6	273	428	388	154	77.9	
(WY)	1962	1970	1958	1962	1961	1983	1960	1969	1969	1957	1965	1961	
MIN	5.40	5.82	2.83	2.50	4.50	7.27	14.8	68.2	119	42.3	20.0	8.85	
(WY)	1989	1967	1991	1967	1965	1958	1963	1983	1966	1963	1981	1964	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1957 - 1992

ANNUAL TOTAL	20572.6	19996.1	
ANNUAL MEAN	56.4	54.6	
HIGHEST ANNUAL MEAN			^a 61.3
LOWEST ANNUAL MEAN			96.4
HIGHEST DAILY MEAN	355	Jun 2	327
LOWEST DAILY MEAN	^c 2.5	Jan 10	^d 4.0
ANNUAL SEVEN-DAY MINIMUM	2.5	Jan 10	4.0
INSTANTANEOUS PEAK FLOW			346
INSTANTANEOUS PEAK STAGE			3.00
ANNUAL RUNOFF (AC-FT)	40810	39660	44400
10 PERCENT EXCEEDS	222	169	195
50 PERCENT EXCEEDS	20	25	22
90 PERCENT EXCEEDS	5.3	4.5	6.5

a-Unadjusted for storage and diversions.

b-Maximum daily discharge for period of record, 1390 ft³/s, Jun 19, 1951.

c-Also occurred Jan 11-18.

d-Also occurred Jan 17 to Feb 6.

e-Minimum daily discharge for period of record, no flow, Oct 15, 1932.

f-Maximum discharge and stage for period of record, 7390 ft³/s, Sep 2, 1938, gage height, 9.24 ft, from floodmarks, site and datum then in use, from rating curve extended above 600 ft³/s, on basis of slope-area measurement of peak flow.

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

LOCATION.--Lat 40°03'06", long 105°10'42", in NE¹/4SW¹/4 sec.13, T.2 N., R.68 W., Boulder County, Hydrologic Unit 1019005, on left bank, 50 ft upstream from bridge on North 75th Street, 0.2 mi downstream from Boulder feeder ditch, and 6 mi northeast of Boulder.

DRAINAGE AREA.--304 mi².

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

GAGE.--Water-stage recorder with satellite telemetry, and concrete control. Elevation of gage is 5,106 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-4, 27-30, Nov. 1, 2, 14-16, and Nov. 27-30. Records good except for estimated daily discharges, which are poor. Flow is partially regulated by Barker Reervoir, 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	58	58	36	34	32	76	80	88	180	167	48
2	50	65	70	37	30	32	72	75	72	188	188	49
3	45	71	64	38	35	28	71	70	65	198	192	50
4	45	87	74	29	37	150	69	71	63	243	196	51
5	39	67	55	45	34	65	68	79	72	232	191	57
6	33	71	55	54	33	50	91	125	81	214	185	57
7	34	90	47	39	36	44	87	177	100	188	175	53
8	33	78	48	45	34	77	79	184	117	177	160	54
9	32	86	39	36	35	83	63	171	114	280	158	53
10	32	127	39	41	34	75	61	165	126	280	163	51
11	34	84	47	44	35	85	59	156	117	269	168	53
12	33	112	46	64	37	95	64	130	113	257	175	57
13	31	109	58	40	40	98	61	127	106	268	178	58
14	32	100	49	57	32	98	66	125	111	260	176	59
15	32	80	48	41	36	89	85	125	114	220	169	55
16	29	55	48	44	36	90	129	123	104	213	158	54
17	33	58	45	46	40	80	127	127	109	198	152	53
18	32	67	44	41	33	79	138	130	96	180	132	53
19	33	105	47	40	37	78	126	138	97	174	121	53
20	31	77	55	47	34	67	109	149	91	187	103	50
21	33	97	38	50	33	58	96	176	112	159	101	49
22	33	76	48	44	32	62	81	216	127	136	106	50
23	34	76	40	47	31	62	75	187	132	123	110	47
24	37	78	40	44	30	59	77	191	139	116	255	44
25	37	76	35	36	32	52	79	212	183	132	136	48
26	34	73	36	30	32	51	75	168	258	168	88	47
27	32	75	41	26	27	54	76	158	242	162	60	44
28	32	60	36	29	40	93	80	109	228	144	52	45
29	30	50	38	31	35	76	80	91	228	134	48	42
30	30	55	38	31	---	76	84	78	209	139	45	39
31	52	---	43	31	---	85	---	83	---	144	48	---
TOTAL	1097	2363	1469	1263	994	2223	2504	4196	3814	5963	4356	1523
MEAN	35.4	78.8	47.4	40.7	34.3	71.7	83.5	135	127	192	141	50.8
MAX	52	127	74	64	40	150	138	216	258	280	255	59
MIN	29	50	35	26	27	28	59	70	63	116	45	39
AC-FT	2180	4690	2910	2510	1970	4410	4970	8320	7570	11830	8640	3020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	MEAN	41.2	56.3	50.7	48.9	45.0	52.1	77.4	141	188	188	125	65.9
MAX	53.9	78.8	74.9	68.3	59.0	76.8	145	187	248	231	169	86.1	
(WY)	1988	1992	1989	1987	1987	1987	1987	1987	1991	1989	1988	1989	
MIN	31.5	48.9	36.1	37.6	34.3	31.2	37.4	114	127	154	95.5	50.8	
(WY)	1987	1989	1988	1988	1992	1989	1989	1991	1992	1988	1991	1992	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1987 - 1992

ANNUAL TOTAL	32029	31765	
ANNUAL MEAN	87.8	86.8	90.2
HIGHEST ANNUAL MEAN			102
LOWEST ANNUAL MEAN			85.5
HIGHEST DAILY MEAN	659	280	887
LOWEST DAILY MEAN	21	26	20
ANNUAL SEVEN-DAY MINIMUM	28	30	23
INSTANTANEOUS PEAK FLOW		371	1090
INSTANTANEOUS PEAK STAGE		5.94	6.72
ANNUAL RUNOFF (AC-FT)	63530	63010	65360
10 PERCENT EXCEEDS	205	177	195
50 PERCENT EXCEEDS	50	66	61
90 PERCENT EXCEEDS	33	33	33

a-Maximum gage height, 6.76 ft, Jun 9, 1987.

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO

LOCATION.--Lat 40°09'08", long 105°00'52", in NW¹/4SW¹/4 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 mi².

PERIOD OF RECORD.--March 1927 to September 1949, May 1951 to September 1955, October 1978 to September 1990, October 1991 to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 4,860 ft above National Geodetic Vertical Datum of 1929, 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.--Estimated daily discharge: Oct. 1. Records fair except for estimated daily discharge, which is poor. Natural flow of stream affected by transmountain, transbasin, and storage diversions, diversions for irrigation, water-treatment plants, and return flows from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	42	92	52	51	46	131	77	59	9.5	7.8	30
2	36	67	103	54	50	46	120	58	52	3.3	7.4	23
3	33	74	85	55	43	41	117	59	42	3.0	9.6	24
4	34	80	86	46	59	150	115	47	61	1.6	9.3	26
5	36	73	86	48	49	157	110	37	71	11	9.5	31
6	33	55	78	68	49	83	115	49	54	34	7.1	37
7	37	56	74	57	50	72	138	103	100	6.9	8.5	36
8	43	53	70	54	47	78	113	127	139	3.5	9.3	29
9	49	64	68	65	47	155	115	69	202	23	9.0	25
10	50	87	64	56	48	123	89	49	211	32	11	27
11	32	83	70	46	48	143	97	45	213	9.5	11	33
12	29	87	71	43	50	164	74	9.8	214	5.4	5.8	30
13	28	74	72	68	49	201	82	4.4	204	9.4	7.9	35
14	31	97	68	72	49	234	69	3.9	186	7.1	6.4	38
15	30	91	68	71	47	183	86	6.2	189	6.3	7.6	39
16	31	68	71	57	46	178	140	9.8	174	9.5	6.4	39
17	29	85	65	40	47	153	153	12	169	5.7	8.7	44
18	31	90	62	39	49	129	155	28	110	3.7	6.8	41
19	35	125	60	37	47	128	154	32	44	3.4	4.8	47
20	34	112	56	37	46	115	138	22	36	6.2	5.6	44
21	36	102	56	36	46	99	129	25	34	4.6	6.6	40
22	37	109	55	34	44	106	101	65	40	5.3	7.8	39
23	34	94	55	42	45	100	88	73	42	4.0	10	39
24	32	93	54	50	46	107	86	66	33	1.4	276	40
25	33	96	52	50	50	103	84	123	31	1.7	274	38
26	35	93	48	50	50	96	86	96	83	2.6	86	44
27	36	97	52	43	43	92	93	85	85	4.0	30	40
28	37	84	52	54	51	152	101	47	65	3.8	23	42
29	38	81	52	57	49	170	93	35	63	4.1	18	48
30	37	86	50	52	---	127	88	33	32	5.7	23	45
31	56	---	51	52	---	142	---	35	---	6.4	29	---
TOTAL	1107	2498	2046	1585	1395	3873	3260	1531.1	3038	237.6	942.9	1093
MEAN	35.7	83.3	66.0	51.1	48.1	125	109	49.4	101	7.66	30.4	36.4
MAX	56	125	103	72	59	234	155	127	214	34	276	48
MIN	28	42	48	34	43	41	69	3.9	31	1.4	4.8	23
AC-FT	2200	4950	4060	3140	2770	7680	6470	3040	6030	471	1870	2170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1992, BY WATER YEAR (WY)

	MEAN	27.6	36.9	44.3	49.4	48.5	49.4	94.7	175	171	39.2	21.5	22.2
MAX	127	95.2	93.8	104	120	148	581	1101	976	367	143	440	
(WY)	1985	1985	1939	1980	1980	1983	1942	1947	1947	1983	1979	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 1992 WATER YEAR

WATER YEARS 1927 - 1992

ANNUAL TOTAL	22606.6		
ANNUAL MEAN	61.8	65.2	
HIGHEST ANNUAL MEAN		220	1983
LOWEST ANNUAL MEAN		3.93	1954
HIGHEST DAILY MEAN	276	2300	Sep 3 1938
LOWEST DAILY MEAN	1.4	a .00	Dec 9 1934
ANNUAL SEVEN-DAY MINIMUM	3.1	b .00	Apr 11 1935
INSTANTANEOUS PEAK FLOW	609	b 4410	Sep 3 1938
INSTANTANEOUS PEAK STAGE	2.92	6.94	Sep 3 1938
ANNUAL RUNOFF (AC-FT)	44840	47260	
10 PERCENT EXCEEDS	127	126	
50 PERCENT EXCEEDS	49	28	
90 PERCENT EXCEEDS	7.7	1.7	

a-No flow at times many years.

b-Site and datum then in use, from rating curve extended above 340 ft³/s, on basis of slope-area measurement of peak flow.

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO

LOCATION.--Lat 40°15'29", long 104°52'45", in SE¹/₄NW¹/₄ sec.3, T.3 N., R.67 W., Weld County, Hydrologic Unit 10190005, on right bank 140 ft downstream from bridge on county road, 1.3 mi upstream from mouth, and 4.2 mi northwest of Platteville.

DRAINAGE AREA.--976 mi².

PERIOD OF RECORD.--July 1904 to December 1906, April to December 1915, March 1927 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 956: 1938(M). WSP 1440: 1934, 1935(M). WSP 1730: 1958, drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,740 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1730 for history of changes prior to Apr. 25, 1960.

REMARKS.--No estimated daily discharges. Records good. Diversions upstream from station for irrigation of about 177,000 acres. Flow partly regulated by many small reservoirs 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	129	165	123	123	113	267	201	307	295	263	246
2	161	140	168	118	121	110	251	199	280	308	253	229
3	148	140	172	125	115	110	241	194	236	281	254	222
4	145	148	171	114	122	194	233	179	224	262	331	217
5	157	157	171	112	117	328	218	159	227	258	300	212
6	146	157	168	132	118	195	227	138	229	268	295	211
7	140	155	165	132	119	164	248	168	287	220	298	204
8	141	147	156	132	116	168	231	207	403	240	296	191
9	133	148	150	129	114	253	225	172	697	243	297	187
10	138	166	147	127	112	276	202	159	621	289	278	182
11	117	166	151	132	113	265	198	178	588	291	281	182
12	113	165	152	131	114	308	181	153	632	308	313	179
13	103	155	149	129	116	369	190	137	667	307	318	180
14	105	165	142	133	118	443	224	128	617	288	296	171
15	103	169	141	110	115	407	244	124	617	275	288	169
16	103	156	144	129	113	400	322	136	528	295	287	149
17	96	178	144	156	112	358	383	147	416	305	291	149
18	96	193	142	153	116	321	370	177	290	296	311	142
19	101	239	148	137	112	304	362	179	202	280	294	148
20	102	222	139	158	114	292	352	170	181	323	270	157
21	105	208	135	157	112	259	352	171	224	333	262	138
22	103	221	135	155	115	252	317	229	255	307	281	139
23	99	199	133	126	115	246	272	259	251	299	327	147
24	102	194	131	126	112	244	251	256	253	295	610	148
25	100	192	129	125	119	240	231	304	364	315	797	139
26	104	191	123	121	117	225	213	388	472	339	440	139
27	115	191	125	115	113	213	199	347	509	342	311	140
28	113	180	126	124	112	270	205	320	454	321	262	132
29	125	173	126	129	117	327	190	275	438	285	242	143
30	123	172	121	124	---	266	179	244	379	279	243	142
31	129	---	121	125	---	264	---	242	---	283	246	---
TOTAL	3755	5216	4490	4039	3352	8184	7578	6340	11848	9030	9835	5134
MEAN	121	174	145	130	116	264	253	205	395	291	317	171
MAX	189	239	172	158	123	443	383	388	697	342	797	246
MIN	96	129	121	110	112	110	179	124	181	220	242	132
AC-FT	7450	10350	8910	8010	6650	16230	15030	12580	23500	17910	19510	10180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1992, BY WATER YEAR (WY)

	134	128	118	111	118	120	181	459	576	255	197	158
MEAN	134	128	118	111	118	120	181	459	576	255	197	158
MAX	397	320	255	223	298	326	1100	2362	2619	954	653	1062
(WY)	1985	1970	1970	1980	1962	1983	1942	1980	1949	1983	1965	1938
MIN	25.5	31.2	27.9	24.4	30.2	28.3	25.1	43.8	56.7	50.4	41.0	22.7
(WY)	1935	1935	1935	1935	1935	1935	1935	1955	1954	1934	1940	1934

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1927 - 1992

ANNUAL TOTAL	75384	78801	
ANNUAL MEAN	207	215	
HIGHEST ANNUAL MEAN			214
LOWEST ANNUAL MEAN			569
HIGHEST DAILY MEAN	1490	Jun 2	55.1
LOWEST DAILY MEAN	61	May 15	6700
ANNUAL SEVEN-DAY MINIMUM	68	Apr 24	12
INSTANTANEOUS PEAK FLOW			15
INSTANTANEOUS PEAK STAGE			11300
ANNUAL RUNOFF (AC-FT)	149500	156300	8.93
10 PERCENT EXCEEDS	356	327	350
50 PERCENT EXCEEDS	146	180	129
90 PERCENT EXCEEDS	87	115	56

a-Also occurred Oct 18.

b-Site and datum then in use, from rating curve extended above 4700 ft³/s.

06733000 BIG THOMPSON RIVER AT ESTES PARK, CO

LOCATION.--Lat 40°22'42", long 105°30'48", in NW¹/4NW¹/4 sec.30, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank in Estes Park, 600 ft downstream from bridge on State Highways 7 and 66, 900 ft downstream from Black Canyon Creek, and 0.3 mi northwest of Estes powerplant. Station is upstream from Lake Estes.

DRAINAGE AREA.--137 mi².

PERIOD OF RECORD.--October 1946 to current year. Prior to October 1947, published as Thompson River at Estes Park.

GAGE.--Water-stage recorder with satellite telemetry, and Parshall flume with overflow weirs. Datum of gage is 7,492.5 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to May 18, 1949, at site 740 ft downstream at different datum. May 18, 1949 to Mar. 22, 1951, at site 60 ft upstream at datum 1.2 ft, higher.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 22, and Dec. 23 to Mar. 12. Records good except for estimated daily discharges, which are fair. Diversion from Colorado River basin passed this station from Aug. 10, 1947 to Aug. 2, 1950. Small power developments and small diversions for irrigation and municipal use above station. Diversions upstream from station from Wind River to Lake Estes (bypassing this station), no diversions 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	17	16	10	10	12	17	152	219	307	117	62
2	37	18	17	10	10	12	17	163	201	278	110	67
3	34	20	17	10	10	12	18	129	222	232	108	60
4	34	22	18	10	10	12	22	141	267	203	109	57
5	34	21	18	10	10	12	24	157	286	202	103	59
6	33	20	17	10	10	12	23	176	291	219	101	55
7	32	20	16	10	10	13	22	220	298	244	106	51
8	31	19	16	10	10	13	23	198	309	267	101	48
9	30	18	15	10	10	13	25	226	307	268	102	44
10	30	17	15	10	10	14	30	249	305	235	102	44
11	29	15	15	10	10	14	36	174	355	215	102	41
12	28	14	14	10	10	14	39	165	362	222	103	39
13	26	12	13	10	10	14	49	157	391	211	95	38
14	25	12	11	10	10	13	57	153	391	190	88	37
15	25	12	12	10	10	13	59	179	370	176	83	37
16	24	14	12	10	10	13	77	206	295	176	81	38
17	22	14	11	10	10	13	69	227	247	188	87	41
18	21	15	11	10	10	13	78	249	230	164	81	44
19	22	16	12	10	10	12	63	282	270	158	76	45
20	22	17	12	10	10	12	53	335	341	174	70	45
21	23	18	11	10	10	12	45	436	361	193	68	45
22	22	19	11	10	10	13	47	423	353	173	69	45
23	21	14	11	10	10	13	45	354	357	160	75	42
24	24	20	11	10	10	13	40	405	357	165	94	40
25	25	24	11	10	10	13	38	427	416	191	108	42
26	26	22	11	10	10	13	41	385	457	189	111	41
27	26	22	11	10	11	14	53	430	361	161	91	38
28	26	21	11	10	11	18	76	357	334	144	74	35
29	18	20	11	10	11	18	112	290	348	135	64	34
30	16	16	11	10	---	19	143	269	323	128	61	32
31	16	---	11	10	---	19	---	242	---	123	59	---
TOTAL	822	529	409	310	293	421	1441	7956	9624	6091	2799	1346
MEAN	26.5	17.6	13.2	10.0	10.1	13.6	48.0	257	321	196	90.3	44.9
MAX	40	24	18	10	11	19	143	436	457	307	117	67
MIN	16	12	11	10	10	12	17	129	201	123	59	32
AC-FT	1630	1050	811	615	581	835	2860	15780	19090	12080	5550	2670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1992, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1947	42.9	112	1962	22.2	1989
1948	27.5	52.7	1962	15.6	1965
1949	16.9	35.1	1948	9.68	1977
1950	12.3	25.1	1948	4.89	1977
1951	11.9	22.7	1962	5.77	1977
1952	14.6	25.5	1986	8.39	1977
1953	40.6	103	1962	18.7	1991
1954	243	479	1958	112	1968
1955	559	947	1949	191	1954
1956	327	739	1957	112	1977
1957	145	273	1983	66.7	1954
1958	68.5	143	1961	37.4	1988

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1947 - 1992

ANNUAL TOTAL	37456.3	32041	
ANNUAL MEAN	103	87.5	126
HIGHEST ANNUAL MEAN			189
LOWEST ANNUAL MEAN			63.3
HIGHEST DAILY MEAN	905	457	1520
LOWEST DAILY MEAN	8.6	10	3.0
ANNUAL SEVEN-DAY MINIMUM	9.1	10	3.2
INSTANTANEOUS PEAK FLOW		531	5500
INSTANTANEOUS PEAK STAGE		3.98	6.89
ANNUAL RUNOFF (AC-FT)	74290	63550	91290
10 PERCENT EXCEEDS	333	272	386
50 PERCENT EXCEEDS	22	30	37
90 PERCENT EXCEEDS	10	10	11

a-Many days.

b-Also occurred Jan 14-16.

c-Caused by failure of Lawn Lake Dam, gage height, indeterminate; maximum natural discharge, 1660 ft³/s, Jun 18, 1949, gage height, 3.16 ft, site and datum then in use.

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°22'30", long 105°29'13", in SE¹/₄NW¹/₄ 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 current year.

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. A complete taxonomic identification with cell counts for phytoplankton available in district office.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
NOV 20...	1315	550	50	7.1	3.0	9.6	20	6.2	1.2	2.2	0.2
MAR 25...	1345	302	63	8.0	3.0	10.4	26	7.8	1.5	2.9	0.2
JUL 14...	1415	410	22	7.5	14.5	7.7	8	2.3	0.5	1.2	0.2

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
NOV 20...	0.7	22	2.4	0.6	0.1	4.1	47	31	0.06	69.8
MAR 25...	0.8	27	3.4	1.2	0.2	6.0	31	41	0.04	25.3
JUL 14...	0.3	9	1.7	0.4	<0.1	3.7	18	16	0.02	19.9

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 20...	<0.01	<0.05	0.08	<0.01	0.02	0.40	0.03	<0.01	<0.01
MAR 25...	<0.01	0.08	0.09	0.03	0.03	<0.20	0.03	0.01	0.01
JUL 14...	<0.01	<0.05	<0.05	0.05	0.05	<0.20	<0.01	<0.01	<0.01

DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 20...	1315	6	<0.5	<10	<1.0	<5	<3	<10	33
MAR 25...	1345	6	<0.5	<10	<1.0	<5	<3	<10	67
JUL 14...	1415	3	<0.5	<10	<1.0	<5	<3	<10	75

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 20...	<10	<4	3	<10	<10	<1.0	34	<6	3
MAR 25...	<10	<4	4	<10	<10	1.0	47	<6	4
JUL 14...	<10	<4	3	<10	<10	1.0	13	<6	<3

06735500 BIG THOMPSON RIVER NEAR ESTES PARK, CO

LOCATION.--Lat 40°22'35", long 105°29'06", in NE¹/4NE¹/4 sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank 100 ft upstream from Dry Gulch, 600 ft downstream from Olympus Dam, and 2.0 mi east of Estes Park.

DRAINAGE AREA.--155 mi². Area at site used Jan. 29, 1934 to Mar. 21, 1951, 162 mi².

PERIOD OF RECORD.--July 1930 to current year. Prior to October 1933, monthly discharges only, published in WSP 1310. Published as Thompson River near Estes Park 1934-47.

REVISED RECORDS.--WDR CO-76-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and Parshall flume. Datum of gage is 7,422.5 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Jan. 29, 1934, nonrecording gage on highway bridge 1.5 mi downstream at different datum. Jan. 29, 1934 to Mar. 21, 1951, water-stage recorder at site 0.4 mi downstream at datum 10.5 ft, lower.

REMARKS.--No estimated daily discharges. Records good. Low flow regulated by Lake Estes since Nov. 30, 1948. Diversion 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. Since May 17, 1955, part of the natural flow of Big Thompson River (221,500 acre-ft during current year) has also been diverted through Olympus tunnel and returned to the river downstream from the station at mouth of canyon, near Drake. Small power developments and small diversions for irrigation and municipal use upstream from station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 2,800 ft³/s, June 20, 1933, gage height, 4.0 ft, site and datum then in use, from rating curve extended above 460 ft³/s; no flow, Aug. 1 to Sept. 30, 1976 (all flow into Lake Estes diverted through Olympus tunnel after flood of July 31, 1976).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 164 ft³/s, June 18, gage height, 1.92 ft; minimum daily, 18 ft³/s, Jan. 3, 11, and 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	26	23	19	19	21	26	104	126	127	121	35
2	44	26	23	19	19	20	26	105	126	125	120	69
3	36	25	24	18	19	21	26	105	126	126	113	70
4	35	26	27	20	19	21	27	106	127	126	112	64
5	43	26	28	19	19	20	26	105	128	127	112	69
6	41	19	29	19	19	20	26	105	126	127	113	62
7	28	25	28	19	19	20	26	60	126	127	107	73
8	50	24	29	20	19	20	27	105	126	126	101	55
9	49	19	29	20	19	20	26	104	126	127	98	61
10	39	25	29	19	19	21	27	105	126	127	98	50
11	46	25	28	18	20	20	27	105	126	127	112	53
12	47	25	28	20	19	20	28	105	126	126	122	66
13	60	25	28	20	19	21	27	101	126	127	116	54
14	60	25	28	20	20	22	27	105	127	126	114	50
15	57	24	29	20	20	21	26	109	125	126	95	48
16	60	25	29	20	20	22	50	129	126	128	89	39
17	58	24	28	20	20	24	53	130	126	126	90	41
18	43	25	28	19	20	27	53	130	126	126	97	42
19	47	26	29	20	20	27	53	130	127	125	98	44
20	58	25	29	19	20	26	53	131	127	125	80	44
21	46	24	28	19	20	27	53	130	127	124	80	46
22	44	24	29	19	20	27	53	131	126	123	69	46
23	47	23	28	18	20	27	53	130	126	124	91	43
24	47	20	29	19	20	26	54	130	125	123	85	43
25	50	24	28	20	21	27	53	131	127	123	99	40
26	55	24	29	20	20	26	47	130	126	123	100	40
27	51	25	29	20	21	27	53	132	126	121	99	39
28	31	25	29	20	20	27	53	131	127	122	97	37
29	32	24	29	20	20	27	53	130	126	121	80	35
30	27	23	23	19	---	27	52	126	127	120	62	35
31	18	---	19	19	---	27	---	126	---	121	54	---
TOTAL	1399	726	853	601	570	729	1184	3606	3788	3872	3024	1493
MEAN	45.1	24.2	27.5	19.4	19.7	23.5	39.5	116	126	125	97.5	49.8
MAX	60	26	29	20	21	27	54	132	128	128	122	73
MIN	18	19	19	18	19	20	26	60	125	120	54	35
AC-FT	2770	1440	1690	1190	1130	1450	2350	7150	7510	7680	6000	2960

CAL YR 1991 TOTAL 21239.5 MEAN 58.2 MAX 550 MIN 8.3 AC-FT 42130
WTR YR 1992 TOTAL 21845 MEAN 59.7 MAX 132 MIN 18 AC-FT 43330

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

LOCATION.--Lat 40°36'00", long 105°10'06", in NW¹/4SW¹/4 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earth and rockfill dike and dams closing openings in subsequent valleys between hogbacks; storage began Jan. 10, 1951; dams completed July 21, 1949. Usable capacity, 143,500 acre-ft above elevations 5,320 ft, invert of channel from Spring Canyon Dam, 5,310 ft, invert of channel from Dixon Canyon Dam, 5,270 ft, trashrack sill of outlet at Soldier Canyon Dam, and below maximum water-surface elevation, 5,430 ft, 6 ft below crest of Satanka Dike. Dead storage, 7,003 acre ft. Figures given represent usable contents. Water is diverted from Colorado River basin through Alva B. Adams tunnel for supplemental irrigation supply to Cache la Poudre River. Water-quality sampling at three sites in reservoir.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 141,600 acre-ft, July 2, 1970, elevation, 5,429.02 ft; minimum observed, 9 acre-ft, Nov. 16-30, 1977, elevation, 5,270.25 ft; no storage prior to Apr. 18, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents, observed, 134,700 acre-ft, July 4, elevation, 5,422.43 ft; minimum, observed, 82,730 acre-ft, Oct. 31, elevation, 5,392.27 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,395.33	87,460	-
Oct. 31.	5,392.27	82,730	-4,730
Nov. 30.	5,395.88	88,320	+5,590
Dec. 31.	5,400.45	95,640	+7,320
CAL YR 1991.	-	-	-1,310
Jan. 31.	5,406.61	105,900	+10,260
Feb. 29.	5,412.43	116,100	+10,200
Mar. 31.	5,419.71	129,500	+13,400
Apr. 30.	5,420.86	131,700	+2,200
May 31.	5,416.49	123,500	-8,200
June 30.	5,422.17	134,200	+10,700
July 31.	5,412.90	117,000	-17,200
Aug. 31.	5,405.99	104,900	-12,100
Sept. 30.	5,403.46	100,600	-4,300
WTR YR 1992			+13,140

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 1991 TO SEPTEMBER 1992

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
MAY						
12...	0908	0.1	77	8.0	13.5	8.4
12...	0910	5.0	77	8.0	13.5	8.4
12...	0912	10.0	77	8.0	13.5	8.4
12...	0914	20.0	77	8.0	13.5	8.4
12...	0916	25.0	77	8.0	13.0	8.4
12...	0918	30.0	77	7.9	10.5	8.8
12...	0920	40.0	77	7.8	9.0	8.8
12...	0922	50.0	78	7.7	8.0	8.7
12...	0924	60.0	77	7.6	8.0	8.5
12...	0926	70.0	77	7.6	7.5	8.5
12...	0928	80.0	75	7.6	7.5	8.4
12...	0930	90.0	77	7.5	7.5	8.4
12...	0932	100	78	7.4	7.0	8.3
12...	0934	110	77	7.4	7.0	8.2
12...	0936	120	77	7.4	7.0	8.2
JUL						
09...	0915	0.1	67	8.3	22.5	7.2
09...	0916	5.0	67	8.3	20.0	7.3
09...	0917	10.0	67	8.2	20.0	7.3
09...	0918	15.0	67	8.2	20.0	7.2
09...	0919	20.0	67	8.1	20.0	7.1
09...	0920	25.0	67	7.8	18.5	6.7
09...	0921	30.0	67	7.6	14.5	6.4
09...	0922	40.0	67	7.4	12.0	6.2
09...	0923	50.0	67	7.3	10.5	6.2
09...	0924	60.0	72	7.3	9.5	6.3
09...	0925	70.0	73	7.3	9.0	6.3
09...	0926	80.0	74	7.3	9.0	6.3
09...	0927	90.0	74	7.3	8.5	6.3
09...	0928	100	75	7.2	8.5	6.4
09...	0929	110	75	7.2	8.0	6.4
09...	0930	120	75	7.2	8.0	6.4
09...	0931	125	75	7.2	8.0	6.3
SEP						
10...	0933	0.1	70	7.9	18.0	7.2
10...	0934	5.0	70	7.9	18.0	7.2
10...	0935	10.0	69	7.8	18.0	7.2
10...	0936	15.0	69	7.8	18.0	7.2
10...	0937	20.0	68	7.8	18.0	7.1
10...	0938	25.0	69	7.8	18.0	7.1
10...	0939	30.0	70	7.7	18.0	7.0
10...	0940	40.0	70	7.3	17.0	4.6
10...	0941	50.0	70	7.2	14.0	3.3
10...	0942	60.0	70	7.2	12.0	4.0
10...	0943	70.0	70	7.2	11.0	4.0
10...	0944	80.0	71	7.2	10.0	3.9
10...	0945	90.0	72	7.2	10.0	4.1
10...	0946	100	72	7.2	9.5	4.3
10...	0947	110	73	7.2	9.5	4.1
10...	0948	120	73	7.2	9.0	3.6

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (IN)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
MAY											
12...	1000	0.1	77	8.0	13.5	95.0	8.4	K<1	31	10	1.5
12...	1015	120	77	7.4	7.0	--	8.2	--	31	10	1.5
JUL											
09...	0950	0.1	67	8.3	22.5	144	7.2	K<1	28	9.0	1.4
09...	1010	125	75	7.2	8.0	--	6.3	--	34	11	1.6
SEP											
10...	1000	0.1	70	7.9	18.0	119	7.2	K<1	28	9.2	1.3
10...	1030	120	73	7.2	9.0	--	3.6	--	31	10	1.5

K-Based on non-ideal colony count.

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAY										
12...	2.4	0.2	0.7	33	3.4	0.3	0.2	0.7	58	39
12...	2.4	0.2	0.6	33	3.7	0.3	0.2	0.6	54	39
JUL										
09...	2.4	0.2	0.7	29	3.1	0.2	<0.1	1.3	34	36
09...	2.6	0.2	0.9	33	3.3	0.2	<0.1	1.1	40	41
SEP										
10...	2.2	0.2	0.6	30	3.0	0.4	0.1	0.8	39	36
10...	2.3	0.2	0.7	33	3.3	0.3	0.1	2.0	47	41

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
MAY										
12...	<0.01	<0.05	<0.01	<0.01	<0.20	<0.01	0.01	<0.01	2.6	<0.1
12...	<0.01	<0.05	0.03	0.03	<0.20	<0.01	<0.01	<0.01	--	--
JUL										
09...	<0.01	<0.05	0.03	0.02	<0.20	<0.01	<0.01	<0.01	2.5	0.4
09...	<0.01	<0.05	0.06	0.03	<0.20	0.02	<0.01	<0.01	--	--
SEP										
10...	<0.01	<0.05	<0.01	0.02	<0.20	<0.01	0.02	0.01	2.4	<0.1
10...	<0.01	0.11	<0.01	0.02	<0.20	0.03	0.02	<0.01	--	--

DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAY									
12...	1000	17	<0.5	<10	<1.0	<5	<3	<10	6
12...	1015	17	<0.5	<10	<1.0	<5	<3	<10	6
JUL									
09...	0950	16	<0.5	<10	<1.0	<5	<3	<10	13
09...	1010	18	<0.5	<10	<1.0	<5	<3	<10	9
SEP									
10...	1000	19	<0.5	20	<1.0	<5	<3	<10	6
10...	1030	17	<0.5	<10	<1.0	<5	<3	<10	9

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY									
12...	<10	<4	2	<10	<10	^a <0.2	45	<6	<3
12...	<10	<4	7	<10	<10	^a <0.2	44	<6	9
JUL									
09...	<10	<4	<1	<10	<10	^a <0.2	39	<6	16
09...	<10	<4	4	<10	<10	^a <0.2	46	<6	8
SEP									
10...	<10	<4	<1	<10	<10	^a <0.2	38	<6	6
10...	<10	<4	140	<10	<10	^a <0.2	45	<6	10

a-Analysis based on preliminary method.

403147105083800 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

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

REMARKS.--Samples collected at various depths near south end of reservoir near Spring Canyon Dam.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

		DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)				
MAY												
	12...		1118	0.1	79	8.0	14.0	8.5				
	12...		1120	5.0	79	8.0	14.0	8.5				
	12...		1122	10.0	79	8.0	14.0	8.5				
	12...		1124	20.0	79	7.9	13.5	8.5				
	12...		1126	25.0	72	7.7	12.0	8.6				
	12...		1128	30.0	77	7.7	10.0	8.5				
	12...		1130	40.0	77	7.6	8.0	8.5				
	12...		1132	50.0	79	7.5	7.5	8.4				
	12...		1134	60.0	80	7.5	7.5	8.4				
	12...		1136	70.0	79	7.5	7.5	8.3				
	12...		1138	80.0	80	7.5	7.5	8.3				
	12...		1140	90.0	80	7.5	7.0	8.2				
	12...		1142	100	80	7.5	7.0	8.2				
	12...		1144	110	80	7.7	7.0	8.1				
	12...		1146	120	80	7.4	7.0	8.0				
	12...		1148	130	79	7.4	7.0	8.0				
	12...		1150	140	79	7.4	7.0	7.9				
	12...		1152	150	79	7.4	6.5	7.8				
JUL												
	09...		1030	0.1	66	8.1	21.0	7.3				
	09...		1031	5.0	66	8.2	20.5	7.3				
	09...		1032	10.0	66	8.1	20.5	7.3				
	09...		1033	15.0	66	7.9	19.0	7.1				
	09...		1034	20.0	66	7.6	18.0	6.7				
	09...		1035	25.0	66	7.4	17.5	6.5				
	09...		1036	30.0	66	7.3	16.5	6.4				
	09...		1037	40.0	66	7.2	13.5	5.9				
	09...		1038	50.0	67	7.2	10.0	6.0				
	09...		1039	60.0	72	7.2	9.0	6.1				
	09...		1040	70.0	73	7.2	9.0	6.2				
	09...		1041	80.0	74	7.2	8.5	6.1				
	09...		1042	90.0	74	7.2	8.5	6.1				
	09...		1043	100	75	7.2	8.5	5.9				
	09...		1044	110	75	7.2	8.0	5.9				
	09...		1045	120	75	7.2	8.0	5.7				
	09...		1046	130	75	7.2	8.0	5.7				
	09...		1047	140	76	7.2	8.0	5.5				
	09...		1048	150	76	7.2	8.0	5.2				
SEP												
	10...		1115	0.1	68	7.7	18.0	7.1				
	10...		1116	5.0	68	7.7	18.0	7.1				
	10...		1117	10.0	68	7.6	17.5	7.1				
	10...		1118	15.0	68	7.6	17.5	7.0				
	10...		1119	20.0	68	7.6	17.5	7.0				
	10...		1120	25.0	68	7.5	17.5	6.9				
	10...		1121	30.0	68	7.5	17.5	6.9				
	10...		1122	40.0	68	7.5	17.5	6.9				
	10...		1123	50.0	69	7.2	15.5	3.7				
	10...		1124	60.0	69	7.2	12.0	3.6				
	10...		1125	70.0	70	7.2	11.0	3.6				
	10...		1126	80.0	70	7.2	10.0	3.5				
	10...		1127	90.0	72	7.2	9.5	3.2				
	10...		1128	100	72	7.1	9.0	2.6				
	10...		1129	110	74	7.1	8.5	2.1				
	10...		1130	117	75	7.1	8.5	1.8				
DATE		TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (IN)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
MAY												
	12...	1200	0.1	79	8.0	14.0	84.0	8.5	<1	30	9.4	1.5
	12...	1215	150	79	7.4	6.5	--	7.8	--	34	11	1.6
JUL												
	09...	1110	0.1	66	8.1	21.0	102	7.3	K2	29	9.3	1.4
	09...	1120	150	76	7.2	8.0	--	5.2	--	32	10	1.6
SEP												
	10...	1150	0.1	68	7.7	18.0	--	7.1	--	28	9.2	1.3
	10...	1230	117	75	7.1	8.5	110	1.8	<1	32	10	1.6

K-Based on non-ideal colony count.

403147105083800 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAY										
12...	2.5	0.2	0.6	32	3.4	0.3	0.2	1.3	44	38
12...	2.5	0.2	0.7	33	3.6	0.3	0.2	0.9	48	41
JUL										
09...	2.4	0.2	0.9	29	3.0	0.2	<0.1	1.4	50	36
09...	2.7	0.2	0.8	33	3.3	0.2	<0.1	1.3	43	40
SEP										
10...	2.1	0.2	0.6	31	3.0	0.4	0.1	1.0	33	36
10...	2.3	0.2	0.7	35	3.3	0.3	0.1	2.0	48	42

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS DIS- SOLVED TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
MAY										
12...	<0.01	<0.05	0.02	<0.01	<0.20	<0.01	<0.01	<0.01	3.1	<0.1
12...	<0.01	<0.05	0.05	0.05	<0.20	<0.01	<0.01	<0.01	--	--
JUL										
09...	<0.01	<0.05	0.02	0.02	<0.20	<0.01	<0.01	<0.01	2.1	0.2
09...	0.01	0.07	0.02	0.06	<0.20	0.01	<0.01	<0.01	--	--
SEP										
10...	<0.01	<0.05	<0.01	0.02	<0.20	<0.01	<0.01	<0.01	1.5	<0.1
10...	<0.01	0.18	<0.01	0.01	<0.20	0.04	0.03	0.01	--	--

DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAY									
12...	1200	16	<0.5	<10	<1.0	<5	<3	<10	9
12...	1215	17	<0.5	<10	<1.0	<5	<3	<10	14
JUL									
09...	1110	17	<0.5	<10	<1.0	<5	<3	<10	21
09...	1120	18	<0.5	<10	<1.0	<5	<3	<10	16
SEP									
10...	1150	18	<0.5	<10	<1.0	<5	<3	<10	9
10...	1230	18	<0.5	<10	<1.0	<5	<3	<10	15

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY									
12...	<10	<4	1	<10	<10	^a <0.2	43	<6	<3
12...	<10	<4	24	<10	<10	^a <0.2	46	<6	42
JUL									
09...	<10	<4	<1	<10	<10	^a <0.2	39	<6	29
09...	<10	<4	71	<10	<10	^a <0.2	45	<6	6
SEP									
10...	<10	<4	8	<10	<10	^a <0.2	38	<6	4
10...	<10	<4	230	<10	<10	^a <0.2	45	<6	7

a-Analysis based on preliminary method.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1987 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	ALKA-LINITY LAB (MG/L AS CaCO3)
OCT 07...	1445	25	94	8.9	14.5	9.0	31	9.6	1.8	--	30
NOV 20...	1440	1.6	324	8.4	7.5	11.7	150	42	11	--	121
DEC 10...	1115	1.1	324	8.5	2.5	12.4	170	48	12	6.8	127
JAN 28...	1322	0.82	385	8.4	3.5	13.6	190	52	14	--	135
MAR 05...	1015	0.95	384	8.2	5.0	10.9	180	49	15	--	142
APR 01...	1515	47	93	8.6	8.5	10.4	46	10	5.1	--	32
MAY 13...	1015	104	48	8.1	10.0	9.3	18	5.5	1.1	--	18
JUN 17...	1400	246	30	7.7	14.0	8.4	11	3.2	0.70	--	11
JUN 30...	1145	363	27	7.7	14.5	7.9	--	--	--	--	--
JUL 15...	0945	111	34	7.7	16.0	8.1	--	--	--	--	--
AUG 26...	1515	121	52	7.9	17.5	7.9	--	--	--	--	--
SEP 17...	1345	28	68	--	17.0	8.7	25	7.5	1.6	--	24

[illegible]

PLATTE RIVER BASIN

06739210 BIG THOMPSON RIVER ABOVE BUCKHORN CREEK NEAR LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 07...	1445	--	--	<1	--	--	--	9	3	380
NOV 20...	1440	--	--	<1	--	--	--	4	3	80
DEC 10...	1115	20	<1	<1	<1.0	<1	<1	--	<1	110
JAN 28...	1322	--	--	<1	--	--	--	<1	<1	60
MAR 05...	1015	--	--	<1	--	--	--	<1	2	100
APR 01...	1515	--	--	<1	--	--	--	<1	1	190
MAY 13...	1015	--	--	<1	--	--	--	7	2	630
JUN 17...	1400	--	--	<1	--	--	--	3	2	260
JUN 30...	1145	--	--	--	--	--	--	--	--	--
JUL 15...	0945	--	--	--	--	--	--	--	--	--
AUG 26...	1515	--	--	--	--	--	--	--	--	--
SEP 17...	1345	--	--	<1	--	--	--	3	2	120

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 07...	4	--	--	--	--	--	--	<1	^a <0.2	--
NOV 20...	2	--	--	--	--	--	--	<1	^a <0.2	--
DEC 10...	<1	<1	20	<0.1	<0.1	<1	<1	<1	^a <0.2	6
JAN 28...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAR 05...	8	--	--	--	--	--	--	<1	^a <0.2	--
APR 01...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAY 13...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUN 17...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUN 30...	--	--	--	--	--	--	--	--	^a <0.2	--
JUL 15...	--	--	--	--	--	--	--	--	--	--
AUG 26...	--	--	--	--	--	--	--	--	--	--
SEP 17...	<1	--	--	--	--	--	--	<1	--	--

^a-Analysis based on preliminary method.

[illegible]

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO--Continued
 WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 08...	1342	--	--	<1	--	--	--	5	1	100
NOV 21...	1015	--	--	<1	--	--	--	<1	<1	100
DEC 10...	1345	20	<1	<1	<1.0	<1	1	--	<1	100
JAN 28...	1520	--	--	<1	--	--	--	<1	<1	50
MAR 05...	1200	--	--	<1	--	--	--	2	<1	90
APR 02...	1600	--	--	<1	--	--	--	2	<1	150
MAY 13...	1245	--	--	<1	--	--	--	3	2	830
JUN 16...	1515	--	--	1	--	--	--	4	2	320
JUN 30...	1345	--	--	--	--	--	--	--	--	--
JUL 15...	1215	--	--	--	--	--	--	--	--	--
AUG 26...	1630	--	--	--	--	--	--	--	--	--
SEP 17...	1530	--	--	<1	--	--	--	2	2	90

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 08...	2	--	--	--	--	--	--	<1	^a <0.2	--
NOV 21...	3	--	--	--	--	--	--	<1	^a <0.2	--
DEC 10...	1	<1	90	<0.1	<0.1	<1	3	<1	^a <0.2	9
JAN 28...	1	--	--	--	--	--	--	<1	^a <0.2	--
MAR 05...	<1	--	--	--	--	--	--	<1	^a <0.2	--
APR 02...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAY 13...	<1	--	--	--	--	--	--	<1	--	--
JUN 16...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUN 30...	--	--	--	--	--	--	--	--	--	--
JUL 15...	--	--	--	--	--	--	--	--	--	--
AUG 26...	--	--	--	--	--	--	--	--	--	--
SEP 17...	<1	--	--	--	--	--	--	<1	--	--

a-Analysis based on preliminary method.

06741510 BIG THOMPSON RIVER AT LOVELAND, CO

LOCATION.--Lat 40°22'43", long 105°03'38", in SE¹/4SE¹/4 sec.24, T.5 N., R.69 W., Larimer County, Hydrologic Unit 10190006, on right bank 690 ft downstream from county road bridge C-13, 1.7 mi south of sugar refinery in Loveland, and 1.9 mi downstream from Farmers Ditch diversion.

DRAINAGE AREA.--535 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,906 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 19, 20, and Nov. 26 to Feb. 29. Records 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	8.7	7.6	7.4	11	12	22	18	33	35	32	49
2	13	8.3	7.6	7.4	11	12	7.6	21	27	34	35	62
3	11	7.9	7.6	7.4	11	12	5.0	18	35	30	26	67
4	11	7.5	7.6	7.4	11	24	5.4	25	46	23	60	50
5	12	7.2	7.6	7.4	11	13	5.0	69	49	21	108	45
6	12	7.6	7.2	7.7	11	12	5.0	80	47	22	117	64
7	13	7.8	6.8	7.8	11	13	5.1	68	40	25	189	62
8	11	7.1	6.4	7.8	11	15	5.0	78	52	22	261	34
9	8.8	6.4	6.0	7.8	11	19	4.8	82	41	17	241	18
10	10	6.1	5.8	8.0	11	19	4.9	70	51	30	235	18
11	10	3.8	5.8	8.2	11	21	4.0	62	63	50	221	14
12	9.5	3.6	5.8	8.4	12	25	3.0	56	72	48	227	9.5
13	8.1	93	6.0	8.4	12	27	3.1	60	65	35	217	10
14	9.0	206	6.4	8.6	12	28	4.4	63	70	36	207	12
15	8.9	198	6.4	8.8	12	27	4.4	53	75	40	152	12
16	9.2	194	6.4	9.3	12	28	14	60	62	42	83	20
17	8.6	98	6.4	9.6	12	18	6.4	52	65	41	104	27
18	11	9.2	6.4	9.6	12	28	8.0	52	72	30	99	16
19	12	3.8	6.6	9.6	12	25	9.8	60	77	44	94	45
20	12	3.5	6.8	10	12	19	12	60	60	52	88	57
21	11	4.9	6.9	10	12	21	11	51	25	42	90	35
22	11	7.9	7.0	10	12	24	11	91	19	47	82	47
23	10	7.7	7.0	10	12	22	14	148	20	41	91	33
24	11	7.7	7.0	10	12	17	18	121	19	39	131	14
25	11	7.7	7.0	10	12	17	21	92	20	53	80	6.7
26	10	7.8	7.0	10	12	20	23	62	27	49	34	3.7
27	9.7	7.8	7.0	10	12	16	23	49	30	42	12	3.1
28	9.2	7.8	7.0	10	12	33	22	41	23	44	9.7	3.1
29	8.7	7.8	7.2	10	12	22	23	40	22	46	9.7	3.1
30	9.8	7.7	7.3	10	---	19	18	49	27	46	38	3.0
31	8.8	---	7.3	10	---	20	---	59	---	39	67	---
TOTAL	328.3	962.3	210.9	276.6	337	628	322.9	1910	1334	1165	3440.4	843.2
MEAN	10.6	32.1	6.80	8.92	11.6	20.3	10.8	61.6	44.5	37.6	111	28.1
MAX	18	206	7.6	10	12	33	23	148	77	53	261	67
MIN	8.1	3.5	5.8	7.4	11	12	3.0	18	19	17	9.7	3.0
AC-FT	651	1910	418	549	668	1250	640	3790	2650	2310	6820	1670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	MEAN	32.7	20.4	11.8	15.8	14.0	13.7	50.9	286	273	119	91.1	38.4
MAX	66.0	95.8	36.4	62.8	59.9	49.3	292	2078	1493	351	153	83.9	
(WY)	1990	1985	1985	1980	1980	1980	1980	1980	1983	1983	1981	1982	
MIN	6.15	3.96	3.69	2.68	2.50	3.22	4.49	4.07	25.0	29.9	48.0	16.6	
(WY)	1988	1982	1991	1991	1990	1991	1981	1981	1982	1987	1990	1990	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1979 - 1992

ANNUAL TOTAL	11886.9	11758.6		
ANNUAL MEAN	32.6	32.1		
HIGHEST ANNUAL MEAN			321	1980
LOWEST ANNUAL MEAN			28.4	1990
HIGHEST DAILY MEAN	426	Jun 2	261	Aug 8
LOWEST DAILY MEAN	a 2.0	Jan 29	b 3.0	Apr 12
ANNUAL SEVEN-DAY MINIMUM	2.3	Jan 23	4.1	Apr 9
INSTANTANEOUS PEAK FLOW			274	Aug 7
INSTANTANEOUS PEAK STAGE			c 4.08	Aug 7
ANNUAL RUNOFF (AC-FT)	23580	23320		
10 PERCENT EXCEEDS	87	72		147
50 PERCENT EXCEEDS	8.7	13		20
90 PERCENT EXCEEDS	3.0	6.4		3.9

a-Also occurred Apr 3.

b-Also occurred Sep 30.

c-Maximum gage height, 4.16 ft, May 14, backwater from beaver dam.

d-From high-water mark.

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 09...	0917	--	--	<1	--	--	--	3	1	550
NOV 21...	1230	--	--	<1	--	--	--	<1	1	120
DEC 11...	1120	30	<1	<1	<1	<1	<1	--	<1	110
JAN 29...	1120	--	--	<1	--	--	--	<1	<1	90
MAR 05...	1400	--	--	<1	--	--	--	4	<1	120
APR 02...	1415	--	--	<1	--	--	--	<1	1	180
MAY 14...	1200	--	--	<1	--	--	--	6	1	2800
JUN 16...	1245	--	--	<1	--	--	--	2	2	330
JUL 01...	1110	--	--	--	--	--	--	--	--	--
JUL 16...	1130	--	--	--	--	--	--	--	--	--
AUG 27...	1100	--	--	--	--	--	--	--	--	--
SEP 18...	1030	--	--	<1	--	--	--	1	1	160

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 09...	2	--	--	--	--	--	--	<1	^a <0.2	--
NOV 21...	3	--	--	--	--	--	--	<1	^a <0.2	--
DEC 11...	<1	<1	50	<0.10	<0.1	2	3	<1	^a <0.2	6
JAN 29...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAR 05...	<1	--	--	--	--	--	--	<1	^a <0.2	--
APR 02...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAY 14...	5	--	--	--	--	--	--	<1	^a <0.2	--
JUN 16...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUL 01...	--	--	--	--	--	--	--	--	--	--
JUL 16...	--	--	--	--	--	--	--	--	--	--
AUG 27...	--	--	--	--	--	--	--	--	--	--
SEP 18...	<1	--	--	--	--	--	--	<1	--	--

a-Analysis based on preliminary method.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1979 to current year.

WATER-QUALITY DATA WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

		DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LINITY LAB (MG/L AS CACO3)
OCT											
08...	0840	17	1240	7.8	13.5	6.0	220	12	47	--	160
NOV											
21...	1515	18	1200	7.8	13.0	12.6	410	90	45	--	131
DEC											
11...	0830	11	1290	7.5	4.5	8.2	540	130	52	89	162
JAN											
29...	0845	16	1160	7.8	2.5	10.1	520	130	47	--	164
MAR											
05...	1545	24	1120	8.2	12.0	16.4	450	110	42	--	138
APR											
03...	0945	12	1580	8.0	10.0	13.6	630	140	69	--	174
MAY											
14...	0900	70	412	7.8	10.5	8.9	160	39	15	--	64
JUN											
17...	0950	68	424	8.4	13.5	11.2	96	12	16	--	59
JUL											
01...	0930	55	515	8.0	16.5	7.7	--	--	--	--	--
15...	1415	71	887	8.5	21.0	10.2	--	--	--	--	--
AUG											
27...	1230	31	1200	8.4	19.5	10.3	--	--	--	--	--
SEP											
17...	1130	30	1130	8.5	16.5	11.2	440	94	51	--	133

[illegible]

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO--Continued
 WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 08...	0840	--	--	<1	--	--	--	6	2	110
NOV 21...	1515	--	--	<1	--	--	--	4	2	170
DEC 11...	0830	30	<1	<1	<1.0	<1	<1	--	2	140
JAN 29...	0845	--	--	<1	--	--	--	1	1	130
MAR 05...	1545	--	--	<1	--	--	--	<1	1	170
APR 03...	0945	--	--	<1	--	--	--	2	2	190
MAY 14...	0900	--	--	<1	--	--	--	2	1	340
JUN 17...	0950	--	--	<1	--	--	--	2	1	170
JUL 01...	0930	--	--	--	--	--	--	--	--	--
JUL 15...	1415	--	--	--	--	--	--	--	--	--
AUG 27...	1230	--	--	--	--	--	--	--	--	--
SEP 17...	1130	--	--	<1	--	--	--	2	2	180

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 08...	3	--	--	--	--	--	--	<1	a<0.2	--
NOV 21...	10	--	--	--	--	--	--	<1	a<0.2	--
DEC 11...	<1	<1	70	<0.1	<0.1	3	4	<1	a<0.2	27
JAN 29...	1	--	--	--	--	--	--	<1	a<0.2	--
MAR 05...	<1	--	--	--	--	--	--	<1	a<0.2	--
APR 03...	2	--	--	--	--	--	--	<1	a<0.2	--
MAY 14...	<1	--	--	--	--	--	--	<1	a<0.2	--
JUN 17...	<1	--	--	--	--	--	--	<1	a<0.2	--
JUL 01...	--	--	--	--	--	--	--	--	--	--
JUL 15...	--	--	--	--	--	--	--	--	--	--
AUG 27...	--	--	--	--	--	--	--	--	--	--
SEP 17...	2	--	--	--	--	--	--	<1	--	--

a-Analysis based on preliminary method.

WATER-QUALITY RECORDS

DRAINAGE AREA.--571 mi².

PERIOD OF RECORD.--April 28, 1987, to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LINITY LAB (MG/L AS CACO3)
OCT 08...	1104	19	1320	8.2	15.0	10.0	520	120	54	--	188
NOV 22...	0840	15	1400	7.9	4.0	9.2	560	120	63	--	198
DEC 11...	1400	22	1360	8.3	5.0	14.9	570	130	59	96	209
JAN 29...	1340	24	1230	8.5	5.0	16.0	550	130	54	--	198
MAR 06...	0930	25	1360	8.1	6.5	11.1	610	140	62	--	207
APR 02...	1030	21	1680	8.1	9.0	15.0	700	150	79	--	220
MAY 13...	1450	32	555	8.5	15.5	8.9	230	53	23	--	82
JUN 17...	1145	7.6	865	8.8	16.0	14.5	350	73	40	--	125
30...	1545	19	792	9.3	26.0	14.2	--	--	--	--	--
JUL 16...	0945	39	854	8.1	17.5	7.9	--	--	--	--	--
AUG 27...	0900	36	1220	8.2	14.0	7.6	--	--	--	--	--
SEP 17...	0900	2.8	1590	8.1	14.5	7.0	770	160	89	--	279

[illegible]

06741530 BIG THOMPSON RIVER AT I-25, NEAR LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 08...	1104	--	--	<1	--	--	--	3	1	150
NOV 22...	0840	--	--	<1	--	--	--	<1	1	160
DEC 11...	1400	30	<1	<1	<1.0	<1	<1	--	1	180
JAN 29...	1340	--	--	<1	--	--	--	2	1	650
MAR 06...	0930	--	--	<1	--	--	--	2	1	180
APR 02...	1030	--	--	<1	--	--	--	1	2	190
MAY 13...	1450	--	--	<1	--	--	--	2	1	480
JUN 17...	1145	--	--	<1	--	--	--	2	1	120
JUN 30...	1545	--	--	--	--	--	--	--	--	--
JUL 16...	0945	--	--	--	--	--	--	--	--	--
AUG 27...	0900	--	--	--	--	--	--	--	--	--
SEP 17...	0900	--	--	<1	--	--	--	2	1	190
DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 08...	3	--	--	--	--	--	--	<1	^a <0.2	--
NOV 22...	4	--	--	--	--	--	--	<1	^a <0.2	--
DEC 11...	2	<1	70	<0.1	<0.1	4	1	<1	^a <0.2	20
JAN 29...	2	--	--	--	--	--	--	<1	^a <0.2	--
MAR 06...	<1	--	--	--	--	--	--	<1	^a <0.2	--
APR 02...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAY 13...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUN 17...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUN 30...	--	--	--	--	--	--	--	--	--	--
JUL 16...	--	--	--	--	--	--	--	--	--	--
AUG 27...	--	--	--	--	--	--	--	--	--	--
SEP 17...	<1	--	--	--	--	--	--	<1	--	--

a-Analysis based on preliminary method.

06742500 CARTER LAKE NEAR BERTHOUD, CO

LOCATION.--Lat 40°19'28", long 105°12'41", in SE¹/₄ 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes enlarging the natural basin of Carter Lake. Storage began in February 1954. Usable capacity, 113,500 acre-ft between elevations 5,618.00 ft, trashrack sill at outlet, and 5,763.00 ft, maximum water surface, 6 ft below crest of dam. Dead storage, 3,306 acre-ft. Figures given represent usable contents. Water diverted from Colorado River basin through Alva B. Adams tunnel is pumped from Flatiron Reservoir into Carter Lake for supplemental irrigation supply to Little Thompson River and St. Vrain and Boulder Creek basins. Water above elevation 5,620 ft may be released for return to Flatiron Reservoir where pump turbines can operate in reverse to generate power and water can be used for irrigation in Big Thompson or Cache la Poudre River basins.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,100 acre-ft, Apr. 27-29, 1971, elevation, 5,759.12 ft; minimum observed since appreciable storage was attained, 960 acre-ft, Oct. 25, 1954, elevation, 5,621.40 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 109,000 acre-ft, Mar. 29, elevation, 5,759.07 ft; minimum contents, 44,520 acre-ft, Sept. 30, elevation, 5,694.92 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,706.91	55,070	-
Oct. 31.	5,706.20	54,420	-650
Nov. 30.	5,722.63	70,050	+15,630
Dec. 31.	5,738.95	86,820	+16,770
CAL YR 1991.			+16,470
Jan. 31.	5,751.27	100,200	+13,380
Feb. 29.	5,758.67	108,500	+ 8,300
Mar. 31.	5,758.98	108,900	+400
Apr. 30.	5,758.18	108,000	-900
May 31.	5,749.69	98,450	-9,550
June 30.	5,742.71	90,830	-7,620
July 31.	5,720.94	68,380	-22,450
Aug. 31.	5,701.77	50,450	-17,930
Sept. 30.	5,694.92	44,520	-5,930
WTR YR 1992			-10,550

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1970 to current year.

REMARKS.--Samples collected at various depths near south end of reservoir.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

							SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)			
DATE		TIME	SAM- PLING DEPTH (FEET)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (IN)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)		
MAY													
	11...	1307	0.1	71	8.0	14.0	9.0						
	11...	1309	5.0	71	8.0	14.0	9.0						
	11...	1311	10.0	71	8.0	14.0	9.0						
	11...	1313	20.0	71	8.0	14.0	9.0						
	11...	1315	25.0	71	8.0	13.5	8.8						
	11...	1317	30.0	71	7.9	11.0	8.8						
	11...	1319	40.0	71	7.9	11.0	8.8						
	11...	1321	50.0	71	7.8	11.0	8.7						
	11...	1323	60.0	71	7.7	11.0	8.7						
	11...	1325	70.0	71	7.7	11.0	8.7						
	11...	1327	80.0	71	7.8	10.5	8.7						
	11...	1329	90.0	71	7.7	10.5	8.6						
	11...	1331	100	71	7.6	10.5	8.6						
	11...	1333	110	71	7.5	10.5	8.6						
	11...	1335	117	71	7.5	10.5	8.6						
JUL													
	08...	1200	0.1	75	8.2	21.5	7.1						
	08...	1201	5.0	75	8.3	21.0	7.2						
	08...	1202	10.0	75	8.3	20.5	7.2						
	08...	1203	15.0	75	8.3	20.5	7.2						
	08...	1204	20.0	75	8.4	18.0	7.5						
	08...	1205	25.0	75	8.1	16.0	7.7						
	08...	1206	30.0	75	8.0	14.0	7.8						
	08...	1207	40.0	75	7.8	8.5	8.1						
	08...	1208	50.0	75	7.6	7.5	7.4						
	08...	1209	60.0	75	7.5	7.0	7.2						
	08...	1210	70.0	75	7.5	6.5	7.1						
	08...	1211	80.0	75	7.4	6.5	7.0						
	08...	1212	90.0	75	7.4	6.5	6.9						
	08...	1213	100	75	7.4	6.0	6.6						
	08...	1214	110	75	7.4	6.0	6.4						
	08...	1215	120	75	7.4	6.0	6.4						
	08...	1216	130	75	7.3	6.0	6.1						
	08...	1217	140	75	7.3	6.0	6.0						
SEP													
	09...	1123	0.1	--	7.9	18.0	7.0						
	09...	1124	5.0	--	7.9	18.0	7.0						
	09...	1125	10.0	--	7.9	18.0	7.0						
	09...	1126	15.0	--	7.9	18.0	7.0						
	09...	1127	20.0	--	7.9	18.0	6.9						
	09...	1128	25.0	--	7.9	18.0	6.9						
	09...	1129	30.0	--	7.8	18.0	6.9						
	09...	1130	40.0	--	7.4	14.0	4.8						
	09...	1131	50.0	--	7.3	10.5	5.1						
	09...	1132	60.0	--	7.3	9.0	5.1						
	09...	1133	70.0	--	7.2	8.0	4.9						
	09...	1134	75.0	--	7.2	8.0	4.8						

K-Based on non-ideal colony count.

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
MAY										
11...	2.2	0.2	0.7	31	3.0	0.3	0.2	2.1	34	39
11...	2.2	0.2	0.6	31	3.4	0.3	0.2	2.4	48	39
JUL										
08...	2.4	0.2	0.8	34	3.1	0.2	<0.1	1.6	36	41
08...	2.4	0.2	0.8	30	2.9	0.1	<0.1	2.7	34	38
SEP										
09...	2.4	0.2	0.8	38	3.2	0.4	0.1	1.6	51	45
09...	2.3	0.2	0.7	34	3.0	0.4	0.1	2.7	38	42
DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	
MAY										
11...	<0.01	<0.05	<0.01	<0.01	<0.20	<0.01	0.03	<0.01	2.8	<0.1
11...	<0.01	<0.05	0.03	0.05	<0.20	<0.01	<0.01	<0.01	--	--
JUL										
08...	<0.01	<0.05	0.01	0.02	<0.20	<0.01	<0.01	<0.01	0.7	<0.1
08...	<0.01	<0.05	0.01	0.01	<0.20	<0.01	<0.01	<0.01	--	--
SEP										
09...	<0.01	<0.05	0.02	0.02	0.30	<0.01	<0.01	<0.01	0.8	<0.1
09...	<0.01	0.08	<0.01	<0.01	<0.20	0.01	0.01	<0.01	--	--
DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	
MAY										
11...	1345	16	<0.5	<10	<1.0	<5	<3	<10	4	
11...	1355	16	<0.5	<10	<1.0	<5	<3	<10	12	
JUL										
08...	1240	22	<0.5	<10	<1.0	<5	<3	<10	9	
08...	1300	17	<0.5	<10	<1.0	<5	<3	<10	5	
SEP										
09...	1150	26	<0.5	<10	2.0	<5	<3	<10	5	
09...	1215	19	<0.5	<10	1.0	<5	<3	<10	9	
DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	
MAY										
11...	<10	<4	2	<10	<10	^a <0.2	44	<6	20	
11...	<10	<4	35	<10	<10	^a <0.2	43	<6	23	
JUL										
08...	<10	<4	<1	<10	<10	^a <0.2	45	<6	12	
08...	<10	<4	1	<10	<10	^a <0.2	43	<6	4	
SEP										
09...	<10	<4	5	<10	<10	^a <0.2	47	<6	12	
09...	<10	<4	5	<10	<10	^a <0.2	44	<6	12	

a-Analysis based on preliminary method.

06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°32'24", long 105°52'56", in SE¹/4SE¹/4 sec.26, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft downstream from unnamed tributary and Colorado Highway 14 culvert crossing, 1.5 mi northeast of Cameron Pass, 1.5 mi southwest of Joe Wright Dam, and 8 mi east of Gould.

DRAINAGE AREA.--3.01 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 9,990 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Aug. 7, 1989, at datum 3.40 ft, higher.

REMARKS.--Estimated daily discharges: Oct. 19 to May 10. Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	1.5	1.2	.76	.60	.84	1.1	4.7	37	14	12	7.7
2	2.6	1.5	1.1	.74	.58	.87	1.1	5.0	37	23	11	7.0
3	2.5	1.5	1.1	.74	.60	.91	1.1	5.6	45	31	11	6.3
4	2.5	1.5	1.1	.74	.60	.95	1.1	6.0	52	30	11	6.1
5	3.8	1.5	1.1	.70	.60	.95	1.1	6.3	54	28	10	6.1
6	2.5	1.4	1.0	.68	.60	.95	1.1	8.8	53	28	11	5.7
7	2.2	1.4	1.0	.60	.60	.95	1.2	15	54	30	10	5.5
8	2.2	1.4	1.0	.60	.60	.95	1.2	17	55	31	9.8	5.1
9	2.1	1.4	1.0	.60	.60	.95	1.2	18	55	28	9.3	4.9
10	2.1	1.4	1.0	.60	.60	.95	1.3	17	57	26	9.0	4.6
11	2.1	1.4	.98	.60	.62	.95	1.3	16	56	26	8.8	4.4
12	2.0	1.4	.96	.60	.64	.95	1.3	18	62	28	8.6	4.3
13	2.0	1.4	.96	.60	.64	.95	1.4	19	70	25	8.2	4.2
14	1.9	1.4	.96	.60	.64	.95	1.4	21	73	22	7.9	4.1
15	1.8	1.4	.96	.60	.64	.95	1.4	24	70	21	7.7	4.1
16	1.7	1.4	.92	.60	.64	.95	1.4	27	60	20	7.7	4.1
17	1.7	1.4	.92	.60	.64	.95	1.4	32	51	21	7.3	5.0
18	1.6	1.4	.92	.60	.64	.95	1.4	37	47	18	6.8	4.6
19	1.6	1.4	.92	.60	.64	.95	1.4	44	49	18	6.5	5.0
20	1.5	1.3	.92	.60	.64	.95	1.4	55	55	18	6.3	4.8
21	1.5	1.3	.88	.60	.64	.96	1.4	68	61	17	6.2	4.7
22	1.5	1.3	.88	.60	.64	.96	1.4	71	62	16	6.3	4.4
23	1.5	1.3	.88	.60	.64	.97	1.6	66	62	17	6.7	4.3
24	1.5	1.3	.84	.60	.64	.98	1.7	68	54	17	7.2	4.1
25	1.5	1.3	.80	.60	.64	1.0	1.9	70	34	17	7.8	4.8
26	1.5	1.2	.80	.60	.64	1.0	2.2	67	20	16	8.8	4.7
27	1.5	1.2	.80	.60	.64	1.0	2.8	73	18	15	7.1	4.4
28	1.5	1.2	.80	.60	.70	1.1	2.9	58	19	14	6.3	4.2
29	1.5	1.2	.78	.60	.74	1.1	3.5	50	17	13	6.0	4.1
30	1.5	1.2	.78	.60	---	1.1	4.0	45	16	13	5.9	3.9
31	1.5	---	.78	.60	---	1.1	---	40	---	12	6.2	---
TOTAL	59.6	40.9	29.04	19.36	18.28	30.04	48.7	1072.4	1455	653	254.4	147.2
MEAN	1.92	1.36	.94	.62	.63	.97	1.62	34.6	48.5	21.1	8.21	4.91
MAX	3.8	1.5	1.2	.76	.74	1.1	4.0	73	73	31	12	7.7
MIN	1.5	1.2	.78	.60	.58	.84	1.1	4.7	16	12	5.9	3.9
AC-FT	118	81	58	38	36	60	97	2130	2890	1300	505	292

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	1.92	1.12	.75	.60	.54	.55	.92	12.6	46.4	21.2	6.59	3.06		
MAX	4.93	3.20	1.37	1.25	1.20	1.20	1.62	34.6	88.5	45.4	10.8	4.91		
(WY)	1987	1991	1991	1991	1991	1991	1992	1992	1988	1982	1983	1992		
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 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1979 - 1992

	1991 CALENDAR YEAR	1992 WATER YEAR	1979 - 1992
ANNUAL TOTAL	3929.04	3827.92	
ANNUAL MEAN	10.8	10.5	8.02
HIGHEST ANNUAL MEAN			11.5
LOWEST ANNUAL MEAN			5.40
HIGHEST DAILY MEAN	110 Jun 13	73 May 27	125 Jun 15 1990
LOWEST DAILY MEAN	.78 Dec 29	.58 Feb 2	.20 Jan 30 1979
ANNUAL SEVEN-DAY MINIMUM	.79 Dec 25	.60 Jan 27	.20 Jan 30 1979
INSTANTANEOUS PEAK FLOW		90 May 21	238 Jul 7 1983
INSTANTANEOUS PEAK STAGE		4.75 May 21	5.60 Jul 7 1983
ANNUAL RUNOFF (AC-FT)	7790	7590	5810
10 PERCENT EXCEEDS	34	37	26
50 PERCENT EXCEEDS	1.5	1.5	1.2
90 PERCENT EXCEEDS	1.2	.63	.39

a-Also occurred Dec 30 and 31.

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

c-Maximum gage height, 8.81 ft, May 27, 1983, present datum, backwater from ice.

06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°33'43", long 105°51'48", in SE¹/₄NE¹/₄ sec.24, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 500 ft downstream from unnamed tributary, 2,000 ft downstream from Joe Wright Dam, and 3 mi southwest of Chambers Lake.

DRAINAGE AREA.--6.90 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 9,710 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Aug. 7, 1989, at datum 0.50 ft, higher.

REMARKS.--Estimated daily discharges: Oct. 24 to Apr. 14. Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	.74	.62	.61	.59	.51	.57	2.3	19	22	46	1.3
2	.89	.74	.61	.62	.59	.52	.58	2.3	26	19	63	1.2
3	.89	.72	.62	.62	.59	.52	.59	2.3	32	24	84	.99
4	.93	.72	.62	.62	.59	.52	.59	2.3	34	43	89	1.0
5	.92	.70	.62	.63	.58	.53	.59	2.5	35	38	69	.99
6	.89	.66	.63	.62	.58	.53	.59	2.8	46	28	45	.99
7	.89	.64	.63	.61	.58	.53	.60	3.0	64	35	61	.98
8	.89	.64	.62	.61	.58	.52	.60	3.0	82	38	55	.97
9	.89	.62	.62	.62	.58	.52	.61	3.6	108	44	53	.94
10	.89	.62	.62	.61	.57	.52	.61	3.0	91	39	55	4.4
11	.89	.60	.62	.61	.57	.53	.60	2.5	91	33	48	12
12	.89	.58	.63	.62	.56	.53	.62	3.1	84	33	45	12
13	.89	.56	.63	.60	.56	.52	.62	3.5	91	33	53	12
14	.89	.56	.62	.60	.55	.52	.64	3.9	108	33	56	12
15	.89	.56	.61	.60	.55	.53	.66	3.7	119	24	44	12
16	.89	.58	.61	.60	.55	.54	.64	3.9	118	19	44	12
17	.89	.58	.61	.60	.55	.55	.56	4.2	102	19	51	12
18	.89	.59	.60	.61	.54	.56	.93	4.3	47	19	58	12
19	.89	.60	.60	.60	.55	.56	.71	4.7	34	19	52	12
20	.87	.59	.61	.60	.54	.56	.71	5.6	50	19	43	12
21	.80	.60	.61	.61	.53	.55	.60	6.9	78	19	50	12
22	.79	.60	.61	.60	.52	.55	.48	27	95	19	51	12
23	.81	.61	.62	.60	.52	.54	.44	51	96	45	50	12
24	.78	.61	.62	.61	.52	.54	.41	51	82	84	56	12
25	.78	.61	.62	.60	.51	.56	.45	44	43	86	43	12
26	.79	.63	.61	.61	.51	.57	.55	34	37	83	13	12
27	.78	.62	.61	.60	.51	.58	.70	35	46	73	12	12
28	.78	.61	.62	.62	.51	.58	1.0	68	43	62	4.6	12
29	.76	.63	.61	.61	.50	.57	1.4	83	35	55	1.2	12
30	.76	.62	.61	.61	---	.58	1.9	71	30	47	1.2	12
31	.76	---	.61	.60	---	.58	---	25	---	36	1.0	---
TOTAL	26.51	18.74	19.10	18.88	15.98	16.82	20.55	562.4	1966	1190	1397.0	253.76
MEAN	.86	.62	.62	.61	.55	.54	.68	18.1	65.5	38.4	45.1	8.46
MAX	.96	.74	.63	.63	.59	.58	1.9	83	119	86	89	12
MIN	.76	.56	.60	.60	.50	.51	.41	2.3	19	19	1.0	.94
AC-FT	53	37	38	37	32	33	41	1120	3900	2360	2770	503

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	2.07	1.13	.68	.57	.50	.46	.53	10.7	59.8	32.6	25.0	25.1		
MAX	8.45	3.01	1.96	1.40	1.30	1.38	.78	32.1	96.0	66.7	84.7	60.4		
(WY)	1987	1982	1983	1983	1983	1983	1981	1988	1988	1983	1991	1988		
MIN	.54	.52	.40	.34	.28	.29	.29	1.21	12.6	2.49	6.44	1.13		
(WY)	1989	1990	1990	1979	1979	1985	1991	1980	1980	1989	1981	1991		

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1979 - 1992

ANNUAL TOTAL	6075.25	5505.74	
ANNUAL MEAN	16.6	15.0	13.3
HIGHEST ANNUAL MEAN			20.2
LOWEST ANNUAL MEAN			3.69
HIGHEST DAILY MEAN	193	119	193
LOWEST DAILY MEAN	a.17	.41	a.17
ANNUAL SEVEN-DAY MINIMUM	.18	.51	.18
INSTANTANEOUS PEAK FLOW		128	284
INSTANTANEOUS PEAK STAGE		2.14	2.71
ANNUAL RUNOFF (AC-FT)	12050	10920	9610
10 PERCENT EXCEEDS	62	52	50
50 PERCENT EXCEEDS	.74	.78	1.0
90 PERCENT EXCEEDS	.35	.55	.35

a-Also occurred Apr 4, 1991.

06751490 NORTH FORK CACHE LA POUDE RIVER AT LIVERMORE, CO

LOCATION.--Lat 40°47'15", long 105°15'06", in SW¹/₄SE¹/₄ sec.32, T.10 N., R.70 W., Larimer County, Hydrologic Unit 10190007, on left bank 60 ft downstream from bridge on Colorado State Highway 200, 2.0 mi west of Livermore, and 2.9 mi downstream from Stonewall Creek.

DRAINAGE AREA.--539 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year. May 1929 to September 1931, May 1947 to September 1960, published as near Livermore; records are not considered equivalent.

GAGE.--Water-stage recorder. Elevation of gage is 5,715 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 1 to Feb. 18. Records good 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	8.9	13	7.0	4.6	6.7	40	84	198	30	38	11
2	19	10	13	6.7	4.2	6.7	41	90	205	31	32	11
3	18	9.2	12	6.5	4.5	7.2	39	93	176	34	32	11
4	18	9.3	12	6.5	4.8	15	42	85	150	31	29	12
5	19	10	12	6.4	5.0	18	46	85	140	29	27	11
6	19	10	12	6.0	5.0	14	51	83	130	27	22	9.8
7	19	9.5	11	6.0	5.0	13	57	83	114	26	21	9.3
8	20	9.1	11	5.4	5.0	13	56	78	110	25	19	9.0
9	19	8.8	11	5.4	5.0	15	56	74	118	24	19	8.5
10	19	12	11	5.4	5.0	14	58	78	111	22	18	8.5
11	18	12	10	5.4	5.0	18	55	74	93	20	19	8.4
12	19	13	10	5.4	5.0	21	56	58	94	21	23	8.2
13	19	13	9.8	5.2	5.0	24	57	57	92	22	26	7.9
14	19	25	9.8	5.2	5.0	26	56	62	81	21	27	7.8
15	19	15	9.6	5.0	5.0	27	56	60	82	21	29	7.5
16	19	15	9.6	4.7	5.2	28	72	51	76	20	28	7.5
17	18	15	9.6	4.6	5.4	28	125	46	65	20	28	8.0
18	17	15	9.6	4.6	6.0	29	144	38	60	17	29	7.3
19	15	15	9.6	4.6	6.8	29	144	34	54	17	30	6.6
20	10	14	9.6	4.6	7.7	27	134	30	45	20	27	7.8
21	9.6	14	9.4	4.6	7.7	25	116	25	39	21	21	8.2
22	9.6	13	8.6	4.6	7.7	25	99	64	36	42	19	8.2
23	9.7	29	8.6	4.6	7.7	24	90	86	35	62	16	7.9
24	13	22	8.6	4.6	7.4	24	79	71	33	54	21	7.4
25	19	18	8.2	4.6	7.3	25	70	58	34	53	18	6.9
26	15	16	8.0	4.6	7.6	25	62	61	35	50	18	6.5
27	10	16	8.0	4.6	7.8	26	55	76	43	51	14	6.5
28	9.3	16	7.9	4.6	7.0	29	50	205	39	48	13	6.6
29	8.8	15	7.3	4.6	6.7	35	45	198	37	40	12	6.8
30	9.3	14	7.2	4.6	---	39	70	156	35	44	12	6.8
31	9.8	---	7.0	4.6	---	39	---	170	---	38	11	---
TOTAL	485.1	421.8	304.0	161.2	171.1	695.6	2121	2513	2560	981	698	249.9
MEAN	15.6	14.1	9.81	5.20	5.90	22.4	70.7	81.1	85.3	31.6	22.5	8.33
MAX	20	29	13	7.0	7.8	39	144	205	205	62	38	12
MIN	8.8	8.8	7.0	4.6	4.2	6.7	39	25	33	17	11	6.5
AC-FT	962	837	603	320	339	1380	4210	4980	5080	1950	1380	496

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992
MEAN	10.6	10.5	7.14	6.10	7.29	18.5
MAX	17.8	14.7	9.81	8.76	10.3	55.5
(WY)	1991	1987	1992	1987	1990	1988
MIN	4.85	6.62	3.58	3.60	5.77	7.23
(WY)	1989	1988	1988	1988	1988	1991

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1987 - 1992

ANNUAL TOTAL	21658.0	11361.7	
ANNUAL MEAN	59.3	31.0	33.8
HIGHEST ANNUAL MEAN			59.1
LOWEST ANNUAL MEAN			8.06
HIGHEST DAILY MEAN	1900	205	1900
LOWEST DAILY MEAN	3.9	4.2	2.6
ANNUAL SEVEN-DAY MINIMUM	4.5	4.5	2.9
INSTANTANEOUS PEAK FLOW		258	5430
INSTANTANEOUS PEAK STAGE		8.94	17.53
INSTANTANEOUS LOW FLOW			2.6
ANNUAL RUNOFF (AC-FT)	42960	22540	24470
10 PERCENT EXCEEDS	86	78	74
50 PERCENT EXCEEDS	11	18	8.7
90 PERCENT EXCEEDS	6.2	5.4	4.6

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 19, 1986, to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
OCT 17...	1445	18	311	8.5	12.0	9.1	140	41	10	11	14
NOV 13...	1330	13	380	--	7.5	11.7	170	47	12	15	16
DEC 18...	1030	9.7	420	7.8	0.0	13.8	200	55	15	15	14
JAN 22...	1030	4.6	419	8.4	0.5	13.4	200	56	15	16	15
FEB 20...	1000	7.9	418	8.5	1.0	11.4	180	51	13	16	16
MAR 25...	1130	26	243	8.6	5.0	10.3	110	30	7.3	11	18
APR 29...	1015	43	201	8.4	11.5	9.8	79	23	5.2	9.9	21
MAY 20...	1050	30	262	8.6	14.0	8.9	120	34	7.6	9.5	15
JUN 24...	1000	32	271	8.3	15.5	8.7	130	37	8.3	9.7	14
JUL 15...	0900	21	365	8.5	17.0	8.3	170	48	12	12	13
AUG 05...	1050	28	272	8.4	17.5	8.1	120	36	8.3	8.2	12
SEP 17...	1210	8.2	441	8.4	15.5	10.1	210	55	17	12	11

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 17...	0.4	1.8	149	14	6.4	1.2	12	170	187	0.23	8.17
NOV 13...	0.5	1.8	177	11	9.5	0.9	13	219	217	0.30	7.92
DEC 18...	0.5	1.7	203	17	11	1.2	13	284	252	0.39	7.45
JAN 22...	0.5	1.6	199	20	12	1.2	13	234	256	0.32	2.92
FEB 20...	0.5	1.6	189	17	16	1.2	12	241	242	0.33	5.13
MAR 25...	0.5	1.0	101	15	9.9	1.0	13	136	149	0.18	9.47
APR 29...	0.5	1.2	83	9.7	6.7	0.9	15	112	122	0.15	13.1
MAY 20...	0.4	1.5	119	8.4	5.0	0.8	13	150	152	0.20	12.1
JUN 24...	0.4	1.3	130	6.3	4.4	0.8	15	162	161	0.22	14.1
JUL 15...	0.4	1.9	180	6.9	6.1	1.0	15	198	211	0.27	11.3
AUG 05...	0.3	1.4	131	6.8	5.3	0.9	14	144	160	0.20	10.8
SEP 17...	0.4	1.8	221	12	8.2	0.7	15	243	255	0.33	5.37

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 17...	<0.01	<0.05	<0.05	0.01	<0.01	--	<0.20	--	0.01	0.02	<0.01
NOV 13...	<0.01	0.06	<0.05	0.03	0.01	0.17	0.20	0.26	0.02	<0.01	<0.01
DEC 18...	<0.01	0.14	0.15	0.01	0.01	--	<0.20	--	<0.01	<0.01	0.01
JAN 22...	<0.01	0.22	0.23	0.02	0.02	--	<0.20	--	0.01	<0.01	<0.01
FEB 20...	<0.01	0.15	0.16	0.02	0.02	0.28	0.30	0.45	0.01	<0.01	<0.01
MAR 25...	<0.01	0.05	0.06	0.02	0.02	0.28	0.30	0.35	0.01	<0.01	<0.01
APR 29...	<0.01	0.07	0.08	0.03	0.02	0.37	0.40	0.47	0.05	0.02	0.01
MAY 20...	<0.01	0.07	0.07	0.02	<0.01	0.48	0.50	0.57	0.06	0.04	0.02
JUN 24...	<0.01	<0.05	<0.05	0.02	0.02	0.38	0.40	--	0.03	<0.01	0.01
JUL 15...	<0.01	<0.05	<0.05	0.03	0.03	0.27	0.30	--	0.04	0.02	0.02
AUG 05...	<0.01	<0.05	<0.05	0.02	0.02	--	<0.20	--	0.02	<0.01	0.01
SEP 17...	<0.01	<0.05	<0.05	0.02	0.01	0.18	0.20	--	0.01	<0.01	<0.01

DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 17...	1445	85	<0.5	30	<1.0	<5	<3	<10	19
NOV 13...	1330	100	<0.5	50	<1.0	<5	<3	<10	43
DEC 18...	1030	120	<0.5	40	<1.0	<5	<3	<10	17
JAN 22...	1030	120	<0.5	40	<1.0	<5	<3	<10	7
FEB 20...	1000	100	<0.5	40	<1.0	<5	<3	<10	13
MAR 25...	1130	63	<0.5	30	<1.0	<5	<3	<10	64
APR 29...	1015	49	<0.5	30	<1.0	<5	<3	<10	150
MAY 20...	1050	76	<0.5	30	<1.0	<5	<3	<10	68
JUN 24...	1000	70	<0.5	30	2.0	<5	<3	<10	97
JUL 15...	0900	100	<0.5	40	<1.0	<5	<3	<10	24
AUG 05...	1050	75	<0.5	30	<1.0	<5	<3	<10	66
SEP 17...	1210	120	<0.5	40	<1.0	<5	<3	<10	10

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 17...	<10	12	12	<10	<10	<6	<1.0	230	<3
NOV 13...	<10	16	13	<10	10	<6	<1.0	290	3
DEC 18...	<10	14	16	<10	<10	<6	1.0	330	<3
JAN 22...	<10	17	13	<10	<10	<6	<1.0	320	<3
FEB 20...	<10	20	12	<10	<10	<6	<1.0	300	7
MAR 25...	<10	10	12	<10	<10	<6	<1.0	170	6
APR 29...	<10	9	17	<10	<10	<6	<1.0	140	11
MAY 20...	<10	9	29	<10	<10	<6	1.0	210	7
JUN 24...	<10	12	18	<10	<10	<6	1.0	210	13
JUL 15...	<10	12	24	<10	<10	<6	<1.0	300	5
AUG 05...	<10	10	16	<10	<10	<6	<1.0	210	5
SEP 17...	<10	13	24	<10	<10	<6	<1.0	350	5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 17...	1445	18	8	0.37
NOV 13...	1330	13	2	0.06
DEC 18...	1030	9.7	3	0.07
JAN 22...	1030	4.6	17	0.21
FEB 20...	1000	7.9	11	0.23
MAR 25...	1130	26	4	0.28
APR 29...	1015	43	8	0.98
MAY 20...	1050	30	31	2.5
JUN 24...	1000	32	20	1.7
JUL 15...	0900	21	24	1.4
AUG 05...	1050	28	15	1.2
SEP 17...	1210	8.2	10	0.22

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

LOCATION.--Lat 40°39'52", long 105°13'26", in NW¹/₄ 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 mi².

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 Mar. 23 to Apr. 30 and July 4 to Aug. 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.

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 1 to Feb. 29. Records good except for estimated daily discharges, which are fair. 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, 89,890 acre-ft diverted during current year, and diversions for municipal use, 15,040 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	18	19	23	30	36	104	431	898	448	401	62
2	63	30	8.4	28	30	36	93	545	869	381	391	54
3	58	35	8.9	24	31	35	53	634	794	355	382	51
4	56	34	24	28	26	55	62	560	813	396	430	67
5	56	58	48	27	25	41	115	447	828	441	439	80
6	48	60	84	37	24	45	76	393	888	465	411	79
7	43	57	92	46	25	44	55	565	803	503	368	134
8	42	45	93	46	21	49	50	586	992	678	346	183
9	39	48	86	37	26	51	48	619	1210	627	360	181
10	33	56	73	36	30	50	49	654	1120	508	401	169
11	29	53	53	39	31	61	67	493	1130	407	404	171
12	28	59	43	41	28	66	87	524	1180	430	413	134
13	30	78	38	23	28	65	89	577	1210	474	407	62
14	27	39	31	25	27	67	93	600	1150	411	335	52
15	24	43	23	19	29	70	97	669	1120	385	303	53
16	22	38	31	30	25	70	95	694	987	400	280	58
17	20	40	25	37	23	78	89	700	1090	402	289	76
18	18	40	27	23	36	82	89	768	882	367	301	73
19	19	43	38	23	39	78	85	796	859	369	300	74
20	18	32	41	47	38	72	70	896	1070	478	295	68
21	18	35	37	38	44	72	61	1160	1120	482	294	68
22	17	38	33	30	44	64	61	1310	1160	556	279	62
23	16	24	26	28	38	64	61	1210	1150	535	291	50
24	18	6.7	24	33	36	79	61	1310	1090	497	322	48
25	21	30	21	34	35	79	60	1430	817	503	274	58
26	25	57	29	24	34	77	60	1370	759	552	213	58
27	29	52	16	25	24	78	150	1480	580	524	164	61
28	27	42	14	27	23	95	215	1320	454	520	119	55
29	26	38	15	34	31	104	260	1170	501	490	87	58
30	12	34	18	28	---	102	330	1080	468	479	63	56
31	6.9	---	21	33	---	120	---	919	---	436	54	---
TOTAL	958.9	1262.7	1140.3	973	881	2085	2885	25910	27992	14499	9416	2455
MEAN	30.9	42.1	36.8	31.4	30.4	67.3	96.2	836	933	468	304	81.8
MAX	70	78	93	47	44	120	330	1480	1210	678	439	183
MIN	6.9	6.7	8.4	19	21	35	48	393	454	355	54	48
AC-FT	1900	2500	2260	1930	1750	4140	5720	51390	55520	28760	18680	4870

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1881 - 1992, BY WATER YEAR (WY)

	MEAN	92.4	61.7	45.0	40.7	42.9	53.2	152	938	1851	792	325	166
MAX	270	148	125	158	138	149	743	2807	4811	2225	792	443	
(WY)	1943	1916	1984	1984	1984	1980	1900	1900	1884	1983	1884	1938	
MIN	23.5	8.14	12.6	9.00	10.2	10.6	19.5	204	442	158	61.2	37.3	
(WY)	1990	1939	1965	1930	1967	1939	1991	1977	1934	1966	1954	1962	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1881 - 1992
ANNUAL TOTAL	103584.7	90457.9	
ANNUAL MEAN	284	247	
HIGHEST ANNUAL MEAN			891 1983
LOWEST ANNUAL MEAN			129 1977
HIGHEST DAILY MEAN	3740	1480	7550 Jun 16 1923
LOWEST DAILY MEAN	6.0	6.7	1.6 Nov 20 1948
ANNUAL SEVEN-DAY MINIMUM	14	18	3.9 Nov 7 1938
INSTANTANEOUS PEAK FLOW		1720	b,c 21000 Jun 9 1891
INSTANTANEOUS PEAK STAGE		4.71	
ANNUAL RUNOFF (AC-FT)	205500	179400	269900
10 PERCENT EXCEEDS	981	798	1210
50 PERCENT EXCEEDS	38	62	90
90 PERCENT EXCEEDS	17	24	24

a-Also occurred Nov 28, 1948, 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.

c-Maximum discharge not determined, occurred May 20, 1904.

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

WATER-QUALITY RECORDS

LOCATION.--Lat 40°36'11", long 105°05'43", in NE¹/4SE¹/4 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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LITY LAB (MG/L AS CACO3)
OCT											
17...	0955	3.3	435	8.2	12.0	8.4	180	50	14	--	173
NOV											
13...	1030	2.5	460	8.2	6.0	10.7	220	60	16	--	183
DEC											
18...	1330	3.9	464	7.8	4.5	13.6	210	59	16	14	187
JAN											
22...	1300	2.6	449	8.0	3.5	12.3	200	56	15	--	177
FEB											
19...	1000	3.0	448	8.4	2.5	11.8	220	59	17	--	179
MAR											
25...	1500	7.5	402	8.5	11.5	9.6	180	52	13	--	129
APR											
29...	1445	34	153	--	17.0	8.4	61	18	3.9	--	57
MAY											
20...	1430	540	60	8.2	13.0	7.6	22	6.4	1.5	--	23
JUN											
24...	1415	272	65	8.0	16.0	8.7	25	7.1	1.8	--	25
JUL											
15...	1355	79	94	8.4	16.0	8.8	39	12	2.2	3.1	37
AUG											
05...	1415	32	127	8.6	20.0	8.6	49	14	3.3	--	50
SEP											
24...	1130	25	352	8.4	15.5	9.0	150	45	10	--	116

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT										
17...	--	--	--	--	--	0.02	0.91	0.01	--	<0.01
NOV										
13...	--	--	--	--	--	0.02	1.3	0.05	--	<0.01
DEC										
18...	55	6.0	0.6	8.6	271	0.02	0.9	<0.01	<0.01	<0.01
JAN										
22...	--	--	--	--	--	<0.01	0.49	0.02	--	<0.01
FEB										
19...	--	--	--	--	--	0.01	1.2	0.03	--	<0.01
MAR										
25...	--	--	--	--	--	<0.01	0.34	0.02	<0.01	<0.01
APR										
29...	--	--	--	--	--	<0.01	0.04	0.02	<0.01	<0.01
MAY										
20...	--	--	--	--	--	<0.01	0.11	<0.01	0.02	<0.01
JUN										
24...	--	--	--	--	--	<0.01	0.13	0.02	<0.01	<0.01
JUL										
15...	7.7	1.0	0.2	3.4	53	<0.01	0.05	0.02	<0.01	<0.01
AUG										
05...	--	--	--	--	--	<0.01	0.09	0.03	<0.01	<0.01
SEP										
24...	--	--	--	--	--	<0.01	0.13	0.04	0.01	0.01

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 17...	0955	--	--	<1	--	--	--	4	<1	110
NOV 13...	1030	--	--	<1	--	--	--	--	1	160
DEC 18...	1330	<10	<1	<1	<1.0	<1	<1	--	2	200
JAN 22...	1300	--	--	<1	--	--	--	<1	1	210
FEB 19...	1000	--	--	<1	--	--	--	6	2	380
MAR 25...	1500	--	--	<1	--	--	--	--	1	240
APR 29...	1445	--	--	<1	--	--	--	4	3	380
MAY 20...	1430	--	--	<1	--	--	--	3	2	790
JUN 24...	1415	--	--	<1	--	--	--	1	1	50
JUL 15...	1355	<10	<1	<1	<1.0	<1	<1	3	3	100
AUG 05...	1415	--	--	<1	--	--	--	2	2	190
SEP 24...	1130	--	--	<1	--	--	--	2	1	110

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 17...	3	--	--	--	--	--	--	<1	^a <0.2	--
NOV 13...	2	--	--	--	--	--	--	<1	^a <0.2	--
DEC 18...	2	<1	20	0.1	--	<1	1	<1	^a <0.2	11
JAN 22...	<1	--	--	--	--	--	--	<1	^a <0.2	--
FEB 19...	3	--	--	--	--	--	--	<1	^a <0.2	--
MAR 25...	1	--	--	--	--	--	--	<1	^a <0.2	--
APR 29...	1	--	--	--	--	--	--	<1	^a <0.2	--
MAY 20...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUN 24...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUL 15...	<1	<1	10	<0.1	0.3	<1	<1	<1	^a <0.2	11
AUG 05...	2	--	--	--	--	--	--	<1	^a <0.2	--
SEP 24...	<1	--	--	--	--	--	--	<1	^a <0.2	--

a-Analysis based on preliminary method.

PLATTE RIVER BASIN

06752260 CACHE LA POUDE RIVER AT FORT COLLINS, CO

LOCATION.--Lat 40°35'21", long 105°04'09", in SE¹/₄NW¹/₄ sec.12, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on left bank 200 ft upstream from Lincoln Street Bridge in Fort Collins.

DRAINAGE AREA.--1,127 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1975 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,940 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 10, 1988 at site 4,300 ft upstream, at different datum. Prior to May 22, 1987, at site 300 ft downstream, at different datum.

REMARKS.--Estimated daily discharges: Dec. 17 to Jan. 9. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	7.2	5.0	5.2	4.6	3.6	57	58	337	29	51	4.8
2	5.5	7.0	5.3	5.2	4.5	8.1	34	212	383	26	18	4.1
3	6.3	7.1	5.1	5.2	4.9	4.5	23	352	345	26	14	4.9
4	5.7	7.1	5.1	5.2	9.2	21	16	44	233	46	34	6.7
5	5.6	7.5	5.3	5.0	9.3	7.5	28	26	188	43	27	9.8
6	6.2	7.3	5.8	5.0	8.5	5.0	33	53	248	74	19	9.7
7	5.6	7.0	5.8	5.0	7.9	4.1	19	83	53	86	28	14
8	5.0	7.0	5.8	4.8	6.0	4.0	16	152	87	172	42	9.6
9	5.0	6.6	5.9	4.7	6.0	6.3	16	291	406	37	42	38
10	5.3	7.0	5.1	4.9	6.0	5.0	16	300	351	70	55	49
11	5.5	6.7	5.2	5.4	6.0	6.4	14	169	271	138	58	13
12	5.7	6.3	5.5	5.7	6.0	5.9	12	156	256	129	68	8.5
13	5.5	6.2	6.5	5.1	6.0	5.8	17	306	281	302	40	8.3
14	5.3	5.8	6.1	4.9	6.0	5.2	27	369	190	73	24	7.5
15	3.8	6.7	6.3	4.7	6.3	5.0	24	288	200	55	25	22
16	4.0	6.5	5.8	4.9	6.1	4.6	28	256	112	69	24	25
17	4.0	7.2	5.6	4.4	5.9	4.9	23	391	148	98	29	28
18	4.6	8.1	5.6	4.2	5.3	6.5	16	376	113	122	37	23
19	5.3	7.7	5.6	4.2	4.5	5.0	15	409	274	44	28	25
20	5.8	6.5	5.6	4.1	4.4	4.3	33	448	456	118	23	24
21	5.0	6.2	5.6	4.2	4.0	4.3	18	500	411	52	30	24
22	5.5	5.9	5.6	4.2	3.8	4.5	5.4	447	267	59	40	23
23	5.7	5.7	5.6	4.2	3.2	4.3	4.5	402	245	41	45	23
24	5.7	5.8	5.7	4.6	3.1	7.9	4.3	484	429	52	52	19
25	5.2	6.6	6.0	4.4	3.3	8.3	4.6	487	581	55	14	13
26	5.3	7.9	5.8	4.3	3.4	6.4	4.5	351	411	59	7.6	15
27	5.6	6.3	5.4	4.3	7.5	6.5	5.1	602	200	40	5.6	19
28	5.9	5.8	5.2	4.3	13	12	30	397	88	33	9.7	11
29	6.6	5.8	5.2	4.3	4.9	6.7	49	325	78	32	6.1	5.2
30	9.3	5.0	5.2	4.3	---	6.3	28	445	48	35	4.1	4.3
31	7.5	---	5.2	5.3	---	37	---	352	---	38	3.3	---
TOTAL	171.3	199.5	172.5	146.2	169.6	226.9	620.4	9531	7690	2253	903.4	491.4
MEAN	5.53	6.65	5.56	4.72	5.85	7.32	20.7	307	256	72.7	29.1	16.4
MAX	9.3	8.1	6.5	5.7	13	37	57	602	581	302	68	49
MIN	3.8	5.0	5.0	4.1	3.1	3.6	4.3	26	48	26	3.3	4.1
AC-FT	340	396	342	290	336	450	1230	18900	15250	4470	1790	975

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	MEAN	22.7	24.4	22.0	27.6	28.3	32.3	126	476	902	257	63.3	27.3
MAX	94.1	122	97.3	123	135	136	652	2720	4771	1450	290	105	
(WY)	1985	1985	1985	1984	1984	1980	1983	1980	1983	1983	1983	1983	
MIN	2.45	1.79	1.91	2.29	1.30	1.91	1.37	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 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1975 - 1992

	ANNUAL TOTAL	33729.53	22575.2	
ANNUAL MEAN		92.4	61.7	
HIGHEST ANNUAL MEAN				779 1983
LOWEST ANNUAL MEAN				41.8 1977
HIGHEST DAILY MEAN	2430	Jun 2	602	May 27
LOWEST DAILY MEAN	.85	Mar 30	3.1	Feb 24
ANNUAL SEVEN-DAY MINIMUM	1.4	Mar 25	3.6	Feb 20
INSTANTANEOUS PEAK FLOW			960	Jun 24
INSTANTANEOUS PEAK STAGE			5.49	Jun 24
ANNUAL RUNOFF (AC-FT)	66900		44780	
10 PERCENT EXCEEDS	191		259	
50 PERCENT EXCEEDS	7.0		7.5	
90 PERCENT EXCEEDS	2.6		4.5	

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

b-Site and datum then in use.

c-Maximum gage height, 9.15 ft, Jun 2, 1991, present site and datum.

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1987 to current year.

pH: October 1987 to current year.

WATER TEMPERATURE: October 1987 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1987. Values recorded each 30 minutes.

REMARKS.--Unpublished maximum and minimum specific conductance data for period of daily record available in district office.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum mean, 717 microsiemens, Mar. 14, 1992; minimum mean, 56 microsiemens, May 22 and May 24, 1992.

pH: Maximum, 9.3 units, Aug. 13 and 20, 1992; minimum 7.0 units, occurred several times during the water year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LINITY LAB (MG/L AS CACO3)
OCT											
16...	1220	4.1	542	8.2	17.5	10.3	240	65	19	--	207
NOV											
12...	1205	6.3	566	8.0	6.0	11.8	260	70	20	--	203
DEC											
17...	1200	5.6	540	8.1	2.0	13.0	250	67	19	19	205
JAN											
21...	1430	4.2	569	8.3	3.0	12.0	250	68	20	--	202
FEB											
18...	1330	5.1	538	8.3	4.5	10.6	230	61	19	--	196
MAR											
24...	1230	12	694	8.5	8.0	10.8	310	83	25	--	188
APR											
28...	1230	59	545	8.4	18.0	9.2	230	63	18	--	151
MAY											
19...	1350	490	74	8.3	14.0	8.9	24	7.3	1.5	--	27
JUN											
23...	1300	295	57	7.9	17.5	8.5	22	6.3	1.4	--	21
JUL											
14...	1300	47	142	8.3	15.5	10.5	61	18	4.0	5.3	52
AUG											
04...	1120	24	275	8.3	19.0	8.7	110	30	8.0	--	93
SEP											
16...	1240	24	379	8.5	19.5	9.7	170	48	12	--	7.1

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT										
16...	--	--	--	--	--	0.01	0.61	<0.01	--	<0.01
NOV										
12...	--	--	--	--	--	0.02	0.90	0.05	--	<0.01
DEC										
17...	85	10	0.5	8.5	349	0.01	0.93	<0.01	<0.01	0.02
JAN										
21...	--	--	--	--	--	0.01	0.62	0.03	--	<0.01
FEB										
18...	--	--	--	--	--	0.01	1.1	0.01	--	<0.01
MAR										
24...	--	--	--	--	--	0.01	0.70	0.03	0.02	<0.01
APR										
28...	--	--	--	--	--	<0.01	0.25	0.04	0.03	0.02
MAY										
19...	--	--	--	--	--	<0.01	0.01	<0.01	0.02	<0.01
JUN										
23...	--	--	--	--	--	<0.01	0.05	0.02	<0.01	<0.01
JUL										
14...	16	2.4	0.2	4.2	77	<0.01	0.11	0.03	0.01	0.01
AUG										
04...	--	--	--	--	--	<0.01	0.91	0.04	<0.01	<0.01
SEP										
16...	--	--	--	--	--	<0.01	0.14	0.03	<0.01	<0.01

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 16...	1220	--	--	1	--	--	--	4	<1	180
NOV 12...	1205	--	--	<1	--	--	--	--	1	190
DEC 17...	1200	<10	<1	<1	<1.0	<1	<1	--	1	390
JAN 21...	1430	--	--	<1	--	--	--	2	2	190
FEB 18...	1330	--	--	<1	--	--	--	6	<1	170
MAR 24...	1230	--	--	<1	--	--	--	11	2	500
APR 28...	1230	--	--	<1	--	--	--	5	4	840
MAY 19...	1350	--	--	<1	--	--	--	3	2	690
JUN 23...	1300	--	--	<1	--	--	--	3	2	370
JUL 14...	1300	<10	<1	<1	<1.0	<1	<1	3	3	130
AUG 04...	1120	--	--	<1	--	--	--	2	3	200
SEP 16...	1240	--	--	<1	--	--	--	4	4	150

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 16...	2	--	--	--	--	--	--	<1	^a <0.2	--
NOV 12...	2	--	--	--	--	--	--	<1	^a <0.2	--
DEC 17...	7	<1	50	<0.1	--	1	<1	<1	^a <0.2	9
JAN 21...	<1	--	--	--	--	--	--	<1	^a <0.2	--
FEB 18...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAR 24...	3	--	--	--	--	--	--	<1	^a <0.2	--
APR 28...	4	--	--	--	--	--	--	<1	^a <0.2	--
MAY 19...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUN 23...	<1	--	--	--	--	--	--	<1	^a <0.2	--
JUL 14...	1	<1	10	0.1	<0.1	<1	<1	<1	^a <0.2	--
AUG 04...	2	--	--	--	--	--	--	<1	^a <0.2	--
SEP 16...	<1	--	--	--	--	--	--	<1	^a <0.2	--

^a-Analysis based on preliminary method.

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

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

[illegible]

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

PH, (STANDARD UNITS), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible][illegible]

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°34'01", long 105°01'36", in NW¹/₄NE¹/₄ sec.20, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, 1.4 mi west of Interstate 25 on Prospect Street in Fort Collins.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LITY LAB (MG/L AS CAC03)
OCT 18...	0945	16	743	8.0	10.5	7.0	270	69	23	--	199
NOV 14...	1330	5.3	777	8.5	5.0	10.6	340	87	29	--	263
DEC 18...	1530	6.0	833	7.8	3.5	13.4	380	100	32	31	218
JAN 21...	1115	5.3	866	8.4	2.0	12.6	380	100	32	--	274
FEB 19...	1600	6.7	811	8.5	6.5	14.5	370	94	33	--	252
MAR 26...	1515	8.5	837	8.6	12.0	11.5	390	100	34	--	235
APR 30...	1430	8.4	691	8.3	15.5	8.5	300	75	27	--	205
MAY 21...	0950	580	84	8.1	12.0	9.4	27	7.9	1.8	--	27
JUN 25...	0930	573	98	7.7	13.5	8.8	35	10	2.5	--	30
JUL 16...	1430	57	369	8.2	14.5	8.1	150	42	12	16	99
AUG 04...	1435	37	566	8.7	22.0	10.5	230	61	20	--	161
SEP 25...	1045	28	564	8.1	13.5	9.5	240	66	19	--	167

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 18...	--	--	--	--	--	2.4	0.37	2.8	1.5	--	0.93
NOV 14...	--	--	--	--	--	1.8	0.02	1.8	0.06	--	0.03
DEC 18...	150	15	0.6	11	569	2.3	0.03	2.3	0.03	<0.01	0.02
JAN 21...	--	--	--	--	--	2.0	0.02	2.0	0.03	--	<0.01
FEB 19...	--	--	--	--	--	1.7	0.02	1.7	0.02	--	<0.01
MAR 26...	--	--	--	--	--	1.4	0.02	1.4	0.04	<0.01	<0.01
APR 30...	--	--	--	--	--	0.88	0.05	0.93	0.09	0.03	0.02
MAY 21...	--	--	--	--	--	0.05	0.01	0.06	0.07	0.04	0.02
JUN 25...	--	--	--	--	--	--	<0.01	0.17	0.04	0.03	0.03
JUL 16...	64	9.3	0.3	6.1	222	0.76	0.04	0.80	0.10	0.13	0.13
AUG 04...	--	--	--	--	--	1.1	0.09	1.2	0.14	0.43	0.36
SEP 25...	--	--	--	--	--	1.2	0.17	1.4	0.81	0.46	0.42

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 18...	0945	--	--	<1	--	--	--	5	2	130
NOV 14...	1330	--	--	<1	--	--	--	--	1	200
DEC 18...	1530	<10	<1	<1	<1.0	<1	<1	--	<1	250
JAN 21...	1115	--	--	<1	--	--	--	2	2	200
FEB 19...	1600	--	--	<1	--	--	--	3	1	200
MAR 26...	1515	--	--	<1	--	--	--	--	1	430
APR 30...	1430	--	--	<1	--	--	--	3	2	480
MAY 21...	0950	--	--	<1	--	--	--	3	1	1200
JUN 25...	0930	--	--	<1	--	--	--	5	2	1300
JUL 16...	1430	<10	<1	<1	<1.0	<1	<1	3	2	170
AUG 04...	1435	--	--	<1	--	--	--	2	2	170
SEP 25...	1045	--	--	<1	--	--	--	2	1	140

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 18...	4	--	--	--	--	--	<1	^a <2.0	--
NOV 14...	3	--	--	--	--	--	<1	^a <2.0	--
DEC 18...	<1	<1	40	--	1	4	<1	^a <2.0	11
JAN 21...	<1	--	--	--	--	--	<1	^a <2.0	--
FEB 19...	1	--	--	--	--	--	<1	^a <2.0	--
MAR 26...	<1	--	--	--	--	--	<1	^a <2.0	--
APR 30...	2	--	--	--	--	--	<1	^a <2.0	--
MAY 21...	2	--	--	--	--	--	<1	^a <2.0	--
JUN 25...	4	--	--	--	--	--	<1	^a <2.0	--
JUL 16...	<1	<1	30	<0.1	<1	<1	<1	^a <2.0	27
AUG 04...	2	--	--	--	--	--	<1	^a <2.0	--
SEP 25...	<1	--	--	--	--	--	<1	^a <2.0	--

a-Analysis based on preliminary method.

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

LOCATION.--Lat 40°32'56", long 105°00'28", in NW¹/4NE¹/4 sec.28, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, on right bank 2,100 ft upstream from Box Elder Creek, 2.0 mi upstream from Interstate Highway 25 bridge, and 3.8 mi southeast of intersection of College Avenue and Prospect Street in Fort Collins.

DRAINAGE AREA.--1,245 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,860 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions upstream from station for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	4.1	4.8	4.1	3.7	4.1	15	7.3	199	34	10	4.1
2	3.4	4.2	4.4	4.1	3.8	4.1	12	41	214	37	6.5	4.1
3	3.3	4.4	4.4	4.3	3.5	5.4	11	123	176	26	6.0	3.8
4	3.5	4.4	4.2	4.1	3.8	47	10	14	107	28	5.2	3.8
5	3.5	4.4	4.6	4.2	3.7	29	10	5.4	63	9.3	4.9	4.1
6	3.2	4.7	5.0	4.4	3.5	13	11	13	112	26	4.9	4.4
7	3.0	4.4	4.8	4.1	3.8	9.7	10	17	18	28	5.9	4.4
8	2.9	4.5	4.4	4.3	3.6	9.6	10	28	39	61	5.7	4.4
9	2.9	5.2	4.4	4.4	3.6	16	10	128	236	13	5.2	4.1
10	2.9	4.9	4.4	4.3	3.7	15	10	141	191	9.4	5.1	19
11	2.9	4.9	4.2	4.4	3.5	14	9.9	80	134	37	6.9	13
12	2.6	5.3	4.1	4.4	3.7	17	7.9	58	109	22	9.1	4.2
13	3.0	6.0	3.9	4.7	3.6	18	7.8	153	135	132	5.9	4.1
14	3.3	6.5	3.8	4.4	3.5	15	8.9	218	82	37	3.7	4.1
15	3.5	6.5	3.8	4.1	3.6	13	11	161	90	8.1	4.0	3.9
16	3.4	7.1	3.8	4.4	3.5	12	20	121	50	9.9	3.8	3.9
17	3.3	9.1	3.9	4.2	3.5	11	9.1	243	49	14	3.8	4.5
18	3.3	8.8	4.1	4.2	3.6	13	8.4	238	48	42	4.4	4.9
19	3.5	9.2	3.9	4.4	3.8	15	7.8	367	96	7.6	4.2	4.9
20	3.9	7.5	3.9	4.1	4.0	11	7.5	347	256	50	4.9	4.5
21	3.8	7.2	3.8	4.0	3.9	11	7.8	351	265	30	4.7	4.2
22	3.5	6.7	3.8	4.0	4.1	12	8.0	313	110	13	4.0	4.1
23	3.5	6.2	4.0	3.8	4.0	10	8.0	253	99	8.3	5.1	3.8
24	4.4	6.4	3.9	3.8	3.8	11	7.7	334	332	7.5	9.2	4.1
25	4.1	6.5	3.8	3.8	3.9	10	7.4	340	723	25	10	4.3
26	4.1	6.1	4.1	3.7	4.1	10	6.8	209	458	18	8.5	5.0
27	4.5	6.0	4.0	3.8	4.0	10	6.7	425	163	13	5.4	4.5
28	4.9	6.0	3.9	3.8	4.1	20	6.7	279	79	5.2	4.7	4.2
29	3.8	6.5	4.1	3.7	4.1	13	7.0	112	63	7.0	4.1	3.7
30	4.1	3.7	4.1	3.8	---	12	7.4	214	47	5.2	4.1	4.1
31	4.3	---	4.1	3.7	---	11	---	185	---	4.9	4.1	---
TOTAL	109.9	177.4	128.4	127.5	109.0	421.9	280.8	5518.7	4743	768.4	174.0	150.2
MEAN	3.55	5.91	4.14	4.11	3.76	13.6	9.36	178	158	24.8	5.61	5.01
MAX	4.9	9.2	5.0	4.7	4.1	47	20	425	723	132	10	19
MIN	2.6	3.7	3.8	3.7	3.5	4.1	6.7	5.4	18	4.9	3.7	3.7
AC-FT	218	352	255	253	216	837	557	10950	9410	1520	345	298

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

	MEAN	15.8	28.4	25.7	29.6	30.9	38.8	150	512	913	245	43.0	26.9
MAX	55.0	122	114	139	156	159	633	2729	4430	1288	248	121	
(WY)	1985	1985	1985	1984	1984	1980	1980	1980	1983	1983	1983	1983	
MIN	3.55	4.45	3.99	4.00	3.76	4.38	3.45	8.66	85.8	5.94	4.27	3.61	
(WY)	1992	1991	1991	1991	1992	1991	1991	1982	1989	1987	1987	1988	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1980 - 1992

ANNUAL TOTAL	24917.1	12709.2		
ANNUAL MEAN	68.3	34.7		
HIGHEST ANNUAL MEAN			700	1983
LOWEST ANNUAL MEAN			19.4	1989
HIGHEST DAILY MEAN	2400	Jun 2	5460	Jun 21 1983
LOWEST DAILY MEAN	1.9	May 11	1.0	Oct 14 1989
ANNUAL SEVEN-DAY MINIMUM	2.7	Apr 19	2.3	Sep 26 1986
INSTANTANEOUS PEAK FLOW			5810	Jun 21 1983
INSTANTANEOUS PEAK STAGE			8.02	Jun 21 1983
ANNUAL RUNOFF (AC-FT)	49420	25210	124200	
10 PERCENT EXCEEDS	63	112	329	
50 PERCENT EXCEEDS	4.1	5.2	9.4	
90 PERCENT EXCEEDS	3.0	3.7	4.0	

PLATTE RIVER BASIN

06752280 CACHE LA POUDRE 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 1991 TO SEPTEMBER 1992

		DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LITY LAB (MG/L AS CACO3)	
OCT												
18...	1230	3.3	1940	8.2	11.5	9.3	1000	270	90	--	223	
NOV												
14...	1030	5.8	2250	8.3	6.0	11.7	1200	300	100	--	205	
DEC												
19...	0945	4.1	--	8.1	3.0	11.0	1200	310	100	110	255	
JAN												
22...	1500	3.9	2140	7.6	2.5	11.8	1100	290	96	--	260	
FEB												
19...	1400	4.0	2110	8.4	4.0	12.1	1200	300	98	--	228	
MAR												
26...	1130	10	--	8.5	10.0	9.2	690	180	59	--	229	
APR												
30...	1000	7.4	--	8.1	17.5	9.5	850	210	78	--	211	
MAY												
21...	1510	507	--	--	13.0	9.2	28	7.9	1.9	--	27	
JUN												
25...	1400	744	105	7.8	14.0	9.5	39	11	2.7	--	33	
JUL												
16...	0930	5.1	--	8.0	15.5	6.0	500	130	43	50	135	
AUG												
06...	1050	4.7	--	8.0	21.5	7.5	860	220	76	--	179	
SEP												
24...	1415	4.0	1580	8.4	18.0	10.6	730	180	67	--	186	
DATE		SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT												
18...	--	--	--	--	--	--	0.79	0.03	0.82	0.09	--	0.03
NOV												
14...	--	--	--	--	--	--	2.0	0.04	2.0	0.18	--	<0.01
DEC												
19...	1100	22	0.9	12	1990	1.8	0.02	1.8	0.06	<0.01	0.01	0.01
JAN												
22...	--	--	--	--	--	--	2.0	0.02	2.0	0.15	--	0.02
FEB												
19...	--	--	--	--	--	--	1.7	0.02	1.7	0.04	--	<0.01
MAR												
26...	--	--	--	--	--	--	1.1	0.02	1.1	0.05	<0.01	<0.01
APR												
30...	--	--	--	--	--	--	0.67	0.03	0.70	0.04	<0.01	<0.01
MAY												
21...	--	--	--	--	--	--	--	<0.01	0.06	0.07	0.03	0.02
JUN												
25...	--	--	--	--	--	--	--	<0.01	0.18	0.04	0.02	0.03
JUL												
16...	430	15	0.5	6.8	830	0.37	0.03	0.40	0.07	0.04	0.05	0.05
AUG												
06...	--	--	--	--	--	--	0.49	0.04	0.53	0.08	0.03	0.03
SEP												
24...	--	--	--	--	--	--	1.1	0.05	1.1	0.06	0.11	0.10

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

WATER-QUALITY RECORDS

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT										
18...	1230	--	--	1	--	--	--	5	<1	290
NOV										
14...	1030	--	--	<1	--	--	--	--	1	250
DEC										
19...	0945	<10	<1	<1	<1.0	1	1	--	1	180
JAN										
22...	1500	--	--	<1	--	--	--	2	1	260
FEB										
19...	1400	--	--	<1	--	--	--	4	<1	150
MAR										
26...	1130	--	--	<1	--	--	--	--	<1	360
APR										
30...	1000	--	--	<1	--	--	--	2	<1	470
MAY										
21...	1510	--	--	<1	--	--	--	4	1	1200
JUN										
25...	1400	--	--	<1	--	--	--	3	2	1200
JUL										
16...	0930	<10	<1	<1	<1.0	1	<1	2	1	350
AUG										
06...	1050	--	--	<1	--	--	--	2	<1	430
SEP										
24...	1415	--	--	<1	--	--	--	1	<1	350

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT										
18...	1	--	--	--	--	--	--	<1	^a <0.2	--
NOV										
14...	3	--	--	--	--	--	--	<1	^a <0.2	--
DEC										
19...	1	<1	60	<0.1	--	<1	7	<1	^a <0.2	<10
JAN										
22...	<1	--	--	--	--	--	--	<1	^a <0.2	--
FEB										
19...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAR										
26...	2	--	--	--	--	--	--	<1	^a <0.2	--
APR										
30...	<1	--	--	--	--	--	--	<1	^a <0.2	--
MAY										
21...	2	--	--	--	--	--	--	<1	^a <0.2	--
JUN										
25...	3	--	--	--	--	--	--	<1	^a <0.2	--
JUL										
16...	1	<1	100	<0.1	<0.1	<1	5	<1	^a <0.2	16
AUG										
06...	1	--	--	--	--	--	--	<1	^a <0.2	--
SEP										
24...	<1	--	--	--	--	--	--	<1	^a <0.2	--

a-Analysis based on preliminary method.

06752500 CACHE LA POUDE RIVER NEAR GREELEY, CO

LOCATION.--Lat 40°25'04", long 104°38'22", in NW¹/₄ sec.11, T.5 N., R.65 W., Weld County, Hydrologic Unit 10190007, on right bank 25 ft downstream from highway bridge, 2.9 mi east of courthouse in Greeley, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--1,877 mi².

PERIOD OF RECORD.--Streamflow records, March to October 1903, August to November 1904, January 1914 to December 1919, June 1924 to current year. Monthly discharge only for some periods, published in WSP 1310. Water-quality data available, November 1951 to September 1952, August 1954 to August 1956, December 1963 to September 1966, October 1967 to September 1968, October 1970 to September 1982.

REVISED RECORDS.--WSP 1440: 1935, 1938(M), 1942-43. WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,610 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1710 or 1730 for history of changes prior to Dec. 14, 1933.

REMARKS.--Estimated daily discharges: Apr. 14, 15, June 17-19, 29, July 4-6, and July 28-30. Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions upstream from station for irrigation of about 250,000 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	88	83	91	101	128	164	35	64	223	40	71
2	70	86	88	90	99	138	164	27	70	112	41	74
3	69	83	90	93	102	129	150	22	64	90	47	71
4	71	90	92	95	103	197	134	83	52	70	51	77
5	73	90	93	85	101	248	119	31	44	50	57	78
6	65	91	93	93	101	187	127	21	31	40	56	69
7	73	87	90	94	98	163	127	24	37	26	61	64
8	72	86	87	80	95	181	135	23	34	26	45	71
9	77	84	89	94	91	192	135	25	35	27	41	76
10	82	88	94	91	93	213	137	21	40	26	50	75
11	81	90	96	90	94	206	129	25	35	26	55	86
12	81	91	97	90	93	215	125	17	36	28	56	80
13	77	90	94	88	96	222	128	21	33	29	62	77
14	90	91	87	94	110	227	70	28	31	39	60	69
15	92	92	90	77	135	214	50	31	208	42	53	63
16	93	99	91	88	126	207	90	25	150	41	44	58
17	90	114	95	91	129	204	76	31	90	44	46	57
18	83	109	92	92	129	199	54	23	70	43	64	58
19	78	131	96	88	128	205	45	23	60	40	62	60
20	77	108	92	92	128	198	39	22	48	94	56	52
21	73	107	88	90	136	188	34	18	44	205	54	58
22	69	106	84	93	132	184	38	24	42	128	62	63
23	73	101	89	94	132	183	43	21	33	118	72	63
24	82	98	86	99	137	179	42	17	59	104	302	64
25	86	100	80	99	134	171	34	19	570	88	342	67
26	83	100	88	101	131	170	29	22	758	137	187	64
27	84	99	94	101	127	170	29	37	623	107	151	64
28	88	93	90	100	131	242	29	71	336	90	110	66
29	92	93	87	102	132	207	28	96	240	65	96	60
30	90	83	90	103	---	177	28	49	264	40	85	56
31	87	---	90	104	---	168	---	88	---	41	80	---
TOTAL	2467	2868	2795	2882	3344	5912	2532	1020	4201	2239	2588	2011
MEAN	79.6	95.6	90.2	93.0	115	191	84.4	32.9	140	72.2	83.5	67.0
MAX	93	131	97	104	137	248	164	96	758	223	342	86
MIN	65	83	80	77	91	128	28	17	31	26	40	52
AC-FT	4890	5690	5540	5720	6630	11730	5020	2020	8330	4440	5130	3990

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1992, BY WATER YEAR (WY)

	MEAN	94.5	113	104	94.5	102	103	115	223	448	98.6	48.9	54.2
MAX	337	368	237	249	311	343	836	3045	4786	1475	329	187	
(WY)	1962	1962	1985	1984	1984	1980	1983	1980	1983	1983	1983	1983	1984
MIN	7.13	6.63	34.5	37.4	38.1	33.9	7.77	9.58	9.45	13.0	5.43	9.53	
(WY)	1935	1935	1935	1935	1935	1935	1935	1954	1977	1954	1940	1948	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1903 - 1992		
ANNUAL TOTAL	41964			34859					
ANNUAL MEAN	115			95.2			131		
HIGHEST ANNUAL MEAN							872		
LOWEST ANNUAL MEAN							27.9		
HIGHEST DAILY MEAN	1850			Jun 3			6090		
LOWEST DAILY MEAN	12			Jul 6			.80		
ANNUAL SEVEN-DAY MINIMUM	16			Jul 2			1.5		
INSTANTANEOUS PEAK FLOW				967			6360		
INSTANTANEOUS PEAK STAGE				5.46			8.92		
ANNUAL RUNOFF (AC-FT)	83240			69140			95260		
10 PERCENT EXCEEDS	184			170			189		
50 PERCENT EXCEEDS	84			88			74		
90 PERCENT EXCEEDS	22			31			15		

a-Also occurred May 24.

b-Maximum gage height, 8.95 ft, Jun 22, 1983.

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO

LOCATION.--Lat 40°24'44", long 104°33'46", in NW¹/4SW¹/4 sec.9, T.5 N., R.64W., Weld County, Hydrologic Unit 10190003, on downstream side of bridge on State Highway 37, 1.9 mi north of railroad in Kersey, and 2.5 mi downstream from Cache la Poudre River.

DRAINAGE AREA.--9,598 mi².

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" 1901-3. 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 National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to July 3, 1935.

REMARKS.--Estimated daily discharges: Oct. 2-8, and Nov. 3-8. Records fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	628	842	900	781	889	737	1550	389	1010	886	314	888
2	670	809	887	757	889	746	1500	376	1790	705	310	823
3	610	800	915	763	871	734	1350	307	1260	744	305	726
4	600	790	892	790	871	872	1320	310	853	580	325	663
5	560	780	903	758	880	2420	1290	236	808	470	386	609
6	540	780	901	772	853	1730	1350	208	788	411	370	565
7	590	780	898	836	835	1210	1300	210	823	276	392	486
8	640	780	889	809	817	1120	1220	209	889	225	394	454
9	646	787	879	906	799	1340	1080	239	1270	217	425	451
10	664	818	870	941	816	1980	988	297	1680	217	410	433
11	633	814	880	969	838	1990	864	438	1130	243	453	460
12	664	802	872	1020	811	1940	796	459	958	289	473	537
13	691	795	847	987	814	2040	780	383	1030	347	544	558
14	671	857	828	953	831	2130	880	339	953	611	582	564
15	690	971	829	872	850	2070	1070	288	1190	401	580	544
16	708	991	833	881	818	1920	982	237	1070	329	572	497
17	720	1040	840	937	806	1800	1230	267	790	607	509	480
18	681	1180	825	947	805	1780	1380	291	598	632	558	495
19	703	1330	843	901	810	1720	1220	336	444	510	576	523
20	718	1360	836	889	799	1680	1160	287	340	513	418	523
21	718	1260	822	927	809	1570	1160	265	436	827	363	474
22	718	1240	815	933	817	1410	1130	365	442	956	450	472
23	705	1200	816	921	798	1480	993	621	427	912	462	472
24	704	1070	820	862	796	1320	815	729	420	764	1230	476
25	718	1020	798	867	798	1180	730	613	1320	817	7090	460
26	733	993	786	851	778	1170	693	896	2160	943	4970	452
27	724	985	776	903	753	1060	642	997	2600	853	2350	454
28	686	980	795	925	732	1270	607	1180	1840	734	1540	462
29	744	959	794	916	746	3060	502	1060	1390	443	1330	443
30	854	909	790	889	---	2070	468	883	1190	332	1110	462
31	809	---	792	889	---	1560	---	864	---	294	973	---
TOTAL	21140	28722	26171	27352	23729	49109	31050	14579	31899	17088	30764	15906
MEAN	682	957	844	882	818	1584	1035	470	1063	551	992	530
MAX	854	1360	915	1020	889	3060	1550	1180	2600	956	7090	888
MIN	540	780	776	757	732	734	468	208	340	217	305	433
AC-FT	41930	56970	51910	54250	47070	97410	61590	28920	63270	33890	61020	31550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	MEAN	878	941	853	834	874	1016	1226	2717	2992	962	821	786
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	219	304	259	
(WY)	1978	1978	1982	1982	1978	1982	1982	1977	1977	1976	1981	1977	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1976 - 1992

ANNUAL TOTAL	299792	317509	
ANNUAL MEAN	821	868	a 1242
HIGHEST ANNUAL MEAN			3631 1983
LOWEST ANNUAL MEAN			456 1977
HIGHEST DAILY MEAN	9090	7090	b 16800 May 2 1980
LOWEST DAILY MEAN	121	208	c 61 Apr 26 1982
ANNUAL SEVEN-DAY MINIMUM	154	244	d 63 Apr 25 1982
INSTANTANEOUS PEAK FLOW		10000	d 18300 May 2 1980
INSTANTANEOUS PEAK STAGE		8.49	10.31 May 2 1980
ANNUAL RUNOFF (AC-FT)	594600	629800	899500
10 PERCENT EXCEEDS	1150	1330	2140
50 PERCENT EXCEEDS	704	808	764
90 PERCENT EXCEEDS	248	385	305

a-Average discharge for 71 years (water years 1902-03, 1906-74), 777 ft³/s; 562900 acre-ft/yr, prior to completion of Chatfield Dam.

b-Maximum daily discharge for period of record, 31000 ft³/s, Jun 7, 1921.

c-Minimum daily discharge for period of record, 28 ft³/s, Apr 30, 1955.

d-Maximum discharge and stage for period of record, 31500 ft³/s, May 8, 1973, gage height, 11.73 ft.

PLATTE RIVER BASIN

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO

LOCATION.--Lat 40°19'19", long 103°55'17", in SW¹/4SW¹/4 sec.7, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190003, on left bank 400 ft downstream from bridge on State Highway 144, 2.8 mi southeast of Weldona, and 4.2 mi upstream from Bijou Creek.

DRAINAGE AREA.--13,245 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year. Statistical summary computed for 1976 to current year.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,307.80 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 4-13. Records good except for estimated daily discharges, which are fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	497	217	565	832	652	1310	268	886	228	210	547
2	105	298	222	555	825	618	1270	306	856	180	217	431
3	181	329	216	568	814	429	1200	322	980	341	233	302
4	268	319	200	560	802	365	1150	265	716	446	274	231
5	299	301	180	564	805	401	1070	238	748	314	259	332
6	326	304	160	538	799	1450	1240	199	856	233	299	482
7	339	293	170	563	756	1020	1200	154	895	138	331	494
8	327	269	170	666	745	818	1120	145	943	92	345	371
9	317	258	190	756	735	914	1070	141	992	224	309	316
10	346	261	230	841	716	1130	966	164	1020	246	303	310
11	354	255	260	859	718	1530	838	289	726	256	295	304
12	374	177	300	865	728	1650	779	422	650	271	334	318
13	384	140	330	871	679	1720	709	358	697	238	383	359
14	394	130	325	869	658	1680	684	308	802	251	421	358
15	351	127	312	825	602	1660	764	277	758	314	456	351
16	434	148	298	791	599	1610	886	251	625	207	451	333
17	482	190	294	847	588	1390	871	202	472	176	498	306
18	463	199	302	845	544	1370	1060	188	306	254	424	287
19	444	262	304	847	538	1320	1160	202	139	313	449	301
20	452	386	357	826	533	1340	1110	213	181	268	413	369
21	471	376	351	825	586	1300	1040	275	230	351	337	388
22	472	366	329	825	649	1210	991	289	271	565	357	355
23	460	326	326	816	654	1210	881	373	260	383	345	360
24	499	298	433	805	651	1250	713	511	152	293	654	367
25	549	245	580	765	646	1200	537	648	75	208	1060	384
26	574	214	590	768	627	1100	494	606	459	503	3140	410
27	604	208	590	769	657	982	349	709	415	745	2630	430
28	541	215	584	813	662	790	270	936	456	447	1520	466
29	537	224	589	835	650	976	219	1160	196	371	1080	483
30	586	217	555	847	---	2210	252	1060	212	308	872	491
31	674	---	540	837	---	1430	---	914	---	221	722	---
TOTAL	12701	7832	10504	23526	19798	36725	26203	12393	16974	9385	19621	11236
MEAN	410	261	339	759	683	1185	873	400	566	303	633	375
MAX	674	497	590	871	832	2210	1310	1160	1020	745	3140	547
MIN	94	127	160	538	533	365	219	141	75	92	210	231
AC-FT	25190	15530	20830	46660	39270	72840	51970	24580	33670	18620	38920	22290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	MEAN	563	526	609	736	684	574	919	2003	2101	681	648	625
MAX	3119	2298	1266	1443	1562	1494	3226	10130	12310	4754	2208	2118	
(WY)	1985	1985	1986	1984	1984	1983	1983	1980	1983	1983	1984	1984	
MIN	134	100	130	337	231	132	119	183	101	191	237	123	
(WY)	1977	1977	1978	1978	1978	1978	1982	1981	1977	1981	1981	1977	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1976 - 1992

ANNUAL TOTAL	168229	206898	
ANNUAL MEAN	461	565	a 889
HIGHEST ANNUAL MEAN			2995
LOWEST ANNUAL MEAN			231
HIGHEST DAILY MEAN	4320	Jun 4	b 15300
LOWEST DAILY MEAN	c 84	Sep 27	d 42
ANNUAL SEVEN-DAY MINIMUM	88	Sep 25	e 16700
INSTANTANEOUS PEAK FLOW			6.75
INSTANTANEOUS PEAK STAGE			9.72
ANNUAL RUNOFF (AC-FT)	333700	410400	643900
10 PERCENT EXCEEDS	828	1060	1710
50 PERCENT EXCEEDS	321	450	459
90 PERCENT EXCEEDS	150	209	155

a-Average discharge for 22 years (water years 1953-74), 572 ft³/s; 414400 acre-ft/yr, prior to completion of Chatfield Dam.

b-Maximum daily discharge for period of record, 20800 ft³/s, May 9, 1973.

c-Also occurred Sep 28, 29.

d-Minimum daily discharge for period of record, 39 ft³/s, May 19, 1972.

e-Maximum discharge and stage for period of record, 26800 ft³/s, May 8, 1973, gage height, 11.68 ft, from rating curve extended above 16000 ft³/s.

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1967 to September 1968, October 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV 21...	1130	309	1880	8.2	6.0	10.8	200	420	670	160	65	160
FEB 26...	1215	607	1620	8.3	6.0	10.8	--	37	550	130	54	140
MAY 07...	1230	192	1900	8.5	17.5	10.3	96	140	590	140	59	140
AUG 19...	1225	475	1870	8.2	19.0	8.1	520	1100	680	150	74	160

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
NOV 21...	3	8.9	279	580	89	0.8	18	1310	1280	1.78	1090
FEB 26...	3	7.8	245	470	78	0.8	12	1080	1070	1.47	1770
MAY 07...	3	8.1	255	570	94	1.2	12	1250	1200	1.70	648
AUG 19...	3	8.3	274	640	80	1.0	17	1380	1320	1.88	1770

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV 21...	0.03	0.04	1.1	7.0	7.0	0.18	0.17	0.46	0.30	0.31	0.30
FEB 26...	0.05	0.05	0.80	6.9	6.8	0.03	0.04	0.93	0.77	0.81	0.70
MAY 07...	0.08	0.07	0.60	4.5	4.5	0.02	0.03	0.33	0.29	0.26	0.26
AUG 19...	0.03	0.03	2.0	5.5	5.6	0.03	0.03	0.46	0.18	0.17	0.16

DATE	TIME	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM, DIS-SOLVED (UG/L AS LI)
NOV 21...	1130	35	<0.5	340	<1.0	<5	<3	<10	4	<10	56
FEB 26...	1215	36	<0.5	280	<1.0	<5	<3	<10	<3	10	44
MAY 07...	1230	45	<0.5	300	<1.0	<5	<3	<10	<3	<10	39
AUG 19...	1225	52	<0.5	340	<1.0	<5	<3	<10	5	<10	54

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
NOV 21...	22	<10	<10	<1.0	1900	<6	7	4
FEB 26...	8	<10	<10	<1.0	1500	<6	9	4
MAY 07...	17	10	<10	<1.0	1700	<6	8	6
AUG 19...	24	<10	<10	<1.0	1900	<6	8	4

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW¹/₄NE¹/₄ and NE¹/₄SE¹/₄ (two 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, and on right bank of channel 2, 5 ft downstream 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 mi².

WATER-DISCHARGE RECORDS

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.

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

GAGE.--Two water-stage recorders with satellite telemetry. Datum of gages is 3,446.76 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Jan. 12-22, June 15-17, July 1-9, 25, July 28 to Aug. 12, and Aug. 18-28. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	95	73	338	1240	944	522	155	129	856	103	1680
2	195	85	82	338	1270	935	925	134	177	762	107	1330
3	204	100	74	356	1270	944	1140	117	161	681	98	1130
4	232	124	125	370	1170	983	1420	108	153	616	92	957
5	223	136	170	410	1140	1080	1390	104	149	565	89	832
6	230	180	230	467	1060	954	1260	83	137	514	90	717
7	236	175	235	586	905	976	1200	61	126	478	131	667
8	229	163	206	607	837	1020	1240	54	115	432	140	589
9	220	138	198	599	804	1320	1340	48	136	373	134	554
10	216	121	224	627	771	1310	1280	39	119	310	112	517
11	210	114	248	748	763	1360	1160	33	102	198	102	527
12	181	110	255	946	764	1380	860	28	101	127	106	492
13	178	108	257	979	770	1590	729	28	135	124	102	446
14	190	104	267	868	803	1830	650	28	184	114	77	438
15	184	106	269	775	963	1820	624	27	499	91	78	446
16	171	104	284	336	1010	1800	573	28	1400	127	84	458
17	148	108	289	311	1060	1770	504	27	1520	141	136	493
18	125	109	299	286	1000	1870	462	25	813	103	181	534
19	112	104	311	433	917	1880	417	23	658	95	293	534
20	109	95	311	784	873	1920	384	23	605	87	290	523
21	104	92	309	799	959	1910	377	24	592	87	241	523
22	104	76	281	930	1040	1780	387	28	518	81	203	505
23	98	71	285	978	1090	1580	411	31	404	101	178	508
24	95	70	278	1060	1190	1380	449	34	271	296	223	516
25	91	75	296	1160	1190	1160	385	45	254	238	383	518
26	91	77	303	1410	1190	854	322	41	277	199	535	512
27	96	79	299	1490	1080	650	285	41	1280	171	724	512
28	100	80	328	1440	1040	622	263	44	1170	168	1040	504
29	97	81	347	1460	989	578	234	46	1070	152	2570	495
30	104	80	333	1460	---	515	182	48	986	105	2740	478
31	95	---	340	1410	---	468	---	54	---	85	2100	---
TOTAL	4837	3160	7806	24761	29158	39183	21375	1609	14241	8477	13482	18935
MEAN	156	105	252	799	1005	1264	712	51.9	475	273	435	631
MAX	236	180	347	1490	1270	1920	1420	155	1520	856	2740	1680
MIN	91	70	73	286	763	468	182	23	101	81	77	438
AC-FT	9590	6270	15480	49110	57830	77720	42400	3190	28250	16810	26740	37560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1992, BY WATER YEAR (WY)

	MEAN	287	352	398	508	599	552	563	1089	1390	268	154	218
MAX	2427	2358	1371	1566	1864	2200	2808	9922	12200	5059	1346	1964	
(WY)	1985	1985	1985	1970	1930	1939	1983	1980	1983	1983	1983	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1902 - 1992
ANNUAL TOTAL	124948	187024	
ANNUAL MEAN	342	511	535
HIGHEST ANNUAL MEAN			2882
LOWEST ANNUAL MEAN			76.3
HIGHEST DAILY MEAN	1880	Jun 7	30800
LOWEST DAILY MEAN	a31	Aug 26	c.00
ANNUAL SEVEN-DAY MINIMUM	35	Aug 25	.00
INSTANTANEOUS PEAK FLOW			37600
INSTANTANEOUS PEAK STAGE			d10.44
ANNUAL RUNOFF (AC-FT)	247800	371000	387400
10 PERCENT EXCEEDS	881	1260	1130
50 PERCENT EXCEEDS	210	306	220
90 PERCENT EXCEEDS	46	80	28

a-Also occurred Aug 27.

b-Also occurred May 20.

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

d-From floodmarks in gage well.

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued
(Irrigation network station)
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1945 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1945 to September 1981 (discontinued).

WATER TEMPERATURES: Water years 1945-49, October 1950 to September 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor from July 1973 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,270 microsiemens Jan. 12, 1971; minimum daily, 348 microsiemens Aug. 1968.

WATER TEMPERATURES: Maximum, 36.0°C, July 17, 19, 1977, July 16, 1978; minimum, freezing point on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CaCO3)
NOV 20...	1310	99	2250	8.5	7.0	6.8	10.5	62	42	790
FEB 25...	1300	960	1860	8.3	7.0	31	9.5	--	190	640
MAY 06...	1515	91	2090	8.5	23.5	2.0	8.7	45	77	740
AUG 18...	1430	150	2030	8.4	25.0	20	7.9	590	310	670

DATE	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- ^A BONATE WATER WH FET FIELD MG/L AS HCO3	CAR- ^B BONATE WATER WH FET FIELD MG/L AS CO3	ALKA- ^C LINITY WAT WH TOT FET FIELD MG/L AS CaCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)
NOV 20...	210	63	200	3	18	220	48	247	810	110
FEB 25...	160	57	170	3	12	340	0	274	580	87
MAY 06...	190	63	190	3	17	--	--	--	750	54
AUG 18...	170	60	190	3	18	230	17	213	770	110

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV 20...	0.6	32	1690	1620	2.30	450	2.9	3.0	2.9	0.04
FEB 25...	0.7	16	1260	1280	1.71	3270	5.3	5.1	5.3	0.02
MAY 06...	0.4	20	1540	1430	2.09	379	2.8	2.8	2.8	<0.01
AUG 18...	0.7	19	1510	1470	2.05	612	1.3	1.1	1.3	0.03

A-Field dissolved bicarbonate, determined by incremental titration method.

B-Field dissolved carbonate, determined by incremental titration method.

C-Field total dissolved alkalinity, determined by incremental titration method.

PLATTE RIVER BASIN

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued
(Irrigation network station)
(National stream-quality accounting network station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
NOV 20...	0.04	0.56	0.60	0.05	0.01	0.03	0.08	0.25	0.12	0.07
FEB 25...	0.02	0.88	0.90	0.03	0.01	0.03	0.38	1.2	0.57	0.40
MAY 06...	0.02	--	0.60	0.03	0.03	0.10	0.08	0.25	0.11	0.08
AUG 18...	0.01	1.3	1.3	0.01	0.01	0.03	0.02	0.06	0.26	<0.01

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 20...	1310	10	52	<9	30	24	11
FEB 25...	1300	<10	33	<3	<3	55	<1
MAY 06...	1515	<10	55	<9	<9	57	5
AUG 18...	1430	<10	79	<6	<6	58	8

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 20...	<30	2	6	<1.0	2200	<18
FEB 25...	<10	2	5	<1.0	1700	<6
MAY 06...	<30	2	4	<1.0	2000	<18
AUG 18...	<20	2	2	<1.0	1900	<12

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
NOV 20...	85	1.1	46	15	34	15	0.12	58
MAY 06...	57	0.8	37	6.4	28	6.1	0.18	43

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 20...	1310	99	53	14
FEB 25...	1300	960	113	293
MAY 06...	1515	91	436	107
AUG 18...	1430	150	251	102

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in SE¹/₄NW¹/₄ sec.10, T.1 N., R.42 W., Dundy County, Nebraska, Hydrologic Unit 10250002, on right bank 100 ft east of Colorado-Nebraska State line, 9.5 mi upstream from confluence with Arikaree River, and at mile 448.

DRAINAGE AREA.--1,360 mi², approximately, of which about 100 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1932, published as North Fork of Arikaree River at Colorado-Nebraska State line. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1947(M). WSP 1390: 1934. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Steel piling control since January 1965. Datum of gage is 3,336.09 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Records fair except for estimated periods of record, which are poor. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres in Colorado and Nebraska.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	57	51	56	63	54	51	19	e15	15	11	44
2	19	56	53	55	62	55	50	18	e17	14	9.1	42
3	28	e56	51	55	62	54	50	18	e20	16	8.4	42
4	23	e58	51	56	63	59	49	18	19	16	11	43
5	20	59	51	56	63	63	49	17	23	16	10	42
6	15	63	52	56	63	60	45	16	20	16	9.4	41
7	13	58	51	57	62	58	46	14	16	15	9.3	42
8	13	56	50	58	61	57	46	13	18	12	9.3	42
9	15	55	50	e58	61	59	44	12	28	9.8	8.5	42
10	18	54	51	e56	61	58	44	11	35	9.6	8.5	37
11	22	54	51	55	61	59	45	10	35	9.6	9.4	36
12	27	53	57	56	61	59	47	9.4	35	9.6	120	35
13	31	53	55	55	61	58	45	11	35	11	48	34
14	34	51	52	57	61	56	25	10	33	11	44	33
15	39	51	52	57	60	55	28	10	30	10	43	31
16	46	53	52	56	60	53	32	10	28	11	44	31
17	48	62	52	e56	61	53	30	12	26	12	46	32
18	49	60	52	55	60	53	28	12	25	11	53	27
19	50	56	52	56	60	54	26	15	24	9.3	49	27
20	50	54	52	55	59	53	25	9.4	24	8.1	46	26
21	51	54	53	55	58	52	26	e7.4	22	8.8	46	25
22	51	55	54	54	58	52	26	e6.0	19	8.0	46	25
23	51	53	55	54	60	52	25	e4.5	18	8.4	43	24
24	52	52	54	55	64	51	26	e4.0	17	11	52	24
25	52	53	53	57	62	51	24	e3.5	16	11	78	24
26	54	53	53	59	60	52	23	e3.6	14	9.1	63	25
27	54	52	53	60	57	51	23	e4.0	14	9.4	55	25
28	53	52	54	61	54	51	22	e6.0	18	9.9	51	23
29	53	52	55	62	53	51	21	e10	20	9.1	47	24
30	53	51	54	63	---	50	19	e13	19	10	45	23
31	54	---	55	63	---	50	---	e13	---	11	44	---
TOTAL	1154	1646	1631	1764	1751	1693	1040	339.8	683	347.7	1166.9	971
MEAN	37.2	54.9	52.6	56.9	60.4	54.6	34.7	11.0	22.8	11.2	37.6	32.4
MAX	54	63	57	63	64	63	51	19	35	16	120	44
MIN	13	51	50	54	53	50	19	3.5	14	8.0	8.4	23
AC-FT	2290	3260	3240	3500	3470	3360	2060	674	1350	690	2310	1930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1992, BY WATER YEAR (WY)

	MEAN	37.1	57.8	62.1	61.6	63.5	66.2	59.0	43.3	36.0	19.1	19.2	27.1
MAX	67.1	83.5	74.7	73.4	76.8	85.8	85.7	104	113	93.8	72.4	128	
(WY)	1963	1957	1954	1953	1960	1960	1980	1951	1962	1962	1950	1951	
MIN	11.1	27.0	44.8	39.4	49.1	50.7	23.5	11.0	12.2	5.36	4.12	5.78	
(WY)	1979	1989	1991	1979	1988	1980	1972	1992	1952	1978	1940	1978	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1935 - 1992

ANNUAL TOTAL	14740.6	14187.4	
ANNUAL MEAN	40.4	38.8	45.8
HIGHEST ANNUAL MEAN			65.3
LOWEST ANNUAL MEAN			30.0
HIGHEST DAILY MEAN	79	120	761
LOWEST DAILY MEAN	4.2	3.5	1.7
ANNUAL SEVEN-DAY MINIMUM	5.2	4.5	2.3
INSTANTANEOUS PEAK FLOW		1260	2110
INSTANTANEOUS PEAK STAGE		*4.74	5.92
ANNUAL RUNOFF (AC-FT)	29240	28140	33190
10 PERCENT EXCEEDS	58	59	73
50 PERCENT EXCEEDS	51	46	52
90 PERCENT EXCEEDS	11	10	9.0

e-Estimated.

*-From floodmark.

07079200 LEADVILLE MINE DRAINAGE TUNNEL AT LEADVILLE, CO

LOCATION.--Lat 39°16'29", long 106°17'15", in SW¹/4SW¹/4 sec. 12, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, on right bank 80 ft downstream from access road, 0.5 mi upstream from mouth, and 0.8 mi north of Leadville.

PERIOD OF RECORD.--May 4, 1990 to current year. Formerly published as Leadville Drain at Leadville, Co.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder with satellite telemetry and Parshall flume. Elevation of gage is 9,960 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 4, 1990 to July 19, 1990, at same location on left bank, at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by U.S. Bureau of Reclamation mine drainage treatment facility, since Feb. 15, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.8	2.5	2.4	2.2	1.9	2.3	2.5	2.2	2.2	2.2	2.8
2	2.7	2.8	2.5	2.4	2.2	2.7	1.8	2.5	2.2	2.1	2.7	2.5
3	2.1	2.8	2.4	2.4	2.2	2.3	1.8	2.5	2.2	2.3	2.5	2.8
4	1.8	2.7	2.4	2.4	2.2	2.0	2.3	2.4	2.1	2.5	2.5	2.9
5	1.7	2.8	2.4	2.4	2.2	2.4	1.1	2.4	2.1	2.5	2.5	2.9
6	1.7	2.7	2.5	2.4	1.7	2.4	1.4	2.4	2.2	2.6	2.5	2.9
7	1.6	2.7	2.4	2.5	2.2	2.3	1.4	2.4	2.2	2.5	2.5	2.9
8	1.8	2.7	2.4	2.4	2.2	2.4	1.6	2.4	2.1	2.4	2.5	2.9
9	1.9	2.7	2.3	2.4	2.2	2.4	1.8	2.4	2.1	2.4	2.5	2.9
10	1.8	2.6	2.4	2.4	2.2	2.2	2.6	2.4	2.1	2.4	2.5	2.8
11	1.8	2.6	2.4	2.4	2.2	2.4	2.6	2.4	2.1	2.5	2.5	2.8
12	1.8	2.2	2.4	2.4	2.2	2.3	2.6	2.4	2.1	2.5	2.5	2.9
13	1.8	1.6	2.3	2.4	2.9	2.5	2.6	2.2	2.1	2.5	2.6	2.9
14	2.1	1.4	2.3	2.4	2.2	2.4	2.5	2.4	2.1	2.5	2.5	2.9
15	2.7	1.5	2.3	2.3	2.2	2.1	2.6	2.4	2.1	2.5	2.6	2.9
16	2.4	2.3	2.3	2.3	2.2	1.8	2.5	2.3	2.1	2.5	2.7	2.9
17	1.7	2.7	2.3	2.3	2.1	2.2	2.5	2.2	2.1	2.5	2.7	3.0
18	1.7	2.6	2.2	2.3	2.2	2.2	2.6	2.1	2.1	2.5	2.7	2.9
19	1.8	2.6	2.3	2.3	2.2	2.5	2.6	2.1	2.1	2.5	2.7	2.9
20	1.8	2.6	2.4	1.6	2.2	2.1	2.6	2.1	2.1	2.5	2.7	3.0
21	1.8	2.6	2.4	1.9	1.9	2.3	2.5	2.1	2.1	2.4	2.7	2.9
22	1.7	2.6	2.4	2.3	2.1	2.3	2.5	2.1	2.2	2.5	2.7	2.9
23	1.8	2.5	2.4	2.3	2.5	2.3	2.5	2.1	2.2	2.4	2.7	2.8
24	1.7	2.6	2.4	2.2	2.2	2.1	2.5	2.1	2.1	2.4	2.8	2.7
25	2.5	2.6	2.4	2.2	2.2	1.4	2.3	2.2	2.2	2.5	2.8	2.9
26	2.5	2.5	2.4	2.2	2.3	1.7	2.5	2.0	2.2	2.5	2.8	2.8
27	2.2	2.5	2.4	2.2	2.3	2.2	2.5	2.2	2.2	2.4	2.7	2.9
28	2.1	2.5	2.4	2.2	2.3	2.4	2.5	2.1	2.2	2.5	2.7	2.9
29	2.9	2.5	2.4	2.2	2.4	2.5	2.5	2.1	2.2	2.5	2.8	2.9
30	2.9	2.5	2.4	2.2	---	2.5	1.7	2.1	2.2	2.5	2.8	2.9
31	2.9	---	2.4	2.2	---	2.3	---	2.2	---	2.5	2.8	---
TOTAL	63.6	74.8	73.8	70.9	64.3	69.5	67.8	70.2	64.3	76.0	81.4	86.0
MEAN	2.05	2.49	2.38	2.29	2.22	2.24	2.26	2.26	2.14	2.45	2.63	2.87
MAX	2.9	2.8	2.5	2.5	2.9	2.7	2.6	2.5	2.2	2.6	2.8	3.0
MIN	1.6	1.4	2.2	1.6	1.7	1.4	1.1	2.0	2.1	2.1	2.2	2.5
AC-FT	126	148	146	141	128	138	134	139	128	151	161	171

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	1990	1991	1992	1990	1991	1992	1990	1991	1992	1990	1991	1992
MEAN	2.36	2.60	2.54	2.49	2.45	2.40	2.33	2.28	2.34	2.49	2.61	2.65
MAX	2.68	2.71	2.71	2.70	2.70	2.56	2.41	2.30	2.60	2.67	2.84	2.87
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1990	1990	1990	1992
MIN	2.05	2.49	2.38	2.29	2.22	2.24	2.26	2.26	2.14	2.34	2.36	2.24
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1991	1991	1991

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1990 - 1992
ANNUAL TOTAL	875.5	862.6	
ANNUAL MEAN	2.40	2.36	2.43
HIGHEST ANNUAL MEAN			2.50
LOWEST ANNUAL MEAN			2.36
HIGHEST DAILY MEAN	b 3.3 Apr 19	a 3.0 Sep 17	3.3 Apr 19 1991
LOWEST DAILY MEAN	b 1.4 Sep 26	1.1 Apr 5	1.1 Apr 5 1992
ANNUAL SEVEN-DAY MINIMUM	1.6 Sep 25	1.6 Apr 2	1.6 Sep 25 1991
INSTANTANEOUS PEAK FLOW		6.9 Feb 13	7.1 Sep 22 1991
INSTANTANEOUS PEAK STAGE		1.20 Feb 13	c 1.19 Sep 22 1991
ANNUAL RUNOFF (AC-FT)	1740	1710	1760
10 PERCENT EXCEEDS	2.7	2.8	2.8
50 PERCENT EXCEEDS	2.4	2.4	2.5
90 PERCENT EXCEEDS	2.0	1.9	2.1

a-Also occurred Sep 20.

b-Also occurred Sep 27.

c-Maximum gage height, 1.20 ft, Feb 13, 1992.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07079200 LEADVILLE MINE DRAINAGE TUNNEL AT LEADVILLE, CO

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

LOCATION.--Lat 39°16'21", long 106°18'21", in NW¹/4NW¹/4 sec. 14, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, on right bank 20 ft downstream from U.S. Highway 24, 0.35 mi downstream from Leadville Mine Drainage Tunnel, 2.2 mi upstream from mouth of Tennessee Creek, and 1.5 mi northwest of Leadville.

DRAINAGE AREA.--49.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 9,900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 28 to Mar. 11. Records good except for daily discharges above 120 ft³/s, which are fair, and estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions (see elsewhere in this report).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	10	9.6	8.8	14	8.7	9.7	39	103	130	40	32
2	19	10	9.0	8.8	13	9.5	9.3	40	99	106	39	33
3	19	9.0	8.8	9.0	12	9.1	9.6	41	107	91	38	31
4	18	9.2	9.0	9.1	11	9.0	10	45	119	89	37	30
5	17	9.6	9.6	8.8	9.2	9.2	9.5	51	127	92	36	30
6	17	10	11	8.8	9.6	9.1	10	57	124	92	37	29
7	17	10	12	9.6	10	9.0	10	59	126	94	37	27
8	17	11	12	10	9.6	8.8	11	73	123	114	35	26
9	17	11	12	11	10	8.7	11	80	129	104	35	24
10	16	12	11	12	11	8.6	13	78	129	89	36	23
11	16	13	10	12	10	8.6	14	71	145	81	38	22
12	16	14	9.4	11	10	8.5	14	76	159	80	36	22
13	16	14	8.8	10	9.6	8.8	15	75	170	87	33	22
14	16	14	9.6	9.4	9.9	8.7	16	81	173	76	31	21
15	17	13	11	9.2	9.4	8.4	16	85	171	67	31	22
16	16	12	12	9.4	9.2	8.1	16	92	161	57	32	22
17	16	11	12	9.8	9.0	8.3	16	96	143	58	38	23
18	16	10	12	10	9.0	8.4	16	107	157	54	34	22
19	15	9.6	11	11	8.8	8.7	15	113	173	55	30	21
20	15	9.6	11	12	9.0	8.5	14	129	173	52	28	23
21	15	10	10	12	9.2	8.8	14	157	167	51	27	22
22	15	10	10	11	9.4	8.7	14	167	161	49	27	21
23	15	9.0	9.2	12	9.7	8.9	14	157	168	48	30	20
24	16	8.8	9.0	13	9.4	8.8	13	163	173	50	45	20
25	16	9.6	9.0	14	9.3	8.3	14	141	166	59	49	21
26	16	11	9.0	14	9.4	8.8	14	143	176	62	47	21
27	16	12	8.8	14	9.5	8.9	15	149	157	53	40	20
28	13	12	8.8	15	9.2	9.2	19	136	138	49	36	20
29	11	11	9.0	15	9.2	9.2	24	120	141	47	33	20
30	10	10	9.0	15	---	9.8	33	114	132	45	31	19
31	10	---	9.0	15	---	9.7	---	111	---	42	30	---
TOTAL	488	325.4	311.6	349.7	287.6	273.8	429.1	3046	4390	2223	1096	709
MEAN	15.7	10.8	10.1	11.3	9.92	8.83	14.3	98.3	146	71.7	35.4	23.6
MAX	19	14	12	15	14	9.8	33	167	176	130	49	33
MIN	10	8.8	8.8	8.8	8.8	8.1	9.3	39	99	42	27	19
AC-FT	968	645	618	694	570	543	851	6040	8710	4410	2170	1410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	1990	1991	1992	1990	1991	1992	1990	1991	1992	1990	1991	1992
MEAN	18.4	13.0	10.6	11.2	10.5	9.27	12.6	84.7	171	65.3	35.6	23.6
MAX	21.0	15.1	11.2	11.3	11.0	9.70	14.3	98.3	187	78.2	38.7	24.5
(WY)	1991	1991	1991	1992	1991	1991	1992	1992	1991	1991	1991	1991
MIN	15.7	10.8	10.1	11.0	9.92	8.83	10.9	71.2	146	46.1	32.7	22.7
(WY)	1992	1992	1992	1991	1992	1992	1991	1991	1992	1990	1990	1990

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1990 - 1992

ANNUAL TOTAL	14589.2	13929.2	
ANNUAL MEAN	40.0	38.1	39.5
HIGHEST ANNUAL MEAN			40.9
LOWEST ANNUAL MEAN			38.1
HIGHEST DAILY MEAN	287	176	462
LOWEST DAILY MEAN	8.8	8.1	8.0
ANNUAL SEVEN-DAY MINIMUM	8.9	8.4	8.4
INSTANTANEOUS PEAK FLOW		214	675
INSTANTANEOUS PEAK STAGE		a, 3.33	b, 3.94
ANNUAL RUNOFF (AC-FT)	28940	27630	28590
10 PERCENT EXCEEDS	123	121	127
50 PERCENT EXCEEDS	13	15	21
90 PERCENT EXCEEDS	9.4	9.0	9.4

a-Maximum gage height, 3.37 ft, May 24.
b-From floodmark.

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

pH: May 1990 to current year.

INSTRUMENTATION: Water-quality monitor.

REMARKS.--Records for daily water temperature are good. Records for daily specific conductance and pH are fair.

Daily data that are not published are either missing or of unacceptable quality. Daily maximum and minimum specific conductance, daily mean water temperature, and daily mean pH data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 601 microsiemens, Mar. 26, 1992; minimum, 99 microsiemens, June 8, 1990.

WATER TEMPERATURE: Maximum, 17.2°C, Aug. 6, 1990; minimum, 0.0°C, many days.

pH: Maximum, 8.9 units, Mar. 17-18, 1992; minimum, 7.2 units, May 22, 1991.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 601 microsiemens, Mar. 26; minimum, 100 microsiemens, June 14.

WATER TEMPERATURE: Maximum, 16.0°C, Aug. 15; minimum, 0.0°C, many days.

pH: Maximum, 8.9 units, Mar. 17-18; minimum, 7.4 units, Sept. 15, 18.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239	299	328	332	410	388	449	238	130	111	177	203
2	269	301	331	396	405	455	408	222	137	---	185	198
3	256	321	331	363	401	425	442	218	134	---	187	206
4	248	304	336	395	405	407	455	210	132	---	188	209
5	249	295	335	366	406	438	424	199	127	---	188	207
6	250	295	339	395	388	428	371	186	123	---	186	211
7	250	291	341	384	395	426	374	186	121	131	183	214
8	250	307	337	389	410	427	381	166	123	123	188	221
9	264	298	351	396	403	423	366	161	132	126	187	224
10	255	292	354	400	404	424	469	160	125	133	187	224
11	257	295	330	398	407	424	437	167	128	139	184	225
12	259	298	336	390	407	435	416	162	117	140	188	228
13	262	269	362	397	444	450	399	166	110	135	194	231
14	266	279	345	396	408	443	380	157	106	142	197	231
15	292	271	337	403	408	436	387	151	110	147	199	230
16	274	294	338	403	388	411	385	143	110	149	203	229
17	260	318	342	401	410	456	369	133	116	154	193	224
18	267	297	356	404	413	437	362	122	120	158	198	230
19	268	310	361	413	418	451	382	117	113	160	205	232
20	268	325	331	385	423	432	396	109	113	159	210	228
21	270	298	357	392	405	452	393	---	118	162	212	230
22	265	312	374	417	438	448	392	---	121	165	219	234
23	269	318	386	407	463	442	387	---	119	168	208	236
24	266	310	358	404	420	433	403	---	116	171	190	236
25	281	305	381	409	425	421	377	---	120	165	179	238
26	285	309	361	407	429	376	388	---	113	158	184	233
27	280	311	390	409	436	461	370	---	113	171	191	240
28	261	310	391	413	430	452	336	---	121	181	198	241
29	308	317	385	413	430	453	305	---	115	177	203	242
30	299	323	376	412	---	461	249	133	114	179	206	244
31	303	---	388	410	---	455	---	131	---	178	207	---
MEAN	267	302	354	397	415	435	388	---	120	---	194	226

PH (STANDARD UNITS), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.4	8.0	8.0	7.9	8.2	8.1	8.3	8.2	8.4	8.0	8.5	8.3
2	8.4	8.0	8.0	7.8	8.2	8.1	8.3	8.1	8.3	8.1	8.5	8.3
3	8.4	8.0	8.1	7.8	8.2	8.0	8.3	8.1	8.2	8.1	8.5	8.3
4	8.4	8.0	8.1	7.9	8.2	8.0	8.3	8.2	8.2	8.1	8.4	8.3
5	8.4	8.0	8.3	8.0	8.2	8.1	8.3	8.1	8.2	8.0	8.4	8.3
6	8.4	8.0	8.2	8.1	8.3	8.0	8.3	8.1	8.5	8.0	8.5	8.3
7	8.4	8.0	8.3	8.1	8.3	8.1	8.3	8.2	8.4	8.2	8.5	8.2
8	8.4	8.0	8.3	8.1	8.3	8.1	8.3	8.2	8.4	8.3	8.4	8.3
9	8.4	8.0	8.3	8.1	8.3	8.1	8.3	8.2	8.5	8.3	8.4	8.2
10	8.4	8.0	8.3	8.1	8.3	8.1	8.3	8.2	8.3	8.2	8.4	8.1
11	8.4	8.0	8.3	8.1	8.3	8.2	8.3	8.2	8.3	8.2	8.5	8.2
12	8.4	8.0	8.2	8.1	8.3	8.2	8.3	8.3	8.3	8.1	8.5	8.3
13	8.5	8.0	8.2	8.0	8.3	8.2	8.3	8.2	8.2	8.1	8.5	8.3
14	8.4	8.0	8.2	8.0	8.2	8.1	8.4	8.2	8.2	8.1	8.5	8.3
15	8.4	8.0	8.3	8.1	8.3	8.1	8.3	8.1	8.2	8.1	8.4	8.3
16	8.4	8.1	8.3	8.1	8.2	8.1	8.2	8.1	8.2	8.1	8.8	8.3
17	8.4	8.0	8.3	8.1	8.2	8.1	8.3	8.1	8.3	8.1	8.9	8.3
18	8.4	8.1	8.2	8.0	8.3	8.1	8.4	8.2	8.5	8.1	8.9	8.4
19	8.4	8.0	8.2	8.0	8.3	8.2	8.2	8.1	8.5	8.3	8.4	8.2
20	8.4	8.0	8.2	7.9	8.3	8.2	8.3	8.1	8.5	8.3	8.4	8.2
21	8.4	8.0	8.3	8.1	8.3	8.2	8.2	8.1	8.5	8.3	8.4	8.1
22	8.4	8.0	8.3	8.1	8.3	8.2	8.2	8.0	8.6	8.3	8.4	8.2
23	8.4	8.0	8.2	8.0	8.3	8.2	8.2	8.1	8.4	8.2	8.4	8.2
24	8.4	8.0	8.2	8.0	8.3	8.1	8.2	8.1	8.4	8.2	8.4	8.2
25	8.4	8.0	8.2	8.0	8.3	8.2	8.1	8.0	8.5	8.3	8.4	8.2
26	8.3	8.0	8.2	8.1	8.3	8.1	8.1	8.0	8.4	8.3	8.4	8.1
27	8.3	8.0	8.2	8.1	8.3	8.1	8.4	8.0	8.5	8.3	8.4	8.1
28	8.1	7.9	8.3	8.1	8.3	8.1	8.3	8.1	8.5	8.3	8.4	8.2
29	8.2	7.9	8.3	8.1	8.3	8.2	8.2	8.0	8.5	8.3	8.5	8.2
30	8.1	7.9	8.2	8.1	8.3	8.1	8.2	8.0	---	---	8.5	8.1
31	8.0	7.9	---	---	8.3	8.2	8.1	8.0	---	---	8.5	8.4
MONTH	8.5	7.9	8.3	7.8	8.3	8.0	8.4	8.0	8.6	8.0	8.9	8.1
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.6	8.3	8.0	7.7	8.2	8.0	8.4	8.2	8.0	7.9	8.0	7.8
2	8.6	8.3	8.0	7.9	8.2	7.9	8.0	7.9	8.0	7.9	8.0	7.7
3	8.6	8.3	8.0	7.9	8.2	7.9	8.0	7.9	8.0	7.9	8.0	7.8
4	8.7	8.3	8.0	7.9	8.2	8.0	8.0	7.9	8.0	7.9	8.0	7.9
5	8.7	8.3	8.0	7.9	8.2	8.1	8.1	7.8	8.1	7.9	8.1	8.0
6	8.7	8.4	8.0	7.9	8.2	8.0	8.2	8.0	8.3	8.1	8.1	7.9
7	8.7	8.4	8.0	7.9	8.2	8.1	8.4	7.8	8.4	8.0	8.1	8.0
8	8.5	8.4	8.0	7.9	8.2	8.0	8.3	8.1	8.3	8.0	8.2	8.0
9	8.5	8.4	8.0	7.9	8.1	8.0	8.4	8.1	8.2	8.0	8.2	8.1
10	8.5	8.3	8.0	7.9	8.2	8.1	8.4	8.2	8.2	8.0	8.3	8.0
11	8.5	8.3	8.0	7.9	8.2	8.1	8.2	8.1	8.4	8.0	8.0	7.8
12	8.4	8.3	8.0	7.9	8.2	8.1	8.2	8.0	8.2	7.9	8.1	7.8
13	8.4	8.2	8.0	7.9	8.3	8.1	8.3	8.0	8.0	7.8	7.9	7.7
14	8.3	8.2	8.0	7.9	8.3	8.2	8.2	8.1	8.0	7.8	7.8	7.5
15	8.3	8.1	8.0	7.9	8.3	8.2	8.3	8.1	8.0	7.9	7.9	7.4
16	8.4	8.1	8.1	7.9	8.4	8.2	8.1	8.0	8.0	7.9	8.1	7.8
17	8.4	8.2	8.2	7.9	8.4	8.3	8.1	8.0	8.1	7.9	8.0	7.8
18	8.3	8.1	8.1	7.9	8.4	8.1	8.1	8.0	8.1	7.8	8.4	7.4
19	8.3	8.1	8.1	7.6	8.4	8.0	8.1	8.0	8.2	7.7	8.4	8.0
20	8.5	8.1	8.1	7.7	8.4	8.2	8.1	8.0	8.2	7.8	8.4	8.0
21	8.4	8.1	8.0	7.6	8.4	8.3	8.1	8.0	8.1	7.7	8.5	8.0
22	8.3	8.1	7.8	7.7	8.4	8.2	8.1	8.0	8.2	7.7	8.5	8.0
23	8.2	8.0	8.1	7.8	8.3	8.2	8.1	8.0	8.2	7.8	8.5	8.0
24	8.3	8.0	8.2	8.0	8.3	8.2	8.1	8.0	7.9	7.7	8.5	8.0
25	8.4	8.0	8.3	8.1	8.3	8.1	8.1	8.0	8.1	7.7	8.4	8.0
26	8.4	8.0	8.3	8.1	8.3	8.1	8.1	7.9	7.9	7.7	8.3	8.0
27	8.4	8.0	8.4	8.2	8.3	8.1	7.9	7.7	8.0	7.6	8.3	8.0
28	8.4	8.0	8.4	8.2	8.1	8.0	8.2	7.7	8.0	7.6	8.4	8.0
29	8.3	7.9	8.4	8.3	8.1	7.9	8.4	7.9	8.0	7.7	8.4	8.0
30	8.2	7.9	8.3	8.2	8.4	7.9	8.0	7.9	8.1	7.7	8.4	8.0
31	---	---	8.2	8.1	---	---	8.0	8.0	8.0	7.7	---	---
MONTH	8.7	7.9	8.4	7.6	8.4	7.9	8.4	7.7	8.4	7.6	8.5	7.4
YEAR	8.9	7.4										

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.9	3.2	1.6	.0	.4	.0	.7	.0	.0	.0	3.6	.1
2	11.3	3.4	1.3	.0	.0	.0	.3	.0	.0	.0	6.1	.1
3	11.0	3.0	.6	.0	.4	.0	.4	.0	.0	.0	5.9	.1
4	7.8	1.7	1.8	.0	.9	.0	1.1	.0	.0	.0	3.9	.9
5	8.1	.7	3.9	.6	1.1	.0	1.1	.0	.1	.0	5.8	.2
6	9.4	1.0	3.0	.5	1.1	.0	1.2	.0	.1	.0	6.7	.2
7	8.4	1.7	5.0	.1	1.2	.0	.6	.2	.1	.1	5.6	.2
8	8.8	2.0	3.6	.0	1.2	.0	.9	.0	.1	.1	5.6	.2
9	10.2	2.7	6.0	.2	.8	.0	.9	.0	.1	.1	5.7	.2
10	9.7	2.3	5.7	2.9	.5	.0	1.2	.0	.1	.1	5.2	.2
11	10.4	2.3	5.7	1.3	.7	.0	1.2	.0	.2	.1	4.9	.2
12	8.9	2.7	3.6	.0	1.1	.0	1.0	.2	.9	.1	7.7	.2
13	8.7	2.1	2.8	.0	.0	.0	.9	.0	.1	.1	7.6	.2
14	7.7	1.5	1.9	.0	.0	.0	1.0	.1	1.5	.1	7.5	.1
15	9.8	2.2	3.0	1.0	.0	.0	.6	.0	2.1	.1	7.9	.2
16	9.3	1.8	3.1	.4	.0	.0	.8	.0	.2	.1	8.1	.2
17	8.7	1.9	3.4	.2	.5	.0	1.3	.0	.4	.1	6.8	.2
18	8.2	2.2	2.2	.0	.9	.0	1.0	.0	.5	.1	4.2	.2
19	7.3	1.5	2.2	.0	1.5	.0	1.1	.0	.4	.1	5.2	.2
20	6.9	1.8	1.1	.0	1.4	.0	1.1	.0	2.0	.1	4.3	.1
21	7.5	1.1	3.0	.0	1.0	.0	.9	.0	3.6	.1	5.4	.1
22	7.5	.4	.9	.0	.7	.0	.9	.0	2.8	.1	4.5	.1
23	7.3	1.9	.0	.0	.9	.0	1.0	.0	3.0	.1	6.8	.7
24	6.6	1.9	.8	.0	.6	.0	1.4	.1	1.9	.1	5.7	1.0
25	6.0	1.1	1.6	.0	1.0	.0	1.6	.0	4.2	.1	5.6	1.1
26	6.1	.7	1.6	.2	.8	.0	1.8	.0	2.9	.1	6.8	.3
27	7.0	1.3	2.0	.0	.8	.0	1.7	.0	5.2	.1	6.3	.1
28	3.8	.0	1.8	.0	.8	.0	1.8	.0	5.7	.1	6.8	1.8
29	2.3	.0	.9	.0	.9	.0	2.0	.0	5.4	.1	5.5	1.5
30	.7	.0	.5	.0	.6	.0	2.1	.0	---	---	7.6	1.3
31	1.9	.0	---	---	.7	.0	.3	.0	---	---	8.6	1.6
MONTH	11.9	.0	6.0	.0	1.5	.0	2.1	.0	5.7	.0	8.6	.1
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.1	1.1	12.0	2.2	7.4	1.8	---	5.4	15.6	4.6	9.9	4.0
2	8.9	1.5	12.4	1.9	11.6	1.8	9.4	---	14.5	4.6	10.2	4.8
3	7.0	1.3	11.9	2.7	10.8	3.0	13.4	3.8	13.3	6.6	10.9	4.4
4	9.3	1.1	9.7	2.2	9.8	3.6	13.9	5.1	13.3	6.0	11.7	5.6
5	8.7	1.5	9.5	1.8	8.1	3.6	13.0	5.6	11.5	6.6	12.7	5.5
6	7.9	1.7	9.4	1.7	9.8	2.8	15.8	6.2	13.4	7.1	---	---
7	9.3	1.6	9.3	2.2	8.5	2.9	11.4	6.3	15.1	6.3	---	---
8	8.9	2.2	12.5	2.3	9.1	2.5	9.3	7.2	15.2	6.4	---	---
9	8.6	1.9	8.2	2.3	7.7	3.3	13.2	5.9	15.5	6.9	---	---
10	9.9	2.2	8.8	.9	10.8	2.7	13.7	1.4	11.5	5.3	12.8	---
11	9.5	2.7	11.0	.5	8.7	3.4	12.8	6.6	12.0	5.3	12.0	4.8
12	9.5	3.1	8.9	1.5	11.5	3.1	11.0	6.3	12.0	5.9	11.9	5.4
13	11.2	2.6	10.0	2.2	11.8	3.8	12.8	6.3	12.0	5.6	12.3	6.1
14	10.4	2.4	9.7	1.9	11.0	3.6	10.2	5.3	14.4	5.5	9.9	5.1
15	7.3	3.7	10.1	2.1	11.1	3.7	10.7	4.7	16.0	6.7	12.3	5.7
16	8.6	1.9	9.8	.0	8.2	3.0	13.0	5.4	12.9	7.3	10.4	4.1
17	10.8	3.7	10.8	.0	12.7	3.3	11.2	5.8	12.5	7.4	10.7	4.5
18	9.1	3.7	9.6	.5	13.0	3.4	14.1	5.3	14.4	7.3	9.2	5.5
19	8.3	1.0	9.7	1.5	12.5	3.7	11.3	6.0	15.9	6.2	9.6	5.3
20	6.5	1.1	8.5	1.8	11.4	6.0	11.7	5.2	13.4	7.1	9.0	4.4
21	7.2	1.3	7.5	1.0	10.8	4.6	14.1	6.0	13.3	6.4	11.0	5.1
22	11.5	1.9	6.3	.0	10.8	4.0	11.7	3.8	13.3	7.9	11.8	4.0
23	8.7	2.4	---	---	10.6	4.2	11.9	4.4	11.6	7.6	12.4	4.8
24	6.5	2.2	---	---	9.7	5.5	12.1	5.9	8.9	5.2	10.7	3.6
25	11.2	.2	---	---	11.2	5.6	12.0	7.5	9.1	4.0	9.0	4.3
26	12.6	2.5	---	---	12.0	5.7	15.1	7.1	11.7	5.0	9.3	2.5
27	12.5	3.0	---	---	8.7	5.6	13.2	5.7	12.4	3.6	10.0	2.7
28	12.7	3.8	---	---	11.5	5.5	13.5	5.7	12.9	4.2	10.3	2.8
29	14.3	4.1	7.8	---	12.8	5.4	12.5	6.0	10.6	4.8	10.7	3.5
30	14.1	3.9	7.6	3.0	13.4	5.5	15.4	5.5	11.8	5.6	11.1	3.4
31	---	---	5.6	2.6	---	---	15.1	7.0	10.1	5.6	---	---
MONTH	14.3	.2	---	---	13.4	1.8	---	---	16.0	3.6	---	---

07081200 ARKANSAS RIVER NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'26", long 106°20'35", in NW¹/4NW¹/4 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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to September 1983. April 1990 to current year.

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

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,730 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 29 to Apr. 7. Records good 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	16	15	14	17	15	17	110	188	165	57	52
2	26	16	15	14	17	15	17	110	171	147	55	53
3	25	15	15	15	16	15	16	114	176	127	54	49
4	24	16	16	15	15	14	17	120	187	122	53	47
5	23	16	16	15	15	14	18	132	214	123	52	48
6	23	17	16	14	16	14	17	139	211	123	55	45
7	23	17	17	14	16	15	19	156	219	128	55	42
8	22	18	17	14	15	15	22	187	197	159	51	40
9	23	18	17	15	15	14	24	198	209	156	47	37
10	22	19	17	16	15	14	29	170	208	129	52	36
11	22	19	16	17	15	15	31	143	222	116	57	35
12	22	19	16	16	15	15	34	153	238	113	57	34
13	22	19	15	15	15	15	41	150	253	121	52	34
14	22	19	15	15	14	15	47	162	255	110	50	33
15	22	18	16	15	15	16	51	172	244	103	48	34
16	21	18	16	16	14	16	57	180	216	100	47	35
17	21	18	16	16	13	15	61	183	188	89	59	37
18	21	18	16	16	14	15	55	208	199	83	57	35
19	21	16	16	16	14	15	45	229	217	81	45	34
20	21	17	16	17	14	15	39	250	228	81	41	39
21	20	17	15	17	14	15	37	282	224	75	41	39
22	20	17	15	16	15	16	37	284	216	71	40	36
23	21	15	15	15	15	15	36	270	220	69	50	33
24	22	15	16	16	14	15	33	274	234	73	93	32
25	22	16	16	16	14	15	38	243	228	92	100	34
26	22	17	16	17	14	14	51	249	240	107	83	36
27	21	18	16	17	15	15	76	283	219	82	68	34
28	21	17	16	17	15	15	94	239	189	71	58	32
29	17	16	15	17	15	16	98	215	192	67	54	32
30	16	16	15	17	---	16	107	204	175	64	51	31
31	16	---	15	17	---	17	---	199	---	60	50	---
TOTAL	671	513	489	487	431	466	1264	6008	6377	3207	1732	1138
MEAN	21.6	17.1	15.8	15.7	14.9	15.0	42.1	194	213	103	55.9	37.9
MAX	27	19	17	17	17	17	107	284	255	165	100	53
MIN	16	15	15	14	13	14	16	110	171	60	40	31
AC-FT	1330	1020	970	966	855	924	2510	11920	12650	6360	3440	2260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	MEAN	25.6	20.1	16.0	14.2	13.9	14.5	29.4	154	330	129	57.6	33.2
MAX	38.3	28.9	21.7	18.1	20.5	20.8	52.9	334	634	256	130	55.8	
(WY)	1971	1971	1983	1983	1973	1971	1989	1970	1980	1983	1983	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1968 - 1992

ANNUAL TOTAL	23606	22783	
ANNUAL MEAN	64.7	62.2	70.7
HIGHEST ANNUAL MEAN			101
LOWEST ANNUAL MEAN			32.4
HIGHEST DAILY MEAN	464	284	960
LOWEST DAILY MEAN	^a 14	13	^b 7.0
ANNUAL SEVEN-DAY MINIMUM	15	14	7.0
INSTANTANEOUS PEAK FLOW		314	1090
INSTANTANEOUS PEAK STAGE		^c 3.17	4.30
ANNUAL RUNOFF (AC-FT)	46820	45190	51240
10 PERCENT EXCEEDS	206	197	204
50 PERCENT EXCEEDS	21	22	26
90 PERCENT EXCEEDS	16	15	12

a-Also occurred Mar 8.

b-Also occurred Feb 4-20, 1978.

c-Maximum gage height, 3.29 ft, Dec 17, backwater from ice.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07081200 ARKANSAS RIVER NEAR LEADVILLE, CO

LOCATION.--Lat 39°13'21", long 106°21'17", in NW¹/₄SE¹/₄ sec. 32, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, on right bank 220 ft downstream from access road, 210 ft upstream from mouth, and 3.2 mi west of Leadville.

WATER-DISCHARGE RECORDS

REMARKS.--Estimated daily discharges (1992 water year): Oct. 29 to Nov. 6, Nov. 22 to Dec. 12, Feb. 16-19, and Mar. 4-9. Records good except for estimated daily discharges, which are fair. Flow regulated from mine drainage pond upstream and Leadville waste-water treatment facility.

[illegible]

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1991, BY WATER YEAR (WY)

[illegible]

07081800 CALIFORNIA GULCH AT MALTA, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.0	1.0	1.1	1.3	1.6	1.4	1.7	1.5	.89	1.3	2.4
2	1.3	1.0	1.1	1.1	1.3	1.7	1.5	1.7	1.6	.96	1.4	2.5
3	.93	1.0	1.2	1.0	1.3	1.5	1.6	1.5	1.5	1.1	1.0	2.4
4	.85	1.1	1.0	1.0	1.2	1.4	1.6	1.5	1.1	.65	1.3	2.0
5	1.2	1.1	1.1	1.0	1.2	1.3	1.7	1.7	1.2	.65	1.4	1.5
6	1.2	1.1	1.0	1.1	1.2	1.1	1.8	1.8	1.3	.80	1.5	1.3
7	.99	1.1	1.0	1.1	1.3	1.2	1.9	1.9	1.3	.91	1.9	1.3
8	1.0	1.2	1.1	1.0	1.3	1.1	2.1	1.9	1.2	1.6	1.7	1.5
9	1.0	1.2	1.0	1.1	1.3	1.2	2.3	1.8	1.5	1.8	1.5	2.1
10	1.0	1.2	1.0	1.1	1.3	1.1	2.6	1.9	1.5	1.6	2.2	2.0
11	1.0	1.2	1.1	1.1	1.3	1.1	2.6	1.8	1.7	1.5	2.6	1.9
12	1.0	1.1	1.1	1.2	1.2	1.1	3.3	1.9	1.4	1.6	2.6	1.1
13	1.0	.97	1.1	.97	1.1	1.3	2.8	1.8	1.0	1.6	2.5	1.2
14	1.2	1.1	1.4	.85	1.1	1.4	2.3	1.7	.96	1.9	2.2	1.5
15	1.2	1.1	1.5	1.0	1.2	1.3	2.1	1.6	.94	2.7	1.4	2.3
16	1.0	1.2	1.5	1.1	1.4	1.3	1.8	2.5	1.0	2.7	1.5	2.0
17	1.1	1.1	1.4	1.1	1.1	1.3	2.0	2.6	1.3	2.5	2.4	2.0
18	1.1	1.1	1.4	1.1	1.0	1.2	2.0	2.4	1.4	2.2	2.7	1.9
19	1.0	1.1	1.3	1.1	1.1	1.2	1.7	3.5	1.1	2.1	2.4	1.5
20	1.0	1.2	1.3	1.1	1.3	1.2	1.5	3.4	1.1	2.2	1.8	1.9
21	.94	1.2	1.3	1.1	1.5	1.2	1.7	3.5	1.3	2.0	1.8	1.8
22	.85	1.1	1.3	1.0	1.5	1.2	1.7	4.1	1.7	1.4	1.9	1.9
23	.92	1.1	1.3	1.0	1.5	1.5	1.9	3.8	1.3	1.4	1.9	1.8
24	1.0	1.0	1.2	1.1	1.3	1.5	1.7	3.0	1.8	1.8	6.3	1.7
25	1.2	1.1	1.3	1.1	1.5	1.5	1.8	1.6	2.1	2.8	3.0	1.8
26	1.1	1.2	1.3	1.2	1.5	1.5	1.8	1.5	1.7	2.4	2.8	1.1
27	1.1	1.0	1.3	1.2	1.2	1.5	1.9	1.7	1.3	1.9	2.3	1.1
28	1.3	1.1	1.3	1.2	1.3	1.4	1.9	1.8	1.3	1.7	2.1	1.4
29	.90	1.0	1.2	1.3	1.6	1.5	1.8	1.8	.98	1.6	1.4	1.6
30	.90	1.2	1.2	1.3	---	1.5	1.9	1.4	.86	1.5	1.3	1.6
31	1.0	---	1.2	1.3	---	1.6	---	1.3	---	1.4	1.6	---
TOTAL	32.78	33.17	37.5	34.02	37.4	41.5	58.7	66.1	39.94	51.86	63.7	52.1
MEAN	1.06	1.11	1.21	1.10	1.29	1.34	1.96	2.13	1.33	1.67	2.05	1.74
MAX	1.5	1.2	1.5	1.3	1.6	1.7	3.3	4.1	2.1	2.8	6.3	2.5
MIN	.85	.97	1.0	.85	1.0	1.1	1.4	1.3	.86	.65	1.0	1.1
AC-FT	65	66	74	67	74	82	116	131	79	103	126	103

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1992, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	1.06	1.11	1.21	1.10	1.29	1.34	1.96	2.13	1.33	1.67	2.02	1.39
MAX	1.06	1.11	1.21	1.10	1.29	1.34	1.96	2.13	1.33	1.67	2.05	1.74
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992
MIN	1.06	1.11	1.21	1.10	1.29	1.34	1.96	2.13	1.33	1.67	1.99	1.04
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1991	1991

SUMMARY STATISTICS

FOR 1992 WATER YEAR

WATER YEARS 1991 - 1992

ANNUAL TOTAL	548.77	
ANNUAL MEAN	1.50	1.50
HIGHEST ANNUAL MEAN		1.50
LOWEST ANNUAL MEAN		1.50
HIGHEST DAILY MEAN		6.3
LOWEST DAILY MEAN	a .65	Aug 24 1992
ANNUAL SEVEN-DAY MINIMUM	.84	Jul 4 1991
INSTANTANEOUS PEAK FLOW	12	Jun 30 1991
INSTANTANEOUS PEAK STAGE	1.54	Aug 24 1992
ANNUAL RUNOFF (AC-FT)	1090	1.54
10 PERCENT EXCEEDS	2.2	Aug 24 1992
50 PERCENT EXCEEDS	1.3	2.4
90 PERCENT EXCEEDS	1.0	1.4
		1.0

a-Also occurred Jul 5.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07081800 CALIFORNIA GULCH AT MALTA, CO

07082400 TURQUOISE LAKE NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'10", long 106°22'26", in SW¹/4NE¹/4 sec.19, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, in control house of Sugar Loaf Dam on Lake Fork, 4.0 mi west of Leadville and 4.6 mi upstream from mouth.

DRAINAGE AREA.--28.1 mi².

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 9,754.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by earthfill dam completed in 1909, capacity, 17,400 acre-ft. Enlargement of dam began Dec. 8, 1965, and closure was made Apr. 15, 1968. Enlarged capacity, 129,400 acre-ft at elevation 9,869.4 ft, crest of spillway. Dead storage, 2,770 acre-ft below elevation 9,765.90 ft, sill of lowest outlet. Figures given are total contents. Since Apr. 15, 1968, Turquoise Lake has been a regulatory reservoir for the Fryingpan-Arkansas project and stores water imported from the Colorado River basin through Charles H. Boustead Tunnel for irrigation, municipal water supply, and power development. It also stores water for industrial use, and water imported from the Colorado River basin through Busk-Ivanhoe tunnel for irrigation and through Homestake tunnel for municipal water supply.

COOPERATION.--Records provided by U. S. Bureau of Reclamation.

EXTREMES (at 0800 of following day) FOR PERIOD OF RECORD.--Maximum contents, 131,820 acre-ft, July 10, 1983, elevation, 9,870.73 ft; minimum since appreciable storage was attained, 14,510 acre-ft, Oct. 1, 1968, elevation, 9,782.85 ft.

EXTREMES (at 0800 of the following day) FOR CURRENT YEAR.--Maximum contents, 122,780 acre-ft, July 11, elevation, 9,865.67 ft; minimum, 72,560 acre-ft, Apr. 30, elevation, 9,835.04 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	9,863.72	119,360	-
Oct. 31.	9,862.07	116,490	-2,870
Nov. 30.	9,859.83	112,630	-3,860
Dec. 31.	9,854.07	102,860	-9,770
CAL YR 1991			-13,980
Jan. 31.	9,847.89	92,660	-10,200
Feb. 29.	9,842.27	83,660	-9,000
Mar. 31.	9,839.91	79,970	-3,690
Apr. 30.	9,835.04	72,560	-7,410
May 31.	9,848.42	93,520	+20,960
June 30.	9,864.64	120,970	+27,450
July 31.	9,864.72	121,110	+140
Aug. 31.	9,865.09	121,760	+650
Sept. 30.	9,864.15	120,110	-1,650
WTR YR 1992			+750

c-From rating curve extended above 300 ft³/s.

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued
(Hydrologic bench-mark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- November 1966 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: May 1967 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 26.0°C, Aug. 16, 1980; minimum, 0.0°C, on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 21...	1645	6.4	84	7.8	7.0	0.6	8.1	--	<1
DEC 11...	1320	4.4	100	7.6	0.0	0.9	11.6	<1	<1
FEB 26...	1515	2.2	101	8.1	0.0	0.8	10.2	<1	K3
APR 29...	1600	17	75	8.2	13.0	0.7	6.8	<1	<1
JUN 30...	1830	91	52	7.8	11.0	0.8	7.6	<1	<1
AUG 27...	1600	44	76	7.8	11.5	0.5	7.5	<2	<3

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- ^A BONATE WATER DIS IT MG/L AS HCO3	CAR- ^B BONATE WATER DIS IT MG/L AS CO3
OCT 21...	44	11	4.1	1.6	7	0.1	0.6	48	0
DEC 11...	44	11	4.0	1.8	8	0.1	0.7	48	0
FEB 26...	48	12	4.3	1.9	8	0.1	0.3	59	0
APR 29...	34	8.2	3.2	1.3	8	0.1	0.6	36	0
JUN 30...	26	6.8	2.2	0.9	7	0.1	0.4	--	--
AUG 27...	36	9.0	3.2	1.1	6	0.1	0.5	44	0

DATE	ALKA- ^C LITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 21...	39	5.2	0.6	0.2	6.0	51	53	0.88
DEC 11...	39	6.1	<0.1	0.2	6.8	45	--	--
FEB 26...	48	6.2	1.2	<0.1	6.9	69	63	0.41
APR 29...	30	4.7	0.3	0.1	4.6	53	41	2.43
JUN 30...	--	3.2	<0.1	<0.1	3.4	33	--	--
AUG 27...	36	4.2	0.1	<0.1	4.2	44	45	5.23

A Field dissolved bicarbonate, determined by incremental titration method.

B Field dissolved carbonate, determined by incremental titration method.

C Field total dissolved alkalinity, determined by incremental titration method.

K Based on non-ideal colony counts.

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 21...	<0.01	0.078	<0.01	<0.01	<0.20	<0.01	<0.01	<0.01
DEC 11...	<0.01	0.160	0.06	0.02	0.50	0.06	0.04	0.02
FEB 26...	<0.01	0.140	0.02	0.04	<0.20	<0.01	<0.01	<0.01
APR 29...	<0.01	0.078	--	0.03	--	--	<0.01	0.01
JUN 30...	<0.01	0.097	0.01	0.02	<0.20	<0.01	<0.01	<0.01
AUG 27...	<0.01	0.140	0.01	0.02	<0.20	<0.01	<0.01	<0.01

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
OCT 21...	<10	22	<3	69	<4	5	<10	1	<1	<1	78	<6
FEB 26...	<10	20	<3	32	<4	6	<10	<1	<1	<1	85	<6
JUN 30...	<10	17	<3	28	<4	3	<10	<1	<1	<1	48	<6
AUG 27...	<10	21	<3	75	<4	5	<10	<1	<1	<1	67	<6

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, TOTAL (UG/L U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
DEC 11...	1320	<0.6	0.9	0.8	<0.6	0.9	<0.6	0.03	0.10
JUN 30...	1830	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.02	0.07

CROSS-SECTION DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)
OCT 21...	1646	4.00	7.0	84	7.6	8.1	2
21...	1647	10.0	7.0	84	7.6	8.1	2
21...	1648	15.0	7.0	84	7.7	8.1	2
JUN 30...	1831	8.00	11.0	52	7.8	7.6	1
30...	1832	17.0	11.0	52	7.8	7.6	1
30...	1833	23.5	11.0	52	7.8	7.6	1

ARKANSAS RIVER BASIN

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
JAN 1992					AUG 1992				
30...	1400	5.4	108	0.0	05...	0930	33	75	7.0
MAY					SEP				
28...	1300	63	59	7.5	22...	1050	15	85	6.0

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT				
21...	1645	6.4	2	0.03
DEC				
11...	1320	4.4	4	0.05
FEB				
26...	1515	2.2	3	0.02
APR				
29...	1600	17	4	0.19
JUN				
30...	1830	91	9	2.1
AUG				
27...	1600	44	2	0.29

07083710 ARKANSAS RIVER BELOW EMPIRE GULCH NEAR MALTA, CO

LOCATION.--Lat 39°09'50", long 106°19'10", in NE¹/4SW¹/4 sec. 22, T.10 S., R.80 W., Lake County, Hydrologic Unit 11020001, at right downstream end of private road bridge, 0.1 mi downstream from Empire Gulch, 0.4 mi downstream from bridge on U.S. Highway 24, 0.6 mi upstream from Dry Union Gulch, and 4.8 mi southeast of Malta.

DRAINAGE AREA.--237 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1990 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 1 to Mar. 3, and Mar. 31 to Apr. 6. Records good except for those above 650 ft³/s and those for estimated daily discharges, which are poor. Natural flow of river affected by transmountain diversions, storage reservoirs, diversions for irrigation upstream from station (acreage unknown), and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	62	64	68	64	57	70	148	290	251	126	108
2	69	60	66	68	60	58	68	146	245	234	122	109
3	68	60	68	70	58	57	70	152	237	229	123	103
4	68	58	73	70	58	58	76	153	249	229	121	99
5	67	58	71	70	56	60	76	164	283	231	117	96
6	67	60	69	70	56	60	74	173	283	237	113	88
7	67	64	67	68	58	60	77	195	300	312	114	86
8	67	67	67	68	58	59	79	222	270	310	108	79
9	66	68	68	66	58	58	84	234	296	247	104	76
10	66	68	70	68	58	57	92	217	293	224	124	75
11	66	68	67	70	58	57	95	185	309	226	138	77
12	65	66	68	70	58	58	97	202	342	240	130	71
13	66	66	65	68	58	56	98	209	353	219	119	71
14	65	67	67	66	56	57	102	221	365	211	115	71
15	65	66	72	64	56	58	99	228	348	206	107	78
16	64	66	74	64	58	60	102	223	305	203	102	80
17	63	66	78	66	56	61	117	221	268	182	125	79
18	62	66	80	66	53	59	119	244	276	167	122	78
19	60	67	80	66	54	59	107	271	313	158	100	76
20	62	62	78	68	56	59	99	304	332	162	91	89
21	63	67	66	66	56	58	97	342	337	161	94	88
22	66	66	72	62	59	61	98	364	330	147	90	82
23	67	63	68	60	58	60	99	357	336	149	105	78
24	74	63	70	60	58	59	92	364	369	169	207	75
25	79	64	73	62	54	61	95	324	377	200	201	78
26	77	66	72	62	56	59	100	338	386	230	166	79
27	75	66	72	62	56	61	117	393	347	184	137	76
28	76	65	74	62	57	63	142	364	311	165	120	74
29	71	66	72	63	57	63	144	322	320	154	110	76
30	66	64	70	63	---	66	145	298	283	146	106	73
31	64	---	70	63	---	64	---	295	---	132	105	---
TOTAL	2091	1935	2191	2039	1658	1843	2930	7873	9353	6315	3762	2468
MEAN	67.5	64.5	70.7	65.8	57.2	59.5	97.7	254	312	204	121	82.3
MAX	79	68	80	70	64	66	145	393	386	312	207	109
MIN	60	58	64	60	53	56	68	146	237	132	90	71
AC-FT	4150	3840	4350	4040	3290	3660	5810	15620	18550	12530	7460	4900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	1990	1991	1992	1990	1991	1992	1990	1991	1992	1990	1991	1992
MEAN	81.8	78.5	61.9	56.7	54.3	58.1	88.6	247	389	182	107	74.4
MAX	96.1	92.6	70.7	65.8	57.2	59.5	97.7	254	438	204	121	82.3
(WY)	1991	1991	1992	1992	1992	1992	1992	1992	1990	1992	1992	1992
MIN	67.5	64.5	53.1	47.7	51.4	56.7	79.5	241	312	165	88.4	66.7
(WY)	1992	1992	1991	1991	1991	1991	1991	1991	1992	1990	1990	1990

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1990 - 1992

ANNUAL TOTAL	44399	44458	
ANNUAL MEAN	122	121	123
HIGHEST ANNUAL MEAN			125
LOWEST ANNUAL MEAN			121
HIGHEST DAILY MEAN	691	Jun 14	846
LOWEST DAILY MEAN	43	Jan 1	31
ANNUAL SEVEN-DAY MINIMUM	45	Jan 10	34
INSTANTANEOUS PEAK FLOW			a 1030
INSTANTANEOUS PEAK STAGE		b 3.56	c 4.19
ANNUAL RUNOFF (AC-FT)	88070	88180	89240
10 PERCENT EXCEEDS	285	283	299
50 PERCENT EXCEEDS	71	74	87
90 PERCENT EXCEEDS	50	58	54

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

b-Maximum gage height, 4.34 ft, Jan 31, backwater from ice.

c-Maximum gage height, 4.34 ft, Jan 31, 1992, backwater from ice.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07083710 ARKANSAS RIVER BELOW EMPIRE GULCH NEAR MALTA, CO

07084500 LAKE CREEK ABOVE TWIN LAKES RESERVOIR, CO

LOCATION.--Lat 39°03'47", long 106°24'26", Lake County, Hydrologic Unit 11020001, on left bank 1.2 mi upstream from water line of Twin Lakes Reservoir at elevation 9,200 ft and 1.9 mi southwest of village of Twin Lakes.

DRAINAGE AREA.--75 mi².

PERIOD OF RECORD.--April 1946 to September 1962, October 1963 to current year. Monthly discharge only for some periods, published in WSP 1241, 1311, and 1731.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1951(M), 1952.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,310 ft, from topographic map. Prior to May 20, 1950, at site 190 ft downstream, at different datum. May 20, 1950, to Apr. 7, 1953, at site 10 ft upstream, at present datum.

REMARKS.--Estimated daily discharges: Oct 29 to Apr. 15. Records good except for estimated daily discharges, which are poor. No diversion upstream from station. Records include inflow from Roaring Fork River in Colorado River basin through Twin Lakes tunnel.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	18	16	12	12	8.8	13	182	296	487	154	73
2	26	18	15	11	11	9.0	14	213	282	400	147	70
3	26	17	15	11	10	9.1	14	232	314	350	124	65
4	25	18	14	11	10	9.5	14	313	384	346	138	63
5	24	19	15	10	10	9.4	14	318	440	386	85	60
6	25	20	16	10	9.8	9.4	14	350	440	392	90	55
7	24	21	16	10	9.8	9.4	16	377	438	408	88	52
8	24	22	16	10	9.9	9.6	13	374	410	526	78	50
9	23	23	17	10	10	10	14	364	420	475	72	47
10	22	24	16	11	10	10	16	321	431	383	75	45
11	22	25	16	11	9.8	10	17	285	491	346	83	43
12	21	43	16	12	9.6	9.8	18	294	523	338	79	42
13	20	85	15	11	9.4	10	19	302	668	316	76	43
14	20	28	14	10	9.2	10	34	347	680	287	73	42
15	19	18	14	10	8.9	11	65	378	598	286	68	44
16	19	18	28	9.8	8.6	12	61	411	532	289	64	42
17	18	19	77	9.6	8.2	12	52	457	468	251	69	43
18	18	18	51	9.4	7.9	12	36	544	534	225	64	42
19	18	18	14	9.6	7.8	12	25	598	610	222	57	42
20	18	18	14	10	7.8	12	21	619	642	222	54	44
21	18	17	15	10	8.0	12	21	671	639	225	53	46
22	17	17	14	10	8.2	12	22	625	624	207	56	44
23	18	17	14	10	8.0	12	21	567	678	206	65	39
24	18	16	14	9.8	7.8	12	21	587	736	244	84	37
25	18	16	14	9.6	8.0	12	23	528	689	316	93	41
26	19	16	14	9.7	8.2	12	50	534	651	371	97	38
27	19	16	14	10	8.4	12	52	538	563	294	90	37
28	19	17	13	10	8.5	12	67	469	532	248	83	35
29	19	17	13	10	8.6	12	89	401	576	208	77	34
30	19	16	12	11	---	12	154	363	538	203	74	32
31	19	---	12	11	---	13	---	329	---	172	72	---
TOTAL	642	655	564	319.5	263.4	338.0	1010	12891	15827	9629	2582	1390
MEAN	20.7	21.8	18.2	10.3	9.08	10.9	33.7	416	528	311	83.3	46.3
MAX	27	85	77	12	12	13	154	671	736	526	154	73
MIN	17	16	12	9.4	7.8	8.8	13	182	282	172	53	32
AC-FT	1270	1300	1120	634	522	670	2000	25570	31390	19100	5120	2760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	MEAN	43.5	27.5	19.4	15.1	13.6	13.5	31.3	318	860	408	128	65.5
MAX	185	90.0	60.0	35.0	35.0	40.0	104	704	1579	939	295	258	
(WY)	1962	1962	1962	1962	1962	1962	1962	1970	1978	1957	1983	1961	
MIN	18.8	12.4	10.3	8.68	7.00	5.00	10.1	101	415	81.3	42.2	23.5	
(WY)	1957	1989	1989	1981	1948	1948	1983	1983	1954	1977	1950	1974	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1946 - 1992
ANNUAL TOTAL	46241.9	46110.9	
ANNUAL MEAN	127	126	162
HIGHEST ANNUAL MEAN			258
LOWEST ANNUAL MEAN			78.6
HIGHEST DAILY MEAN	1040	736	2570
LOWEST DAILY MEAN	8.6	7.8	5.0
ANNUAL SEVEN-DAY MINIMUM	8.8	7.9	5.0
INSTANTANEOUS PEAK FLOW		894	3270
INSTANTANEOUS PEAK STAGE		4.37	5.08
ANNUAL RUNOFF (AC-FT)	91720	91460	117600
10 PERCENT EXCEEDS	487	440	534
50 PERCENT EXCEEDS	20	22	34
90 PERCENT EXCEEDS	9.6	9.8	11

a-Also occurred Mar 2-31, 1948.

b-From rating curve extended above 1400 ft³/s.

07086000 ARKANSAS RIVER AT GRANITE, CO

LOCATION.--Lat 39°02'34", long 106°15'55", in SE¹/4SW¹/4 sec.31, T.11 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on right bank at Granite, 100 ft east of U.S. Highway 24, 100 ft downstream from county bridge, and 200 ft upstream from Cache Creek.

DRAINAGE AREA.--427 mi².

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 National Geodetic Vertical Datum of 1929, 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.--Estimated daily discharges: Oct. 29 to Nov. 4, Nov. 13, 14, 19, 20, Dec. 4-10, 12, 13, 15, 16, 23, 24, 26-28, 30, and Jan. 3. Records good except for estimated daily discharges, which are fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	119	220	269	269	269	216	301	697	830	524	194
2	94	120	227	269	269	271	213	305	598	778	525	181
3	95	123	241	269	271	269	216	305	541	659	531	190
4	97	129	240	269	270	273	220	391	560	565	541	190
5	95	160	215	269	271	268	227	524	642	524	528	192
6	95	166	218	269	268	269	231	560	727	527	516	187
7	93	169	205	272	267	269	234	596	819	530	524	185
8	96	160	207	272	265	273	203	636	764	590	536	176
9	97	163	212	267	265	273	183	616	748	727	542	168
10	97	163	210	264	265	269	183	603	631	724	554	146
11	99	163	209	267	267	265	196	548	625	612	556	126
12	99	163	209	273	268	268	193	536	748	615	527	125
13	95	155	240	273	265	263	199	554	798	612	509	122
14	97	151	265	273	265	265	199	566	836	520	494	116
15	97	196	261	273	266	261	196	622	965	506	423	109
16	97	253	250	273	265	249	199	715	1010	542	339	113
17	95	257	245	270	265	248	206	777	917	546	299	112
18	95	253	238	269	265	250	177	776	823	525	286	117
19	93	203	245	268	263	244	163	790	859	554	264	112
20	90	203	241	268	265	244	152	919	940	554	242	123
21	90	220	238	269	267	246	147	1020	982	554	260	125
22	91	213	231	273	262	245	147	1110	995	554	325	119
23	95	209	230	273	266	216	147	1170	981	566	330	113
24	100	209	230	271	265	199	144	1110	1010	566	334	108
25	119	216	231	269	270	203	149	1040	1030	549	334	114
26	117	216	230	269	271	199	152	966	1100	579	307	116
27	112	213	230	269	271	205	174	1010	1270	522	266	110
28	112	213	233	269	268	209	234	993	1170	507	219	110
29	104	213	227	269	272	209	269	900	1090	528	204	111
30	120	220	250	269	---	216	285	800	870	521	199	110
31	119	---	261	269	---	220	---	754	---	511	195	---
TOTAL	3088	5611	7189	8365	7746	7627	5854	22513	25746	17997	12233	4120
MEAN	99.6	187	232	270	267	246	195	726	858	581	395	137
MAX	120	257	265	273	272	273	285	1170	1270	830	556	194
MIN	90	119	205	264	262	199	144	301	541	506	195	108
AC-FT	6130	11130	14260	16590	15360	15130	11610	44650	51070	35700	24260	8170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1992, BY WATER YEAR (WY)

	MEAN	156	127	100	95.4	101	116	238	685	1260	892	541	248
MAX	356	337	448	419	526	500	667	1711	2146	2367	1239	546	
(WY)	1977	1983	1983	1983	1985	1985	1962	1984	1984	1983	1984	1961	
MIN	82.4	64.3	48.5	39.8	45.0	55.0	97.1	191	432	217	151	104	
(WY)	1932	1945	1977	1918	1919	1919	1933	1935	1934	1934	1934	1990	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1910 - 1992	
ANNUAL TOTAL	131408		128089			
ANNUAL MEAN	360		350		382	
HIGHEST ANNUAL MEAN					687	
LOWEST ANNUAL MEAN					188	
HIGHEST DAILY MEAN	1740	Jun 12	1270	Jun 27	4990	Jun 30 1957
LOWEST DAILY MEAN	80	Mar 5	90	Oct 20	11	Mar 15 1918
ANNUAL SEVEN-DAY MINIMUM	93	Oct 17	93	Oct 17	31	Jan 10 1918
INSTANTANEOUS PEAK FLOW			1320	Jun 27	5360	Jun 28 1957
INSTANTANEOUS PEAK STAGE			4.32	Jun 27	7.20	Jun 28 1957
ANNUAL RUNOFF (AC-FT)	260600		254100		276500	
10 PERCENT EXCEEDS	777		757		1040	
50 PERCENT EXCEEDS	261		265		163	
90 PERCENT EXCEEDS	99		113		73	

a-Also occurred Oct 21.

07086500 CLEAR CREEK ABOVE CLEAR CREEK RESERVOIR, CO

LOCATION.--Lat 39°01'05", long 106°16'38", in SE¹/₄ sec.12, T.12 S., R.80 W., Chaffee County, Hydrologic Unit 11020001, on right bank 0.5 mi upstream from water line of Clear Creek Reservoir at elevation 8,875 ft, 1.5 mi downstream from unnamed tributary, and 1.9 mi southwest of Granite.

DRAINAGE AREA.--67.1 mi².

PERIOD OF RECORD.--May 1946 to current year. Monthly discharge only for some periods, published in WSP 1241, and 1311.

REVISED RECORDS.--WSP 2121: Drainage area. WDR CO-91-1: 1990 (M).

GAGE.--Water-stage recorder. Elevation of gage is 8,885 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 7, 1946, to Apr. 20, 1954, water-stage recorder at site 133 ft upstream at different datum. Apr. 21 1954 to May 28, 1958, water-stage recorder 333 ft upstream at different datum. Datum raised 2.19 ft, Apr. 21, 1954.

REMARKS.--Estimated daily discharges: Oct. 29, Nov. 1-8, 12, 13, and Nov. 19 to Apr. 1. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	14	16	10	14	11	9.4	50	108	122	55	81
2	26	14	16	10	13	11	9.8	55	98	104	52	81
3	25	14	16	10	13	11	9.8	61	108	92	52	75
4	24	15	17	10	12	11	9.8	66	134	92	47	75
5	23	15	17	10	12	10	9.8	76	143	92	46	70
6	22	16	17	11	11	10	11	87	124	92	50	65
7	22	18	17	11	11	10	11	98	120	96	55	61
8	22	20	18	10	11	10	13	104	110	122	51	58
9	22	22	17	10	12	10	12	96	112	129	50	55
10	21	22	16	10	12	10	14	83	114	98	47	52
11	21	22	15	11	12	9.0	15	73	148	89	64	50
12	20	19	14	11	12	8.4	15	75	148	85	65	48
13	20	19	13	10	12	8.0	19	75	167	85	56	47
14	20	19	12	10	11	8.0	21	81	173	75	56	46
15	20	20	11	9.8	11	8.0	21	87	162	73	52	52
16	18	19	11	9.6	11	8.0	22	96	131	89	50	52
17	16	19	11	10	11	8.0	20	110	116	73	50	50
18	15	20	12	9.6	11	8.4	24	120	136	66	47	50
19	16	18	12	9.6	10	8.4	19	145	159	64	44	50
20	15	18	12	10	10	8.0	16	162	165	62	41	48
21	15	19	12	11	11	8.0	15	189	165	61	40	47
22	15	18	12	12	11	8.2	15	176	162	59	40	44
23	15	18	12	11	12	8.4	15	153	167	64	50	41
24	16	17	12	11	11	8.6	14	167	170	98	59	38
25	19	17	11	12	10	8.8	15	151	167	96	83	38
26	19	16	11	12	10	8.4	15	153	162	96	91	38
27	18	16	11	13	11	8.4	20	173	148	81	81	36
28	19	17	11	13	11	8.6	26	153	131	71	80	35
29	15	18	11	13	11	8.8	32	131	143	65	78	34
30	14	18	11	14	---	9.0	42	124	129	64	75	32
31	13	---	11	14	---	9.0	---	116	---	59	76	---
TOTAL	592	537	415	338.6	330	280.4	510.6	3486	4220	2614	1783	1549
MEAN	19.1	17.9	13.4	10.9	11.4	9.05	17.0	112	141	84.3	57.5	51.6
MAX	26	22	18	14	14	11	42	189	173	129	91	81
MIN	13	14	11	9.6	10	8.0	9.4	50	98	59	40	32
AC-FT	1170	1070	823	672	655	556	1010	6910	8370	5180	3540	3070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	MEAN	29.8	19.7	15.0	12.2	11.3	11.2	18.7	109	297	170	70.7	42.4
MAX	71.2	33.7	25.0	22.0	25.0	28.0	65.0	203	531	771	166	97.7	
(WY)	1962	1987	1962	1962	1962	1962	1962	1984	1952	1957	1984	1970	
MIN	15.5	7.77	8.50	5.50	5.00	5.00	6.50	40.2	89.4	41.8	30.6	17.8	
(WY)	1979	1956	1956	1964	1964	1948	1964	1975	1977	1977	1974	1974	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1946 - 1992

ANNUAL TOTAL	18680.9	16655.6	
ANNUAL MEAN	51.2	45.5	67.5
HIGHEST ANNUAL MEAN			134
LOWEST ANNUAL MEAN			29.3
HIGHEST DAILY MEAN	345	Jun 12	1300
LOWEST DAILY MEAN	^a 7.0	Apr 30	^c 5.0
ANNUAL SEVEN-DAY MINIMUM	8.8	Apr 25	^d 1300
INSTANTANEOUS PEAK FLOW			^e 5.22
INSTANTANEOUS PEAK STAGE			
ANNUAL RUNOFF (AC-FT)	37050	33040	48910
10 PERCENT EXCEEDS	154	122	191
50 PERCENT EXCEEDS	18	19	24
90 PERCENT EXCEEDS	9.8	10	10

a-Also occurred May 1.

b-Also occurred Mar 13-17, 20, 21.

c-Many days some years.

d-Maximum daily discharge.

e-Maximum gage height recorded, present site and datum.

07087200 ARKANSAS RIVER AT BUENA VISTA, CO

LOCATION.--Lat 38°50'57", long 106°07'27", in NW¹/4NW¹/4 sec.9, T.14 S., R.78 W., Chaffee County, Hydrologic Unit 11020001, on right bank at northeast corner of Buena Vista city limits and 1.8 mi upstream from Cottonwood Creek.

DRAINAGE AREA.--611 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to September 1980, October 1986 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 7,920 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 6-8, and Dec. 25 to Mar. 12. 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, diversions upstream from station for irrigation of 7,400 acres, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	136	204	300	280	290	225	330	977	990	593	286
2	147	131	214	300	280	290	225	335	860	941	570	285
3	147	114	232	290	285	290	226	344	784	794	586	279
4	145	119	241	300	290	290	233	403	790	756	610	286
5	142	198	249	310	300	290	234	576	906	701	565	279
6	142	183	240	310	290	285	235	645	944	713	569	295
7	138	186	230	290	290	280	245	702	993	736	579	382
8	138	169	220	280	290	280	223	796	932	782	590	374
9	138	179	219	270	300	270	184	814	882	939	584	366
10	138	182	222	280	300	270	188	820	789	968	599	337
11	136	183	220	280	300	268	203	598	758	849	623	306
12	124	169	223	280	300	275	199	563	852	806	590	293
13	131	165	238	290	300	274	219	578	959	824	573	203
14	124	164	268	300	300	273	229	586	1060	637	637	193
15	115	191	274	300	295	275	227	640	1180	597	587	172
16	115	277	272	310	290	271	229	753	1230	633	495	177
17	115	280	274	310	290	262	245	839	1100	599	448	172
18	114	280	274	310	290	267	223	888	980	539	416	173
19	112	220	278	300	290	263	210	888	993	572	394	173
20	110	211	265	290	290	260	197	1040	1150	573	369	173
21	110	230	261	280	300	260	189	1220	1200	588	354	182
22	110	221	268	280	300	263	190	1320	1230	577	510	174
23	114	202	252	260	300	246	190	1410	1180	589	519	170
24	119	207	250	260	300	219	182	1310	1200	615	637	164
25	127	228	250	280	300	220	176	1230	1230	626	631	168
26	129	217	250	280	300	217	172	1160	1300	669	418	175
27	122	217	250	280	290	221	176	1210	1520	600	381	164
28	122	216	255	280	290	226	227	1250	1430	548	316	159
29	120	214	260	280	290	226	273	1130	1310	594	301	159
30	119	207	277	280	---	227	296	1080	1080	607	293	147
31	129	---	290	280	---	232	---	1030	---	575	290	---
TOTAL	3939	5896	7720	8940	8520	8080	6470	26488	31799	21537	15627	6866
MEAN	127	197	249	288	294	261	216	854	1060	695	504	229
MAX	147	280	290	310	300	290	296	1410	1520	990	637	382
MIN	110	114	204	260	280	217	172	330	758	539	290	147
AC-FT	7810	11690	15310	17730	16900	16030	12830	52540	63070	42720	31000	13620

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	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
MEAN	194	171	127	133	134	153	293	861	1605	1146	670	314																
MAX	397	303	249	288	307	398	635	1598	2563	2302	1027	605																
(WY)	1977	1977	1992	1992	1974	1989	1989	1970	1980	1965	1973	1970																
MIN	127	107	86.7	63.9	64.0	84.2	137	314	629	222	210	167																
(WY)	1992	1978	1977	1977	1977	1977	1973	1977	1977	1977	1977	1977																

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

	1991	1992	1965-1992
ANNUAL TOTAL	167497	151882	
ANNUAL MEAN	459	415	485
HIGHEST ANNUAL MEAN			626
LOWEST ANNUAL MEAN			225
HIGHEST DAILY MEAN	^a 2210	1520	3780
LOWEST DAILY MEAN	^b 110	110	57
ANNUAL SEVEN-DAY MINIMUM	112	112	58
INSTANTANEOUS PEAK FLOW		1580	3950
INSTANTANEOUS PEAK STAGE		4.01	6.55
ANNUAL RUNOFF (AC-FT)	332200	301300	351100
10 PERCENT EXCEEDS	1050	940	1280
50 PERCENT EXCEEDS	280	282	215
90 PERCENT EXCEEDS	142	155	102

a-Also occurred Jun 13.

b-Also occurred Oct 21 and 22.

c-Also occurred Jan 28, 1977.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07087200 ARKANSAS RIVER AT BUENA VISTA, CO

Water-Quality and Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07091200 ARKANSAS RIVER NEAR NATHROP, CO

07093700 ARKANSAS RIVER NEAR WELLSVILLE, CO

LOCATION.--Lat 38°30'10", long 105°56'21", in SW¹/4NE¹/4 sec.14, T.49 N., R.9 E., Chaffee County, Hydrologic Unit 11020001, on right bank 50 ft upstream from Chaffee-Fremont County line, 2.0 mi northwest of Wellsville, 2.8 mi downstream from South Arkansas River, and 3.5 mi southeast of Salida.

DRAINAGE AREA.--1,485 mi².

PERIOD OF RECORD.--April 1961 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,883.4 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Estimated daily discharges: Nov. 24 to Feb. 7. Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 26,000 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	265	393	456	511	462	470	395	397	1110	1070	728	579
2	274	409	439	508	462	467	380	403	987	1030	696	565
3	270	420	447	498	472	475	379	408	898	929	703	533
4	273	412	462	510	465	511	382	437	866	874	722	526
5	267	448	470	505	465	500	379	588	973	827	693	510
6	270	498	474	505	460	487	384	670	1050	815	714	500
7	270	527	477	510	460	484	397	737	1090	832	685	562
8	271	489	472	505	469	483	393	817	1060	854	709	573
9	270	472	472	498	468	481	329	868	987	984	694	562
10	270	475	464	498	465	474	313	928	957	1050	712	546
11	276	478	472	507	465	469	322	690	928	949	763	488
12	275	476	472	515	467	470	320	609	1020	863	731	473
13	272	454	465	500	465	474	320	636	1140	968	707	415
14	275	453	472	492	465	473	344	645	1180	805	744	375
15	280	489	494	495	465	474	354	680	1270	748	748	357
16	276	532	498	493	461	470	346	778	1320	765	670	350
17	276	559	507	491	454	450	351	876	1170	773	629	341
18	276	562	508	490	455	456	352	952	1080	677	586	332
19	277	537	510	481	456	448	330	966	1020	695	560	339
20	270	486	513	481	458	443	312	1100	1190	708	531	342
21	270	500	508	481	462	446	297	1370	1230	712	497	353
22	270	507	505	480	468	453	290	1440	1310	699	591	362
23	271	449	498	480	462	451	294	1580	1240	723	652	353
24	276	454	488	482	464	406	291	1480	1280	778	994	344
25	287	470	480	487	461	397	269	1380	1330	798	1150	337
26	295	470	481	476	469	393	262	1320	1390	868	832	346
27	294	472	468	475	466	392	247	1390	1590	787	749	341
28	297	477	464	475	472	400	280	1450	1540	720	655	329
29	305	474	475	477	468	403	342	1300	1390	719	595	329
30	325	473	474	472	---	395	359	1200	1210	766	584	320
31	346	---	491	465	---	403	---	1170	---	698	591	---
TOTAL	8689	14315	14876	15243	13451	13998	10013	29265	34806	25484	21615	12682
MEAN	280	477	480	492	464	452	334	944	1160	822	697	423
MAX	346	562	513	515	472	511	397	1580	1590	1070	1150	579
MIN	265	393	439	465	454	392	247	397	866	677	497	320
AC-FT	17230	28390	29510	30230	26680	27770	19860	58050	69040	50550	42870	25150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	MEAN	412	417	367	332	327	312	394	1017	2049	1463	901	523
MAX	750	581	636	576	729	606	896	2344	3930	3066	1889	1031	
(WY)	1985	1983	1983	1983	1985	1985	1962	1984	1980	1983	1984	1970	
MIN	229	242	280	207	208	202	215	391	708	340	278	267	
(WY)	1978	1978	1978	1977	1977	1978	1977	1977	1977	1977	1977	1977	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR				FOR 1992 WATER YEAR				WATER YEARS 1961 - 1992			
ANNUAL TOTAL	224545				214437							
ANNUAL MEAN	615				586				717			
HIGHEST ANNUAL MEAN									1135			1984
LOWEST ANNUAL MEAN									358			1977
HIGHEST DAILY MEAN	2390				1590				5980			Jun 12 1980
LOWEST DAILY MEAN	263				247				110			Jan 12 1963
ANNUAL SEVEN-DAY MINIMUM	268				270				147			Jan 11 1963
INSTANTANEOUS PEAK FLOW					1690				6240			Jun 12 1980
INSTANTANEOUS PEAK STAGE					5.48				8.02			Jun 12 1980
ANNUAL RUNOFF (AC-FT)	445400				425300				519500			
10 PERCENT EXCEEDS	1140				1040				1560			
50 PERCENT EXCEEDS	488				480				428			
90 PERCENT EXCEEDS	291				303				254			

a-Maximum gage height, 8.12 ft, Jun 10, 1984.

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO

LOCATION.--Lat 38°39'23", long 105°48'50", in NE¹/4NE¹/4 sec.24, T.51 N., R.10 E., Fremont County, Hydrologic Unit 11020001, on left bank 0.2 mi downstream from County Road 2, 0.9 mi upstream from Steer Creek, 14.2 mi north of Howard, and 14.5 mi upstream from mouth.

DRAINAGE AREA.--106 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1980 to September 1986, October 1986 to October 1988 (seasonal only), at site 1,000 ft downstream. March 1989 to current year (seasonal only). Not equivalent because of seepage at previous site.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,780 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 28, 1988 at site 1,000 ft downstream, at different datum.

REMARKS.--Estimated daily discharges: Oct. 5-31. Records fair except for discharges below 0.20 ft³/s, those for discharges above 20 ft³/s, and estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--5 years (water years 1981-86), 5.89 ft³/s; 4,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,360 ft³/s, Aug. 14, 1983, gage height, 8.22 ft, result of indirect determination of peak flow; no flow, July 17-23, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 115 ft³/s at 1545 Aug. 10, gage height, 4.30 ft; minimum daily, 0.11 ft³/s, July 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	---	---	---	---	---	3.1	1.2	2.0	.35	.27	1.5
2	.58	---	---	---	---	---	3.6	1.1	1.5	.31	.22	1.2
3	.56	---	---	---	---	---	5.6	1.1	1.0	.29	.19	.97
4	.54	---	---	---	---	---	8.6	1.2	1.0	.23	.17	.82
5	.53	---	---	---	---	---	11	1.1	.86	.19	.21	.68
6	.52	---	---	---	---	---	15	1.0	.83	.14	.23	.60
7	.52	---	---	---	---	---	17	1.0	.78	.11	.29	.57
8	.52	---	---	---	---	---	13	1.2	.83	.20	.27	.53
9	.52	---	---	---	---	---	12	1.5	1.1	.27	.28	.50
10	.52	---	---	---	---	---	11	2.0	1.6	.19	7.2	.45
11	.52	---	---	---	---	---	10	1.6	1.3	.22	3.3	.45
12	.52	---	---	---	---	---	8.6	1.3	1.2	.21	1.5	.42
13	.52	---	---	---	---	---	8.4	1.2	.71	.33	1.8	.37
14	.52	---	---	---	---	---	8.3	1.0	.51	.30	1.1	.39
15	.53	---	---	---	---	---	6.5	.89	.40	.24	.89	.54
16	.52	---	---	---	---	---	5.5	.82	.44	.31	1.1	.58
17	.52	---	---	---	---	---	4.8	.76	.35	.25	1.2	.59
18	.52	---	---	---	---	---	4.5	.84	.27	.22	.87	.56
19	.53	---	---	---	---	---	3.3	.75	.27	.21	.68	.56
20	.53	---	---	---	---	---	2.8	.70	.31	.28	.51	.58
21	.55	---	---	---	---	---	2.7	.66	.35	.33	.46	.64
22	.57	---	---	---	---	---	2.5	.62	.42	.22	.46	.62
23	.56	---	---	---	---	---	2.2	.60	.42	.18	.54	.55
24	.59	---	---	---	---	---	2.1	1.0	.94	.18	3.7	.53
25	.59	---	---	---	---	---	1.9	1.4	1.3	.25	8.1	.50
26	.59	---	---	---	---	---	1.8	1.3	2.4	.43	3.5	.47
27	.57	---	---	---	---	---	1.6	1.9	1.2	.44	1.9	.51
28	.56	---	---	---	---	---	1.5	1.5	.86	.36	1.4	.53
29	.54	---	---	---	---	---	1.4	1.9	.63	.30	1.1	.54
30	.54	---	---	---	---	---	1.4	1.5	.43	.28	1.0	.53
31	.54	---	---	---	---	---	---	2.1	---	.23	1.2	---
TOTAL	16.86	---	---	---	---	---	181.7	36.74	26.21	8.05	45.64	18.28
MEAN	.54	---	---	---	---	---	6.06	1.19	.87	.26	1.47	.61
MAX	.62	---	---	---	---	---	17	2.1	2.4	.44	8.1	1.5
MIN	.52	---	---	---	---	---	1.4	.60	.27	.11	.17	.37
AC-FT	33	---	---	---	---	---	360	73	52	16	91	36

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO

Water-Quality and Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO

07094500 ARKANSAS RIVER AT PARKDALE, CO

LOCATION.--Lat 38°29'14", long 105°22'23", in NE¹/4NW¹/4 sec.18, T.18 S., R.71 W., Fremont County, Hydrologic Unit 11020001, on left bank at Parkdale, 100 ft upstream from Bumback Gulch, 300 ft upstream from bridge on U.S. Highway 50, and 0.9 mi upstream from Copper Gulch.

DRAINAGE AREA.--2,548 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1955, October 1964 to current year. 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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1964, at site 600 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Records good except for winter period, which is 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	450	508	564	516	534	471	400	1320	1280	805	712
2	309	458	487	540	521	523	448	433	1230	1220	821	680
3	315	438	493	528	522	539	438	446	1100	1130	805	648
4	308	457	521	558	522	615	438	460	1040	1010	815	610
5	310	470	546	563	524	601	439	538	1080	972	819	597
6	316	545	557	567	512	559	441	705	1230	928	802	570
7	316	610	554	563	512	554	445	786	1250	923	797	581
8	308	566	540	548	520	554	461	865	1270	953	785	642
9	308	526	531	555	519	559	434	942	1200	1060	797	625
10	308	542	516	539	518	522	374	1000	1200	1150	780	600
11	311	539	523	559	518	519	373	905	1100	1110	819	565
12	308	530	530	566	518	515	387	719	1210	1010	847	515
13	303	502	513	539	518	524	377	698	1310	1050	842	499
14	306	499	506	520	513	524	384	714	1380	997	823	430
15	312	540	545	523	513	524	414	758	1460	871	883	431
16	308	575	551	513	511	518	420	850	1490	843	830	411
17	303	654	554	544	507	514	406	958	1430	883	748	406
18	300	652	555	551	506	502	414	1080	1290	821	680	390
19	307	653	573	513	503	501	398	1130	1210	773	635	399
20	302	554	568	518	514	492	371	1200	1330	819	585	410
21	303	555	546	521	518	491	348	1450	1430	834	547	406
22	302	583	542	526	526	502	331	1580	1500	817	528	423
23	300	518	526	516	520	501	320	1690	1480	809	701	408
24	312	500	511	545	523	488	321	1650	1470	843	953	395
25	327	529	512	550	514	459	308	1600	1530	870	1590	381
26	340	547	512	546	518	451	289	1510	1600	987	1180	380
27	341	545	504	528	515	448	275	1520	1710	999	974	388
28	337	542	496	522	525	450	262	1630	1760	884	870	372
29	356	546	502	528	527	459	314	1530	1620	812	755	363
30	371	538	510	524	---	452	376	1390	1500	852	713	362
31	404	---	522	520	---	457	---	1380	---	850	751	---
TOTAL	9863	16163	16354	16697	14993	15851	11477	32517	40730	29360	25280	14599
MEAN	318	539	528	539	517	511	383	1049	1358	947	815	487
MAX	404	654	573	567	527	615	471	1690	1760	1280	1590	712
MIN	300	438	487	513	503	448	262	400	1040	773	528	362
AC-FT	19560	32060	32440	33120	29740	31440	22760	64500	80790	58240	50140	28960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	MEAN	447	461	411	384	375	363	468	1102	2350	1660	1012	560
MAX	801	690	735	631	757	641	908	2693	4209	3922	1969	1088	
(WY)	1971	1983	1983	1983	1985	1989	1987	1984	1980	1983	1984	1970	
MIN	261	267	304	276	264	226	273	389	705	371	319	289	
(WY)	1978	1955	1978	1977	1978	1978	1977	1977	1977	1977	1977	1977	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1946 - 1992
ANNUAL TOTAL	250474	243884	
ANNUAL MEAN	686	666	801
HIGHEST ANNUAL MEAN			1269
LOWEST ANNUAL MEAN			399
HIGHEST DAILY MEAN	2830	Jun 13	6110
LOWEST DAILY MEAN	299	Sep 30	199
ANNUAL SEVEN-DAY MINIMUM	302	Oct 17	204
INSTANTANEOUS PEAK FLOW			6310
INSTANTANEOUS PEAK STAGE			a 7.76
ANNUAL RUNOFF (AC-FT)	496800	483700	580200
10 PERCENT EXCEEDS	1310	1210	1770
50 PERCENT EXCEEDS	526	536	464
90 PERCENT EXCEEDS	339	346	300

a-Maximum gage height, 9.13 ft, Jun 9, 1985.

07094500 ARKANSAS RIVER AT PARKDALE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1981 to September 1982, November 1986 to September 1990.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1986 to current year.

WATER TEMPERATURE: November 1986 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 except those for May 13 to July 2, which are poor. Daily data that are not published are either missing or of unacceptable quality. Daily maximum and minimum specific conductance and mean daily water temperature data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 498 microsiemens, Aug. 6, 1990; minimum, 108 microsiemens, June 10, 1987.

WATER TEMPERATURE: Maximum, 25.5°C, July 23, 1987; minimum, 0.0°C, many days during most winters.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 367 microsiemens, Oct. 25; minimum, 134 microsiemens, May 23-24.

WATER TEMPERATURE: Maximum 21.6°C, July 6; minimum, 0.0°C, many days during winter.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346	345	259	237	221	227	260	257	164	179	220	283
2	344	340	266	230	222	228	271	244	171	187	216	282
3	341	325	270	232	222	230	270	240	180	187	219	282
4	345	325	264	230	219	229	275	238	187	196	220	286
5	345	328	259	224	218	228	272	233	190	202	217	286
6	347	322	258	224	217	236	271	210	179	208	222	282
7	348	310	258	226	218	241	273	205	175	207	223	281
8	347	304	264	226	220	246	274	199	168	204	227	263
9	345	307	265	227	221	244	276	188	174	199	227	256
10	343	307	266	231	221	241	283	187	184	187	223	255
11	343	304	269	229	222	239	294	189	192	179	220	259
12	345	307	267	232	221	236	298	202	195	188	216	270
13	346	307	267	226	221	235	298	207	189	194	220	276
14	348	309	265	220	222	238	296	208	177	190	222	287
15	348	302	262	232	222	241	285	209	170	207	213	301
16	346	290	250	230	222	239	294	201	162	213	216	311
17	348	284	249	230	224	242	297	186	159	212	229	313
18	350	274	252	221	221	247	296	174	166	214	234	315
19	351	277	248	218	224	249	295	165	172	221	241	319
20	355	280	246	---	230	248	301	164	183	217	246	319
21	355	290	246	221	235	244	308	155	174	222	250	316
22	356	287	248	217	238	235	314	144	169	216	259	315
23	357	277	243	215	239	241	316	139	166	216	242	317
24	355	285	244	215	234	246	314	138	170	213	232	320
25	357	286	246	211	233	252	314	137	169	208	237	327
26	363	280	247	213	233	257	315	142	189	216	240	330
27	356	277	246	214	227	256	315	145	180	216	250	328
28	355	276	246	217	225	256	310	145	162	222	248	330
29	354	275	247	222	225	254	298	147	172	223	256	333
30	350	265	245	220	---	253	275	154	169	220	265	334
31	342	---	242	222	---	254	---	157	---	215	278	---
MEAN	349	298	255	---	225	242	292	184	175	206	233	299

07094500 ARKANSAS RIVER AT PARKDALE, CO--Continued

WATER-QUALITY RECORDS

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.3	11.5	1.5	.0	.1	.0	.2	.0	2.5	.6	6.4	4.3
2	16.4	11.7	.6	.0	.1	.0	.2	.0	3.0	1.1	7.6	4.1
3	16.5	11.5	.4	.0	.1	.0	.2	.0	3.5	2.6	6.8	5.0
4	13.7	10.9	.5	.0	.2	.0	.3	.0	3.8	1.8	6.7	4.0
5	12.8	8.4	4.1	.1	.3	.0	.3	.0	3.0	1.4	7.1	3.2
6	12.9	8.0	7.2	3.2	.6	.0	.4	.0	2.3	.5	8.0	5.1
7	13.5	8.4	7.0	5.2	1.2	.0	.3	.0	2.1	.1	7.6	5.1
8	14.3	9.8	6.5	4.1	2.0	.2	.5	.0	3.0	.8	8.1	5.9
9	15.2	---	7.7	4.9	1.8	.6	.3	.0	3.5	1.4	7.4	4.9
10	15.5	10.7	8.4	7.3	1.8	.3	.1	.0	3.4	1.5	6.9	3.4
11	15.1	10.5	7.8	5.9	1.5	1.1	.3	.0	3.5	2.1	8.0	4.7
12	14.9	10.6	6.2	4.0	2.1	.5	.7	.1	3.9	1.6	8.0	4.7
13	14.2	10.2	5.5	3.3	1.5	.3	.2	.0	3.1	2.0	9.1	5.5
14	13.5	10.0	5.2	3.6	.3	.0	.3	.0	4.8	1.8	9.7	6.3
15	14.2	9.5	4.5	2.8	.2	.0	.3	.0	4.2	2.2	9.3	6.4
16	14.2	9.7	2.8	1.5	.1	.0	.2	.0	3.1	1.9	9.5	5.9
17	14.7	10.3	4.2	1.6	.1	.0	.2	.0	2.9	.8	9.0	6.0
18	13.2	10.1	3.9	3.0	.1	.0	.3	.0	2.4	.2	7.4	5.4
19	11.3	8.4	5.2	3.1	.6	.0	.3	.0	2.7	.0	7.1	4.5
20	11.8	7.8	3.1	1.6	1.5	.4	---	.0	3.7	1.5	8.6	4.8
21	12.5	8.5	3.6	1.3	1.3	.0	.2	.0	5.9	2.5	8.2	5.0
22	13.0	8.8	3.0	.4	1.1	.6	.3	.0	5.3	3.4	7.5	3.3
23	12.6	9.4	.4	.0	.6	.0	.3	.0	4.8	3.9	10.0	5.6
24	10.3	8.5	.0	.0	.2	.0	.4	.0	4.9	2.5	8.4	5.3
25	10.3	7.1	1.8	.0	.3	.0	.5	.0	4.7	3.4	10.2	6.0
26	10.7	7.1	3.2	.7	.2	.0	1.1	.0	5.3	2.5	10.0	6.3
27	11.1	7.0	3.8	1.5	.2	.0	1.6	.1	6.7	3.4	9.9	7.5
28	9.1	4.5	3.6	2.7	.2	.0	1.5	.0	7.2	4.2	8.6	7.5
29	4.5	1.3	3.6	1.7	.2	.0	1.8	.3	7.0	4.0	10.2	6.9
30	1.3	.0	1.7	.0	.2	.0	2.3	.4	---	---	11.2	7.2
31	1.4	.0	---	---	.4	.0	2.6	---	---	---	9.9	6.9
MONTH	16.5	---	8.4	.0	2.1	.0	---	---	7.2	.0	11.2	3.2
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.6	6.0	18.7	13.2	12.2	10.3	19.2	16.3	19.1	16.5	16.5	13.3
2	11.6	7.3	15.8	12.7	---	10.5	18.0	15.7	20.1	16.1	16.0	13.8
3	12.4	7.4	16.1	11.4	15.5	12.5	19.2	15.4	20.0	17.1	17.5	13.0
4	12.4	8.4	16.9	12.0	16.6	13.9	19.5	16.4	19.7	16.8	17.9	15.1
5	12.2	9.0	17.0	13.0	17.2	---	20.1	15.6	19.2	16.9	17.2	13.5
6	13.0	8.5	16.5	12.4	---	13.4	21.6	17.4	18.4	16.8	17.9	14.0
7	13.0	9.4	16.4	12.7	16.4	13.3	20.1	17.6	20.5	---	17.7	14.4
8	14.3	9.5	15.4	12.5	14.3	12.1	19.0	16.4	21.4	17.8	17.8	14.0
9	14.9	10.4	14.6	12.0	14.0	12.6	19.8	16.3	21.5	17.9	17.8	14.6
10	15.8	10.7	12.9	10.4	15.9	12.1	19.2	16.6	20.3	18.0	17.5	14.2
11	14.4	11.4	14.6	9.4	16.7	13.7	20.3	16.9	20.1	16.7	18.0	14.2
12	14.2	10.9	14.8	12.1	18.4	12.9	18.1	16.7	18.6	16.4	18.3	15.4
13	15.7	11.0	17.5	12.0	18.5	15.5	18.2	15.2	19.5	16.2	18.1	15.0
14	17.4	13.0	17.3	13.5	18.4	14.2	18.4	15.6	19.2	16.5	18.0	14.4
15	15.7	12.5	18.2	---	18.3	14.7	18.4	16.2	19.8	16.0	19.4	15.3
16	14.6	11.1	17.0	12.5	16.8	12.7	18.5	15.3	19.4	16.7	19.2	15.5
17	14.3	10.4	16.9	13.1	17.9	12.3	18.7	15.7	20.1	16.9	18.7	15.2
18	13.2	9.8	---	12.6	18.8	15.6	19.0	15.9	20.2	17.1	16.6	14.2
19	9.8	7.8	17.0	13.7	19.0	15.9	19.0	15.6	21.3	17.5	17.7	14.5
20	10.2	6.5	16.6	13.8	18.0	14.6	19.7	16.4	20.9	17.4	15.9	13.2
21	12.6	6.4	17.2	13.4	18.7	14.3	20.2	16.5	20.8	---	15.5	12.9
22	16.5	8.9	14.9	12.1	18.5	14.8	19.2	16.8	21.3	17.9	15.9	12.1
23	16.0	10.3	13.3	12.1	17.7	---	19.3	16.6	17.5	16.8	17.2	12.9
24	16.1	9.8	15.0	12.6	18.0	15.4	20.1	16.5	16.8	12.6	18.0	13.9
25	17.5	10.9	13.8	11.7	18.2	15.2	19.4	17.8	14.1	11.3	17.0	14.0
26	---	---	15.4	11.6	18.9	15.2	20.2	17.1	16.6	13.4	15.0	11.6
27	---	---	14.6	12.2	17.4	15.2	21.1	17.6	17.0	13.4	14.9	10.7
28	17.7	---	12.3	10.9	17.2	14.6	20.7	17.8	17.1	13.4	15.2	11.5
29	18.7	12.3	14.4	11.3	19.8	15.3	19.1	17.0	16.6	13.7	15.5	11.3
30	18.1	13.8	13.7	12.0	19.0	16.0	19.9	16.1	17.4	14.5	15.7	11.9
31	---	---	---	10.7	---	---	19.6	17.1	16.1	14.3	---	---
MONTH	---	---	---	---	---	---	21.6	15.2	21.5	---	19.4	10.7

07095000 GRAPE CREEK NEAR WESTCLIFFE, CO

LOCATION.--Lat 38°11'10", long 105°28'59", in NW¹/4NW¹/4 sec.31, T.21 S., R.72 W., Custer County, Hydrologic Unit 11020001, on left bank 0.5 mi upstream from water line of De Weese Reservoir at elevation 7,665 ft, 0.5 mi downstream from Swift Creek, and 3.6 mi northwest of Westcliffe.

DRAINAGE AREA.--320 mi².

PERIOD OF RECORD.--October 1924 to September 1961, October 1962 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1241: 1950 (M). WSP 1311: 1927 (M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 7,690 ft, from topographic map. Prior to Mar. 17, 1939, at site 30 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 30 to Mar. 25, and Apr. 2-9. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	18	27	17	31	34	203	49	88	37	45	78
2	15	24	27	18	30	35	160	39	112	33	40	63
3	13	28	28	19	30	36	128	38	64	31	35	56
4	12	33	28	20	29	34	94	40	57	28	32	48
5	12	36	29	19	29	36	84	34	51	23	36	42
6	12	38	31	20	29	37	70	29	64	19	57	38
7	12	40	33	20	30	37	55	31	82	17	72	35
8	12	41	33	19	30	39	44	34	78	18	58	32
9	12	41	32	18	32	37	37	34	125	20	47	29
10	12	39	32	18	35	38	35	34	152	26	50	27
11	12	40	30	17	35	39	34	46	112	33	70	26
12	11	40	28	17	36	41	37	32	113	29	63	18
13	8.0	40	27	16	36	43	39	28	106	29	64	15
14	7.4	39	24	16	36	46	43	21	87	23	49	16
15	7.4	40	23	16	34	50	50	19	68	21	47	22
16	7.4	41	23	18	32	56	58	16	54	29	44	24
17	6.9	41	23	19	31	60	52	18	45	32	49	22
18	6.4	43	21	19	31	62	51	24	38	34	61	20
19	6.6	47	21	20	32	64	52	17	40	31	53	22
20	7.4	54	21	21	34	74	43	24	47	31	45	23
21	8.0	54	20	22	34	75	38	31	66	35	41	22
22	11	44	20	22	34	82	34	38	73	29	36	20
23	11	37	20	24	34	93	32	52	55	36	39	19
24	12	34	19	24	31	150	29	55	47	43	197	17
25	12	33	19	25	31	220	33	54	62	39	462	15
26	12	32	19	26	32	292	35	49	62	99	295	13
27	12	32	18	26	32	356	36	51	58	89	197	14
28	12	31	18	27	33	330	37	82	61	64	140	15
29	13	29	18	28	34	246	39	63	58	52	106	15
30	14	29	17	28	---	254	45	56	45	58	90	14
31	15	---	17	30	---	263	---	61	---	52	86	---
TOTAL	339.5	1118	746	649	937	3259	1727	1199	2170	1140	2706	820
MEAN	11.0	37.3	24.1	20.9	32.3	105	57.6	38.7	72.3	36.8	87.3	27.3
MAX	15	54	33	30	36	356	203	82	152	99	462	78
MIN	6.4	18	17	16	29	34	29	16	38	17	32	13
AC-FT	673	2220	1480	1290	1860	6460	3430	2380	4300	2260	5370	1630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1992, BY WATER YEAR (WY)

	MEAN	17.4	18.9	14.8	13.3	16.2	32.3	52.1	56.4	85.9	48.3	36.6	19.2
	MAX	79.6	54.5	28.2	23.5	32.3	105	332	383	374	356	177	95.6
	(WY)	1971	1971	1926	1980	1992	1992	1942	1987	1957	1957	1968	1982
	MIN	3.16	4.80	5.00	3.54	3.30	6.31	9.48	2.81	1.83	1.25	4.45	3.75
	(WY)	1964	1964	1935	1959	1959	1959	1963	1963	1934	1946	1956	1956

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1925 - 1992

ANNUAL TOTAL	11600.7	16810.5	
ANNUAL MEAN	31.8	45.9	
HIGHEST ANNUAL MEAN			34.4
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN	252	Aug 5	7.07
LOWEST DAILY MEAN	6.0	Jul 1	1740
ANNUAL SEVEN-DAY MINIMUM	7.1	Oct 14	10
INSTANTANEOUS PEAK FLOW			1.10
INSTANTANEOUS PEAK STAGE			.56
INSTANTANEOUS LOW FLOW			7460
ANNUAL RUNOFF (AC-FT)	23010	33340	8.45
10 PERCENT EXCEEDS	58	78	.10
50 PERCENT EXCEEDS	24	34	
90 PERCENT EXCEEDS	12	15	5.5

a-From rating curve extended above 320 ft³/s, on basis of slope-area measurement of peak flow.

b-Also occurred Jun 20-22, 1936.

07096000 ARKANSAS RIVER AT CANON CITY, CO

LOCATION.--Lat 38°26'02", long 105°15'24", in SE¹/4SE¹/4 sec.31, T.18 S., R.72 W., Fremont County, Hydrologic Unit 11020002, on right bank 800 ft upstream from Sand Creek, 0.7 mi downstream from Grape Creek, and 0.7 mi upstream from First Street Bridge in Canon City.

DRAINAGE AREA.--3,117 mi².

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 National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Dec. 23-31, Jan. 14-21, and Mar. 26 to Apr. 2. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218	399	470	485	489	518	500	293	1100	1200	679	647
2	213	430	456	471	504	502	490	334	1030	1140	679	623
3	216	408	460	461	509	531	488	340	928	1040	671	600
4	221	427	489	505	498	735	477	341	813	890	695	548
5	230	442	505	512	512	713	462	399	841	850	687	526
6	227	512	511	512	475	585	435	582	1020	800	664	498
7	206	579	509	527	472	571	410	622	1040	792	663	505
8	201	541	506	487	498	563	440	682	1060	860	671	556
9	199	509	498	476	499	588	376	761	992	977	668	540
10	199	500	481	462	488	513	267	813	1020	1060	679	527
11	221	494	484	493	477	497	274	711	924	1020	776	505
12	232	487	481	517	470	476	308	524	1030	914	767	449
13	210	462	444	470	470	484	300	499	1150	950	743	439
14	206	458	431	470	464	483	296	485	1240	923	740	365
15	211	495	507	470	464	491	405	509	1330	759	784	345
16	208	512	519	465	457	502	451	572	1350	719	784	320
17	207	563	515	465	451	527	426	649	1280	759	767	315
18	207	561	517	465	446	531	416	779	1140	700	639	306
19	211	561	554	455	433	558	386	831	1060	644	604	312
20	209	487	555	455	469	533	344	965	1180	695	542	318
21	210	488	510	450	473	555	321	1240	1310	727	488	306
22	210	516	506	495	495	615	298	1410	1380	703	456	322
23	212	466	495	464	486	584	280	1530	1370	694	603	300
24	218	448	485	535	484	564	267	1480	1370	735	957	289
25	223	465	480	533	475	512	246	1380	1440	759	1740	277
26	230	475	475	534	485	510	225	1270	1530	887	1200	278
27	235	473	470	510	476	510	218	1280	1690	878	957	282
28	234	470	460	490	496	515	208	1420	1800	717	822	251
29	245	476	460	508	498	515	224	1330	1620	658	695	250
30	265	475	460	507	---	505	266	1170	1500	711	661	245
31	357	---	470	501	---	510	---	1160	---	695	695	---
TOTAL	6891	14579	15163	15150	13913	16796	10504	26361	36538	25856	23176	12044
MEAN	222	466	489	489	480	542	350	850	1218	834	748	401
MAX	357	579	555	535	512	735	500	1530	1800	1200	1740	647
MIN	199	399	431	450	433	476	208	293	813	644	456	245
AC-FT	13670	28920	30080	30050	27600	33310	20830	52290	72470	51290	45970	23890

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1889 - 1992, BY WATER YEAR (WY)

	MEAN	373	374	363	338	335	342	425	1102	2264	1464	854	451
MAX	1195	620	623	609	781	711	1120	2667	4286	5541	2134	1411	
(WY)	1912	1924	1983	1983	1985	1989	1942	1984	1980	1957	1957	1909	
MIN	167	180	204	195	217	176	108	243	481	230	217	188	
(WY)	1978	1940	1940	1979	1978	1904	1940	1977	1902	1902	1977	1931	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1889 - 1992
ANNUAL TOTAL	214952	216971	
ANNUAL MEAN	589	593	726
HIGHEST ANNUAL MEAN			1266
LOWEST ANNUAL MEAN			329
HIGHEST DAILY MEAN	2460	1800	9480
LOWEST DAILY MEAN	^a 199	^a 199	69
ANNUAL SEVEN-DAY MINIMUM	208	208	87
INSTANTANEOUS PEAK FLOW		2030	^b 1900
INSTANTANEOUS PEAK STAGE		^c 7.28	^d 10.70
ANNUAL RUNOFF (AC-FT)	426400	430400	526000
10 PERCENT EXCEEDS	1050	1050	1700
50 PERCENT EXCEEDS	497	503	405
90 PERCENT EXCEEDS	244	251	238

a-Also occurred Oct 10.

b-Site and datum then in use, from rating curve extended above 5000 ft³/s.

c-Maximum gage height, 8.58 ft, Jan 21, backwater from ice.

d-From floodmark.

Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07096500 FOURMILE CREEK NEAR CANON CITY, CO

07097000 ARKANSAS RIVER AT PORTLAND, CO

LOCATION.--Lat 38°23'18", long 105°00'56", in NE¹/4NE¹/4 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 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1974, at site 400 ft downstream at datum 0.03 ft, lower.

REMARKS.--No estimated daily discharges. Records good. 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 Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	370	525	538	473	560	596	264	1330	1360	722	807
2	234	403	551	540	481	556	529	303	1320	1270	726	772
3	258	450	498	539	483	568	489	318	1270	1170	722	734
4	245	410	519	544	482	692	464	337	1150	1010	762	671
5	275	431	474	555	486	723	448	368	1160	970	747	661
6	283	488	493	555	472	640	440	553	1330	892	711	648
7	291	566	489	560	473	559	413	629	1360	890	720	625
8	269	524	484	544	494	561	418	684	1390	961	719	699
9	257	492	480	534	495	598	448	797	1330	1050	708	676
10	235	504	464	535	493	548	334	879	1340	1130	730	671
11	264	505	463	536	496	549	314	861	1260	1110	860	633
12	261	501	477	541	494	542	335	631	1360	1010	839	568
13	236	472	455	544	495	542	327	603	1450	993	806	537
14	242	462	440	519	517	544	322	595	1520	977	774	472
15	248	499	476	524	544	548	380	610	1590	800	839	460
16	220	541	486	519	549	532	475	671	1630	769	806	440
17	219	600	474	525	544	518	436	779	1530	857	1370	427
18	211	591	472	542	528	524	465	896	1400	771	854	418
19	225	598	544	537	531	542	459	977	1260	709	672	414
20	213	504	594	532	544	535	422	1080	1310	749	598	418
21	224	493	573	549	547	540	386	1300	1490	793	539	404
22	237	527	590	529	555	662	351	1480	1560	722	514	414
23	308	474	559	512	560	701	320	1630	1560	710	620	382
24	323	422	522	518	557	672	305	1640	1530	731	987	364
25	309	464	532	527	558	642	286	1590	1630	797	1740	369
26	254	481	540	490	560	615	260	1500	1790	956	1380	364
27	260	475	518	480	541	631	255	1510	1810	942	1090	369
28	257	462	512	472	547	661	222	1650	1940	793	967	351
29	279	476	508	481	550	613	220	1570	1790	715	823	316
30	298	467	530	478	---	588	245	1380	1650	755	766	251
31	350	---	521	475	---	608	---	1370	---	754	819	---
TOTAL	8020	14652	15763	16274	15049	18314	11364	29455	44040	28116	25930	15335
MEAN	259	488	508	525	519	591	379	950	1468	907	836	511
MAX	350	600	594	560	560	723	596	1650	1940	1360	1740	807
MIN	211	370	440	472	472	518	220	264	1150	709	514	251
AC-FT	15910	29060	31270	32280	29850	36330	22540	58420	87350	55770	51430	30420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1992, BY WATER YEAR (WY)

	MEAN	387	407	363	338	332	344	518	1143	2452	1564	942	445
MAX	1083	748	693	626	774	683	1869	2680	4429	3636	2380	1008	
(WY)	1985	1985	1983	1983	1985	1989	1942	1984	1980	1983	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1939 - 1992
ANNUAL TOTAL	229798	242312	
ANNUAL MEAN	630	662	777
HIGHEST ANNUAL MEAN			1315
LOWEST ANNUAL MEAN			315
HIGHEST DAILY MEAN	2770	Jun 13	7460
LOWEST DAILY MEAN	211	Oct 18	66
ANNUAL SEVEN-DAY MINIMUM	221	Oct 16	76
INSTANTANEOUS PEAK FLOW			a 21100
INSTANTANEOUS PEAK STAGE			8.03
ANNUAL RUNOFF (AC-FT)	455800	480600	563200
10 PERCENT EXCEEDS	1190	1330	1830
50 PERCENT EXCEEDS	462	542	442
90 PERCENT EXCEEDS	279	304	214

a-From rating curve extended above 5300 ft³/s.

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to current year.

WATER TEMPERATURE: October 1979 to current year.

INSTRUMENTATION.--Water-quality monitor since November 1982.

REMARKS.--Records for daily specific conductance and water temperature are good. Daily data that are not published are either missing or of unacceptable quality. Daily maximum and minimum specific conductance and mean water temperature data available in district office. Specific conductance data may not be representative of the cross section at the site during flash floods.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 1,380 microsiemens, Sept. 30, 1981; minimum, 111 microsiemens, June 22, 1984.

WATER TEMPERATURES: Maximum, 26.0°C, July 27, 1987; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 776 microsiemens, Aug. 3; minimum, 220 microsiemens, May 23.

WATER TEMPERATURES: Maximum, 25.0°C, Aug. 9; minimum, 0.0°C, many days during the winter months.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	635	561	440	394	367	359	436	591	279	---	361	402
2	642	542	445	383	367	361	443	560	289	280	347	402
3	627	525	456	364	369	362	449	550	305	289	379	404
4	634	538	449	381	369	415	447	531	321	302	388	418
5	611	546	457	376	373	415	447	505	329	311	347	418
6	609	532	450	373	370	378	456	430	300	324	352	419
7	618	474	445	372	372	377	454	379	287	326	349	417
8	632	466	437	366	373	375	457	358	277	319	346	401
9	620	466	433	365	369	389	459	338	289	309	346	391
10	641	464	435	365	369	381	497	338	295	291	365	391
11	637	463	437	369	366	373	520	330	311	281	367	404
12	617	458	442	367	365	370	511	365	313	293	362	419
13	628	461	448	365	365	358	521	385	296	306	368	428
14	649	467	442	361	377	355	539	390	274	295	375	449
15	646	473	427	365	369	354	527	380	264	327	354	470
16	638	489	419	376	366	355	542	356	251	351	354	477
17	633	493	417	374	369	356	510	329	257	381	377	487
18	637	480	416	367	365	359	507	303	275	360	462	497
19	642	493	439	362	365	359	498	286	287	368	430	500
20	645	475	415	366	374	360	508	278	287	384	423	494
21	644	476	416	368	370	361	520	257	271	370	426	494
22	629	466	414	371	367	357	531	231	262	364	432	489
23	601	462	404	387	367	354	547	229	267	372	406	501
24	599	481	408	382	365	370	555	227	272	355	461	523
25	605	480	408	366	365	383	575	230	---	347	359	525
26	616	464	404	364	365	406	593	239	---	375	373	531
27	602	449	403	365	364	417	613	248	---	359	375	532
28	609	451	410	368	358	435	628	249	---	353	379	539
29	603	456	411	365	358	444	645	247	---	362	392	558
30	588	451	406	364	---	430	625	261	---	352	400	571
31	569	---	402	366	---	431	---	265	---	344	402	---
MEAN	623	483	427	370	368	381	519	344	---	---	382	465

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.2	13.0	4.0	.0	.7	.0	2.6	.0	5.3	1.3	9.2	5.1
2	18.9	12.9	2.1	.0	.9	.0	2.1	.0	5.2	1.5	10.4	5.3
3	18.2	12.6	2.1	.0	.8	.0	1.0	.1	4.3	3.0	9.1	5.6
4	15.0	11.7	4.4	.0	2.1	.0	2.0	.0	5.4	2.9	7.3	5.8
5	14.7	9.0	6.1	1.8	3.4	.6	3.2	.1	4.8	1.8	9.0	4.5
6	14.9	8.3	8.8	3.2	4.5	.5	3.7	.2	5.0	1.0	10.4	5.6
7	15.7	9.2	9.0	5.6	4.4	.8	1.9	.9	4.8	.6	10.1	5.9
8	16.6	10.7	9.1	4.8	4.0	1.0	2.6	.0	4.7	.6	10.0	6.2
9	17.3	11.8	10.1	5.8	4.5	1.3	2.5	.0	6.1	1.1	9.1	5.0
10	17.5	11.5	9.4	7.8	3.2	1.2	2.8	.0	5.9	1.9	8.7	3.5
11	16.9	11.5	8.9	6.8	2.6	1.3	2.8	.0	6.0	2.2	10.1	4.7
12	16.8	10.9	8.9	5.4	4.2	1.0	2.2	.9	7.0	3.3	10.4	5.7
13	16.5	11.5	8.4	4.6	4.0	.9	2.2	.0	5.1	2.4	11.7	5.8
14	14.8	10.2	7.5	4.7	2.5	.0	1.1	.0	6.5	2.0	12.5	6.7
15	15.6	9.7	5.8	4.7	2.2	.0	1.1	.0	6.6	2.4	12.0	7.2
16	16.6	10.4	4.8	3.2	2.8	.0	.7	.0	4.0	2.3	11.7	6.9
17	16.6	10.8	6.3	2.9	1.8	.0	1.1	.0	5.3	1.7	11.0	6.9
18	14.9	10.7	6.1	4.2	1.2	.0	2.1	.0	5.2	.5	10.0	6.9
19	13.3	8.8	7.0	4.2	2.9	.5	1.9	.0	5.5	.2	9.3	5.9
20	13.7	8.4	6.5	2.6	2.2	.9	2.0	.0	6.2	2.0	10.6	4.9
21	14.2	8.5	7.0	3.6	3.4	.7	2.3	.0	8.3	3.7	10.4	6.0
22	14.9	9.7	4.9	2.2	2.6	1.4	1.8	.0	7.8	3.8	6.7	4.8
23	14.1	10.0	3.5	.3	3.0	.4	2.2	.0	7.1	4.6	10.8	5.2
24	12.5	10.0	3.7	.1	2.5	.0	4.1	.3	7.4	2.9	10.7	6.8
25	11.9	7.5	4.3	.7	1.7	.0	4.0	.0	6.6	3.7	12.0	6.1
26	12.5	7.0	6.1	2.0	1.7	.0	4.5	.4	7.4	2.8	11.6	7.2
27	12.8	7.6	6.3	2.3	1.1	.0	3.9	.0	9.3	4.4	10.1	7.2
28	9.7	5.0	5.4	3.1	.7	.0	4.5	.0	9.9	4.9	9.1	7.2
29	5.8	3.2	4.8	2.4	1.3	.0	4.7	.1	9.8	4.9	11.5	6.9
30	2.8	.3	2.4	.0	1.3	.0	5.2	.8	---	---	12.0	6.9
31	3.4	.0	---	---	2.0	.0	5.7	1.1	---	---	9.7	7.4
MONTH	19.2	.0	10.1	.0	4.5	.0	5.7	.0	9.9	.2	12.5	3.5
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.7	6.1	22.1	14.2	13.4	12.0	21.4	---	22.9	17.5	19.4	14.7
2	12.3	7.3	19.2	13.5	17.5	11.6	20.9	16.9	23.3	17.5	19.2	15.1
3	14.2	7.9	19.4	12.7	17.1	14.1	21.5	16.6	22.4	18.2	20.2	14.7
4	14.9	9.3	20.7	13.3	19.4	14.5	21.9	17.5	22.9	17.9	20.7	16.1
5	14.0	9.3	20.9	13.3	19.9	15.9	22.3	17.1	22.6	18.1	19.7	14.9
6	14.9	8.9	20.2	13.7	17.3	15.1	24.3	18.1	21.2	18.0	20.4	15.0
7	15.9	9.6	19.8	14.0	18.5	14.5	21.7	19.0	23.3	17.0	19.9	15.2
8	16.0	9.5	19.8	14.6	16.5	14.8	21.3	17.7	24.3	19.1	19.9	14.4
9	17.2	10.5	18.5	13.9	16.5	14.0	21.9	17.9	25.0	19.5	19.9	15.2
10	17.9	10.8	14.7	12.6	18.6	13.4	21.3	18.0	22.3	19.5	19.7	14.6
11	17.5	11.4	17.6	10.9	19.4	15.1	22.5	18.2	22.6	18.1	20.3	14.7
12	14.0	11.8	18.2	13.2	20.0	15.6	20.9	18.0	21.3	17.8	20.7	16.1
13	18.6	10.4	20.0	13.5	20.8	16.8	20.4	16.2	21.2	17.8	20.1	15.9
14	18.4	12.8	20.9	14.7	19.7	16.0	22.1	16.8	22.1	17.7	20.1	15.1
15	18.6	13.5	20.8	14.4	19.1	16.0	21.5	16.9	22.4	17.3	21.9	16.1
16	16.9	12.2	20.3	14.7	18.0	15.1	21.7	16.6	21.3	17.8	21.3	16.2
17	17.3	11.4	19.3	14.6	18.5	14.0	20.8	16.8	22.2	9.5	21.6	16.5
18	14.2	10.7	20.1	15.0	20.5	15.5	21.6	17.2	22.7	13.5	19.4	15.2
19	11.4	8.9	20.0	15.1	20.5	17.1	22.9	16.7	23.7	17.6	19.4	15.1
20	15.0	7.7	19.2	15.3	19.9	16.8	21.1	17.6	24.0	18.6	18.6	14.3
21	15.8	7.7	18.5	15.3	19.9	17.0	22.8	17.8	23.2	18.5	18.5	14.1
22	16.4	9.6	16.7	14.3	19.5	16.4	21.2	18.1	24.8	18.9	19.2	13.2
23	16.3	10.0	14.3	13.6	21.0	16.1	21.9	18.0	21.3	18.4	20.1	13.9
24	17.1	10.4	17.4	13.4	19.2	16.0	22.9	17.6	18.4	15.2	20.0	14.8
25	17.6	10.3	15.3	12.4	19.7	16.2	20.6	19.1	15.2	12.9	18.0	15.4
26	17.7	10.1	17.1	12.2	---	---	23.2	18.2	17.9	14.4	17.4	12.4
27	17.5	10.9	15.4	12.2	---	---	24.0	18.4	19.3	14.7	17.9	12.0
28	20.4	12.1	13.8	12.0	---	---	24.2	19.1	19.9	14.7	17.3	12.5
29	21.4	12.9	16.4	11.8	---	---	21.7	18.4	19.5	15.1	18.5	12.4
30	21.5	14.3	15.9	13.7	---	---	22.9	17.3	19.4	15.5	19.3	12.8
31	---	---	15.3	12.5	---	---	22.2	18.4	19.5	15.7	---	---
MONTH	21.5	6.1	22.1	10.9	---	---	24.3	---	25.0	9.5	21.9	12.0

07099050 BEAVER CREEK ABOVE UPPER BEAVER CEMETARY, NEAR PENROSE, CO

LOCATION.--Lat 38°33'42", long 105°01'17", in SE¹/4NW¹/4NE¹/4 sec.20, T.17 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on left bank 40 ft upstream from bridge on Fremont County Road 132, 1 mi downstream from Banta Gulch, 1.3 mi northeast of Upper Beaver Cemetery, and 9.2 mi north of Penrose.

DRAINAGE AREA.--122 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1991 to current year (seasonal record).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,020 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Natural flow of creek affected by storage reservoirs and diversions for municipal use by the City of Colorado Springs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 515 ft³/s, Sept. 4, 1991, gage height, 6.70 ft, from floodmark, from rating curve extended above 130 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 9.1 ft³/s, Oct. 30, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 119 ft³/s at 0145 Apr. 18, gage height, 4.62 ft; minimum daily, 9.1 ft³/s, Oct. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	10	---	---	---	---	18	85	67	95	27	54
2	18	9.5	---	---	---	---	19	85	69	90	24	52
3	16	9.5	---	---	---	---	21	83	70	86	22	50
4	15	11	---	---	---	---	27	86	70	84	31	52
5	16	11	---	---	---	---	31	80	71	82	27	48
6	17	12	---	---	---	---	33	76	74	81	29	47
7	16	13	---	---	---	---	42	74	74	79	28	41
8	15	13	---	---	---	---	49	70	76	77	24	38
9	15	14	---	---	---	---	54	70	81	77	26	35
10	15	15	---	---	---	---	66	71	82	73	27	32
11	15	15	---	---	---	---	74	69	86	71	33	31
12	14	15	---	---	---	---	70	65	89	68	31	28
13	14	14	---	---	---	12	86	87	89	66	30	25
14	14	14	---	---	---	13	98	73	85	68	28	24
15	14	11	---	---	---	14	104	74	86	66	25	30
16	14	10	---	---	---	14	103	69	90	64	24	26
17	14	10	---	---	---	16	109	65	88	67	41	24
18	14	10	---	---	---	16	111	66	85	65	40	23
19	13	11	---	---	---	15	103	66	90	57	41	24
20	14	9.8	---	---	---	14	93	64	100	51	32	30
21	14	---	---	---	---	15	80	64	102	48	27	28
22	14	---	---	---	---	16	82	69	103	42	25	26
23	18	---	---	---	---	16	74	70	103	37	24	23
24	31	---	---	---	---	16	79	61	103	34	52	21
25	31	---	---	---	---	17	81	59	103	37	90	19
26	31	---	---	---	---	17	80	56	110	58	75	18
27	31	---	---	---	---	17	79	67	109	53	70	18
28	27	---	---	---	---	18	79	67	110	39	63	25
29	10	---	---	---	---	18	80	63	105	32	56	37
30	9.1	---	---	---	---	18	84	59	95	29	53	37
31	9.9	---	---	---	---	19	---	62	---	29	56	---
TOTAL	529.0	---	---	---	---	---	2109	2175	2665	1905	1181	966
MEAN	17.1	---	---	---	---	---	70.3	70.2	88.8	61.5	38.1	32.2
MAX	31	---	---	---	---	---	111	87	110	95	90	54
MIN	9.1	---	---	---	---	---	18	56	67	29	22	18
AC-FT	1050	---	---	---	---	---	4180	4310	5290	3780	2340	1920

07099050 BEAVER CREEK ABOVE UPPER BEAVER CEMETERY NEAR PENROSE, CO--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
MAY 12...	1030	66	82	7.2	11.0	9.2	30	8.9	1.9	3.8	21 0.3
JUL 27...	1145	56	76	7.7	17.0	7.7	28	8.5	1.7	3.7	21 0.3
SEP 09...	1140	35	82	7.6	14.0	8.9	31	9.3	1.8	4.0	21 0.3
28...	1130	17	82	7.8	11.0	9.3	30	9.0	1.8	3.8	21 0.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)
MAY 12...	1.2	25	9.1	0.9	1.6	43	<0.01	<0.05	0.05	<0.01	0.01
JUL 27...	1.0	25	6.6	0.5	1.7	39	<0.01	<0.05	<0.01	0.04	0.04
SEP 09...	1.1	29	6.9	1.1	1.8	43	<0.01	<0.05	<0.01	<0.01	<0.01
28...	1.0	30	6.4	1.1	1.8	43	<0.01	<0.05	0.01	0.01	<0.01

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
MAY 12...	<1	<0.1	<1	1	510	170	<1
JUL 27...	<1	<0.1	<1	<1	510	100	<1
SEP 09...	<1	<0.1	<1	<1	360	100	<1
28...	<1	<0.1	<1	<1	150	65	<1

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 12...	1	50	9	<1	1	<10	11
JUL 27...	1	50	5	<1	<1	<10	13
SEP 09...	<1	40	4	<1	<1	<10	<3
28...	<1	20	4	<1	<1	<10	<3

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
OCT 1991 15...	1030	14	98	7.5	APR 1992 03...	1150	17	99	8.5
NOV 13...	1225	13	94	5.5	14...	1005	103	85	7.0
MAR 1992 12...	1310	9.2	112	5.5	JUN 22...	1150	105	73	15.5

07099060 BEAVER CREEK ABOVE HIGHWAY 115 NEAR PENROSE, CO

LOCATION.--Lat 38°29'21", long 104°59'49", in NE¹/₄NE¹/₄ sec.16, T.18 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on left bank 300 ft downstream from Beaver Park Irrigation Company diversion dam, 1.8 mi upstream from Highway 115, and 4.7 mi north of Penrose.

DRAINAGE AREA.--138 mi².

PERIOD OF RECORD.--March 1991 to current year (seasonal record).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,659.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 2-6. Records fair except for estimated daily discharges, those below 0.2 ft³/s, and those above 110 ft³/s, which are poor. Natural flow of creek is affected by storage reservoirs, diversions for municipal use by Colorado Springs, and diversions for irrigation, mainly by the Beaver Park Irrigation Company. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 410 ft³/s, Sept. 4, 1991, gage height, 6.00 ft, from floodmark, from rating curve extended above 110 ft³/s; no flow many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 139 ft³/s at 1730 June 27, gage height, 4.28 ft, from rating curve extended above 110 ft³/s; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.5	---	---	---	---	5.6	66	95	92	.00	38
2	.00	10	---	---	---	---	5.9	67	98	85	.00	37
3	.00	13	---	---	---	---	6.7	66	96	81	.00	36
4	.00	7.8	---	---	---	---	14	66	96	72	.00	25
5	.00	7.5	---	---	---	---	20	56	102	64	.00	25
6	.00	7.0	---	---	---	---	19	54	109	58	.00	25
7	.00	8.4	---	---	---	---	26	49	109	53	.00	17
8	.00	7.3	---	---	---	---	37	45	109	53	.00	14
9	.00	8.9	---	---	---	---	44	45	124	52	.00	10
10	.00	10	---	---	---	---	55	49	119	46	.00	7.6
11	.00	11	---	---	---	---	63	44	124	42	4.7	6.7
12	.00	10	---	---	---	---	62	34	119	37	5.0	2.3
13	.00	8.9	---	---	---	.00	72	61	109	35	2.6	.00
14	.00	8.1	---	---	---	.00	78	48	91	38	1.0	.00
15	.00	18	---	---	---	.98	96	49	91	33	.00	2.6
16	.00	14	---	---	---	2.2	85	38	91	30	.00	.30
17	.00	13	---	---	---	4.9	86	34	76	32	9.8	.00
18	.00	4.9	---	---	---	6.9	104	37	67	27	15	.00
19	.00	.26	---	---	---	4.3	82	33	55	17	17	.00
20	.00	.23	---	---	---	2.9	73	30	60	11	6.0	2.5
21	.00	---	---	---	---	4.6	63	29	62	8.3	.17	1.1
22	.00	---	---	---	---	6.2	62	35	58	1.7	.00	.00
23	.00	---	---	---	---	5.0	52	49	54	.00	.00	.00
24	.53	---	---	---	---	4.4	52	38	62	.00	24	.00
25	.00	---	---	---	---	3.6	51	39	62	.00	93	.00
26	.00	---	---	---	---	4.4	51	49	101	16	63	.00
27	.00	---	---	---	---	6.6	53	78	113	13	53	.00
28	.00	---	---	---	---	9.8	58	82	121	.56	45	.00
29	.00	---	---	---	---	9.4	61	71	125	.00	40	.00
30	.00	---	---	---	---	7.8	64	69	105	.00	37	.00
31	.00	---	---	---	---	6.7	---	80	---	2.5	41	---
TOTAL	0.53	---	---	---	---	---	1601.2	1590	2803	1000.06	457.27	250.10
MEAN	.017	---	---	---	---	---	53.4	51.3	93.4	32.3	14.8	8.34
MAX	.53	---	---	---	---	---	104	82	125	92	93	38
MIN	.00	---	---	---	---	---	5.6	29	54	.00	.00	.00
AC-FT	1.1	---	---	---	---	---	3180	3150	5560	1980	907	496

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR, NEAR STONE CITY, CO

LOCATION.--Lat 38°27'54", long 104°49'33", in NE¹/4SW¹/4 sec.19, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Fort Carson Military Reservation, on left bank, 0.7 mi northwest of intersection of military roads 9, and 1, 2.2 mi upstream from Teller Reservoir Dam, and 2.2 mi northeast of Stone City.

DRAINAGE AREA.--62.3 mi².

REVISED RECORDS.--WDR CO-89-1: Drainage area.

PERIOD OF RECORD.--Streamflow records, May 1978 to current year. Water-quality data available, May 1978 to September 1981. Prior to July 20, 1989, at site 0.6 mi downstream, at different datum.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Elevation of gage is 5,520 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 20, 1989, at site 0.6 mi downstream, at different datum.

REMARKS.--No estimated daily discharges. Records poor. Diversions upstream from gage for irrigation, amount unknown. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.35	.37	.43	.48	3.6	3.3	3.7	.90	.64
2	.00	.00	.00	.36	.36	.45	.48	3.5	3.6	3.3	.81	.57
3	.00	.00	.00	.37	.30	.44	.50	3.8	3.3	3.1	.76	.52
4	.00	.00	.02	.37	.31	.49	.50	4.2	3.2	2.8	.80	.52
5	.00	.00	.04	.36	.32	.45	.52	4.5	3.1	2.4	.72	.47
6	.00	.00	.06	.38	.32	.46	.50	4.7	3.0	2.2	.67	.45
7	.00	.00	.07	.38	.33	.46	.50	4.8	3.1	2.0	.63	.44
8	.00	.00	.07	.37	.33	.47	.51	4.7	3.1	1.9	.54	.43
9	.00	.00	.09	.38	.33	.45	.50	4.5	3.2	2.5	.59	.39
10	.00	.00	.10	.38	.33	.46	.50	4.1	3.4	2.3	.61	.39
11	.00	.00	.12	.39	.34	.48	.50	4.3	3.3	2.2	.77	.38
12	.00	.00	.14	.38	.34	.48	.51	4.0	3.3	1.9	.75	.32
13	.00	.00	.15	.38	.35	.48	.54	3.6	3.0	1.8	.80	.31
14	.00	.00	.17	.38	.35	.50	.53	3.6	2.6	1.7	.78	.31
15	.00	.00	.19	.37	.35	.48	.50	3.4	2.3	1.5	.64	.27
16	.00	.00	.21	.38	.36	.48	.50	3.3	2.1	1.4	.52	.24
17	.00	.00	.22	.36	.37	.48	.50	3.0	1.9	1.9	.66	.23
18	.00	.00	.23	.36	.39	.48	.51	2.9	1.7	1.8	.67	.21
19	.00	.00	.25	.39	.41	.46	.50	2.7	1.7	1.6	.65	.21
20	.00	.00	.26	.39	.42	.47	1.1	2.5	1.9	1.5	.59	.22
21	.00	.00	.27	.39	.42	.48	1.7	2.4	2.1	1.6	.54	.22
22	.00	.00	.29	.39	.42	.46	2.2	2.4	2.1	1.5	.47	.23
23	.00	.00	.28	.23	.42	.48	2.5	2.8	1.8	1.3	.44	.23
24	.00	.00	.30	.28	.42	.48	2.9	3.0	2.1	1.2	.96	.21
25	.00	.00	.31	.33	.42	.49	3.2	3.1	2.5	1.2	1.3	.20
26	.00	.00	.31	.34	.42	.48	3.3	3.1	3.3	1.4	1.5	.20
27	.00	.00	.32	.34	.42	.48	3.3	3.3	3.3	1.4	1.4	.19
28	.00	.00	.33	.36	.43	.48	3.2	3.5	4.5	1.2	1.1	.19
29	.00	.00	.35	.34	.43	.47	3.3	3.3	4.4	1.1	.83	.19
30	.00	.00	.34	.36	---	.48	3.4	3.0	4.2	1.1	.76	.19
31	.00	---	.34	.36	---	.51	---	2.9	---	1.0	.71	---
TOTAL	0.00	0.00	5.83	11.20	10.78	14.64	39.68	108.5	86.4	57.5	23.87	9.57
MEAN	.000	.000	.19	.36	.37	.47	1.32	3.50	2.88	1.85	.77	.32
MAX	.00	.00	.35	.39	.43	.51	3.4	4.8	4.5	3.7	1.5	.64
MIN	.00	.00	.00	.23	.30	.43	.48	2.4	1.7	1.0	.44	.19
AC-FT	.00	.00	12	22	21	29	79	215	171	114	47	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1992, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1978	3.94	44.6	1985	.000	1979
1979	2.54	26.7	1985	.000	1979
1980	1.02	6.47	1985	.000	1979
1981	.75	2.69	1985	.000	1979
1982	.71	2.58	1985	.000	1979
1983	.68	2.75	1985	.000	1979
1984	1.51	12.9	1985	.000	1979
1985	10.7	73.6	1980	.000	1979
1986	7.80	40.3	1983	.000	1989
1987	3.13	17.1	1985	.000	1978
1988	4.55	40.9	1982	.000	1978
1989	1.84	18.1	1982	.000	1978

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1978 - 1992

ANNUAL TOTAL	5.90	367.97	
ANNUAL MEAN	.016	1.01	
HIGHEST ANNUAL MEAN			3.38
LOWEST ANNUAL MEAN			13.1
HIGHEST DAILY MEAN			.000
LOWEST DAILY MEAN	a .35	Dec 29	4.8
ANNUAL SEVEN-DAY MINIMUM	a .00	Jan 1	b .00
INSTANTANEOUS PEAK FLOW	.00	Jan 1	.00
INSTANTANEOUS PEAK STAGE			5.1
ANNUAL RUNOFF (AC-FT)	12		6.04
10 PERCENT EXCEEDS	.00		3.2
50 PERCENT EXCEEDS	.00		.45
90 PERCENT EXCEEDS	.00		.00

a-No flow most of year.

b-No flow many days.

c-No flow many days during most years.

d-From rating curve extended above 100 ft³/s, on basis of slope-area measurements at gage heights, 8.04 ft, and 11.27 ft.

e-Maximum gage height, 11.88 ft, Jun 8, 1987, site and datum then in use.

Reservoir data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07099233 TELLER RESERVOIR NEAR STONE CITY, CO

Streamflow data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07099235 TURKEY CREEK NEAR STONE CITY, CO

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO

LOCATION.--Lat 38°16'15", long 104°43'30", in NE¹/₄ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at dam on Arkansas River, 7 mi west of Pueblo.

DRAINAGE AREA.--4,669 mi².

PERIOD OF RECORD.--January 1974 to current year.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929, (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above National Geodetic Vertical datum of 1929.

REMARKS.--Reservoir is formed by concrete and earthfill dam. Storage began Jan. 9, 1974; dam completed in August 1975. Capacity, 357,700 acre-ft at elevation 4,898.70 ft, crest of spillway. Dead storage, 3,730 acre-ft, below elevation 4,764.00 ft, invert of river outlet. Reservoir is terminal reservoir of the Fryingpan-Arkansas project and is used to provide flood control, municipal and industrial supplies, and to fulfill irrigation requirements in the Arkansas River valley. Figures given are total contents.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 295,480 acre-ft, Feb. 12, 1985, elevation, 4,886.94 ft; minimum since appreciable storage was attained, 22,680 acre-ft, Nov. 13, 1974, elevation, 4,790.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 168,080 acre-ft, Apr. 1, elevation, 4,856.47 ft; minimum, 75,920 acre-ft, Nov. 11, elevation, 4,823.35 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	4,824.47	78,380	-
Oct. 31.	4,823.56	76,380	-2,000
Nov. 30.	4,829.87	90,950	+14,570
Dec. 31.	4,839.76	116,810	+25,860
CAL YR 1991			-60
Jan. 31.	4,847.55	139,310	+22,500
Feb. 29.	4,852.45	154,570	+15,260
Mar. 31.	4,856.43	167,950	-13,380
Apr. 30.	4,853.64	158,560	-9,390
May 31.	4,849.41	145,020	-13,540
June 30.	4,848.80	143,130	-1,890
July 31.	4,842.57	124,700	-18,4300
Aug. 31.	4,839.38	115,770	-8,930
Sept. 30.	4,834.93	103,780	-11,990
WTR YR 1992			+25,400

07099350 PUEBLO RESERVOIR NEAR PUEBLO CO--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples and field measurements were collected at a number of transects located along the length of the reservoir.

381725104494400 PUEBLO RESERVOIR SITE 3B

LOCATION.--Lat 38°17'25", long 104°49'44", in SW¹/4SW¹/4, sec. 19, T. 20 S., R. 66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 100 ft downstream from Turkey Creek, and 6.7 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
MAY 1991							
13...	1345	--	--	--	--	0.6	--
13...	1346	2.0	401	8.1	19.0	--	9.0
13...	1347	4.0	398	7.9	17.5	--	7.5
13...	1348	6.0	401	7.8	16.0	--	6.4
13...	1349	8.0	402	7.7	16.0	--	6.0
13...	1350	10.0	400	7.9	14.5	--	6.8
13...	1351	12.0	391	7.9	14.0	--	7.0
13...	1352	14.0	389	7.9	14.0	--	7.1
JUN							
24...	1320	--	--	--	--	0.2	--
24...	1321	0.0	225	8.1	21.0	--	7.6
24...	1322	2.0	215	8.1	20.5	--	7.6
24...	1323	4.0	225	8.1	20.5	--	7.5
24...	1324	6.0	224	8.1	20.0	--	7.4
24...	1325	8.0	226	8.1	20.0	--	7.6
24...	1326	9.0	225	8.1	19.0	--	7.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

JUN 1992							
04...	1120	--	--	--	--	0.3	--
04...	1121	0.0	341	8.1	15.0	--	7.8
04...	1122	3.0	339	8.1	15.5	--	7.6
04...	1123	6.0	339	8.1	15.0	--	7.7
04...	1124	9.0	340	8.1	14.5	--	7.8
04...	1125	12.0	340	8.1	14.5	--	7.7
AUG							
04...	1100	--	--	--	--	<0.2	--
04...	1101	0.0	415	7.9	20.0	--	6.5
04...	1102	2.0	428	7.9	20.0	--	6.5

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO CO--Continued

WATER-QUALITY RECORDS

381725104494400 PUEBLO RESERVOIR SITE 3B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

		SAM- PLING DEPTH (FEET)	TUR- BID- ITY (NTU)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	ALKA- LINITY LAB (MG/L AS CACO3)				
DATE		TIME									
MAY 1991											
13...	1300	2.0	3.5	160	44	11	90				
13...	1320	13.0	4.7	150	43	11	91				
JUN											
24...	1300	1.0	35	94	28	5.8	62				
24...	1319	7.0	35	94	28	5.8	61				
DATE		TIME	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED TOTAL (MG/L AS P)
MAY 1991											
13...	1300	0.007	0.005	0.138	0.128	0.064	0.059	0.102	0.043	0.039	0.026
13...	1320	0.009	0.007	0.164	0.161	0.153	0.094	0.080	0.050	0.046	0.029
JUN											
24...	1300	0.005	0.001	0.092	0.071	0.028	0.025	0.039	0.035	0.019	0.017
24...	1319	0.006	0.001	0.058	0.052	0.033	0.031	0.078	0.039	0.034	0.019
DATE		TIME	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	
MAY 1991											
13...	1300	<1	0.2	3	2	190	130	3	3		
13...	1320	<1	0.3	3	2	220	55	3	3		
JUN											
24...	1300	<1	<0.1	3	1	1100	35	2	<1		
24...	1319	<1	<0.1	3	1	1000	25	3	<1		
DATE		TIME	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	
MAY 1991											
13...	160	86	3	3	<1	<0.5	10	<5	<5		
13...	140	86	6	3	<1	<0.5	20	<5	<5		
JUN											
24...	110	30	5	3	<1	<0.5	50	<5	<5		
24...	120	35	3	<2	<1	<0.5	50	<5	<5		

07099350 PUEBLO RESERVOIR NEAR PUEBLO CO--Continued

WATER-QUALITY RECORDS

381725104494400 PUEBLO RESERVOIR SITE 3B--Continued

QUALITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PHYTOPLANKTON

[dashes indicate taxa not detected; sp., species are distinguishable but not identifiable;
¹/₂, species identification probable but not positive; var., identifies a variation in the species]

Date	May 13, 1991	June 24, 1991
Time	1300	1300
Depth	2 ft.	1 ft.
Sampling method	Van-Dorn grab	Van-Dorn grab
TAXA	Count (cells/ml)	Count (cells/ml)

BACILLARIOPHYTA (Diatoms)		
Order Centrales		
Cyclotella		
kuetzingiana	500	--
Melosira		
varians	990	--
Order Pennales		
Acnanthes		
linearis	820	--
minutissima	2200	2000
Amphora		
perpusilla	200	500
Asterionella		
formosa	610	--
Cocconeis		
placentula var. euglypta	--	500
Cymbella		
minuta	2600	3500
minuta var. silesiaca	--	1000
Fragilaria		
crontonensis	410	--
vaucheriae	--	6000
Gomphonema		
parvulum	--	2500
sp.	200	--
Hantzschia		
sp.	410	--
Navicula		
cryptocephala	410	1000
pelliculosa	--	500
Nitzschia		
acicularis	200	3500
dissipata	1400	1500
linearis	--	500
Surirella		
minuta	410	--
Synedra		
delicatissima	--	1000
Tabellaria		
fenestrata	820	2000
CHLOROPHYTA (Green algae)		
Ankistrodesmus		
falcatus	140	--
Chlorella		
ellipsoidea	--	9800
Chlorococcum		
humicola	--	9800
CRYPTOPHYTA (Cryptomonads)		
Cryptomonas		
erosa	--	1600
Rhodomonas		
minuta	270	8200
CYANOPHYTA (Blue-green algae)		
Aphanocapsa		
delicatissima	37000	220000
Aphanothece		
nidulans	--	6500
Chroococcus		
sp.	--	11000
Synechococcus		
sp.	4500	16000
EUGLENOPHYTA (Euglenoids)		
Euglena		
sp.	--	6500
PYRRHOPHYTA (Dinoflagellates)		
Glenosinium		
sp.	1400	--

TOTAL CELLS/ml	55000	320000
NUMBER OF SPECIES	20	23

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381647104475300 PUEBLO RESERVOIR SITE 4B

LOCATION.--Lat 38°16'47", long 104°47'53", in NW¹/4SE¹/4, sec. 29, T. 20 S., R. 66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 1.3 mi upstream from Peck Creek, 2.2 mi downstream from Turkey Creek, and 4.5 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to September 1991.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	PH SPE- CIFIC CON- DUCT- ANCE (US/CM)	WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK (M)	OXYGEN, DIS- SOLVED (MG/L)
MAY 1991							
13...	1350	--	--	--	--	1.9	--
13...	1351	3.0	493	8.3	17.5	--	11.9
13...	1352	6.0	494	8.5	17.5	--	11.7
13...	1353	9.0	506	8.5	15.0	--	10.3
13...	1354	12	526	8.5	14.0	--	9.8
13...	1355	15	527	8.5	14.0	--	9.5
13...	1356	18	530	8.5	13.0	--	9.2
13...	1357	21	531	8.5	13.0	--	9.2
13...	1358	24	532	8.5	12.5	--	8.9
13...	1359	27	531	8.5	12.0	--	8.8
13...	1400	30	532	8.4	12.0	--	8.4
13...	1401	33	533	8.4	11.5	--	7.6
13...	1402	36	533	8.3	11.5	--	7.4
13...	1403	38.	533	8.3	11.0	--	7.2
JUN							
24...	1430	--	--	--	--	1.2	--
24...	1431	0.0	310	8.8	22.5	--	10.0
24...	1432	3.0	309	8.8	22.5	--	9.8
24...	1433	6.0	317	8.6	22.0	--	8.4
24...	1434	9.0	317	8.6	21.0	--	8.2
24...	1435	12	337	8.6	21.0	--	8.0
24...	1436	15	349	8.5	21.0	--	8.0
24...	1437	18.	351	8.5	21.0	--	7.9
24...	1438	21	340	8.5	20.5	--	7.7
24...	1439	24	296	8.4	20.5	--	7.6
24...	1440	27	280	8.4	20.0	--	7.5
24...	1441	30.	240	8.3	19.5	--	7.1
24...	1442	33.	236	8.2	19.0	--	6.8
AUG							
05...	1215	--	--	--	--	1.2	--
05...	1216	0.0	390	9.0	25.0	--	9.6
05...	1217	2.0	397	9.0	24.0	--	9.8
05...	1218	4.0	399	9.0	24.0	--	10.0
05...	1219	6.0	404	9.0	23.5	--	10.5
05...	1220	8.0	409	8.8	23.0	--	9.2
05...	1221	10	420	8.8	23.0	--	8.6
05...	1222	12	412	8.7	23.0	--	9.0
05...	1223	14	407	8.4	21.0	--	7.0
05...	1224	15	406	8.3	20.0	--	6.7
SEP							
23...	1254	--	--	--	--	0.6	--
23...	1255	0.0	554	8.5	20.0	--	8.6
23...	1256	2.0	558	8.6	19.0	--	9.2
23...	1257	4.0	562	8.7	18.5	--	8.7
23...	1258	6.0	567	8.6	18.0	--	8.2
23...	1259	8.0	570	8.6	18.0	--	8.3
23...	1300	10	575	8.5	17.5	--	7.7
23...	1301	12	673	8.7	15.5	--	7.5

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381559104465500 PUEBLO RESERVOIR SITE 5B

LOCATION.--Lat 38°15'59", long 104°46'55", in SW¹/4NE¹/4, sec. 33, T. 20 S., R. 66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 0.1 mi upstream from Peck Creek, 1.2 mi upstream from Rock Creek, and 3.2 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
MAY 1991							
13...	1135	--	--	--	--	2.3	--
13...	1136	3.0	508	8.6	16.0	--	10.6
13...	1137	6.0	517	8.6	15.5	--	10.3
13...	1138	9.0	523	8.6	15.0	--	10.0
13...	1139	12	525	8.6	14.5	--	9.9
13...	1140	15	530	8.6	14.0	--	9.7
13...	1141	18	533	8.7	13.5	--	9.4
13...	1142	21	532	8.6	13.0	--	9.3
13...	1143	24	532	8.6	12.5	--	8.8
13...	1144	27	533	8.6	12.5	--	8.5
13...	1145	30	535	8.6	11.0	--	8.0
13...	1146	33	533	8.6	11.0	--	7.9
13...	1147	36	534	8.6	11.0	--	7.9
13...	1148	39	534	8.6	11.0	--	7.9
13...	1149	42	534	8.5	10.5	--	7.7
13...	1150	45	535	8.5	10.5	--	6.9
13...	1151	47	535	8.5	10.0	--	6.6
JUN							
24...	1100	--	--	--	--	1.6	--
24...	1101	0.0	357	8.5	22.0	--	8.3
24...	1102	3.0	355	8.5	21.5	--	8.5
24...	1103	6.0	359	8.5	21.0	--	8.2
24...	1104	9.0	373	8.5	21.0	--	8.0
24...	1105	12	373	8.4	21.0	--	7.9
24...	1106	15	365	8.4	20.5	--	7.8
24...	1107	18	349	8.4	20.5	--	7.7
24...	1108	21	357	8.3	20.5	--	7.4
24...	1109	24	333	8.3	20.5	--	7.5
24...	1110	27	295	8.2	20.0	--	7.4
24...	1111	30	271	8.2	19.5	--	7.3
24...	1112	33	259	8.1	19.0	--	7.4
24...	1113	36	256	8.1	18.5	--	7.0
24...	1114	39	257	8.0	18.5	--	6.9
24...	1115	42	270	8.0	18.0	--	6.4
24...	1116	45	280	8.0	18.0	--	6.4
AUG							
05...	1150	--	--	--	--	1.3	--
05...	1151	0.0	400	8.8	24.0	--	8.3
05...	1152	3.0	399	8.8	23.5	--	8.2
05...	1153	6.0	400	8.8	23.0	--	8.4
05...	1154	9.0	400	8.7	22.5	--	7.6
05...	1155	12	404	8.6	23.0	--	7.3
05...	1156	15	405	8.6	23.0	--	7.0
05...	1157	18	410	8.5	23.0	--	6.7
05...	1158	21	420	8.2	22.5	--	5.6
05...	1159	24	448	8.1	21.5	--	5.4
05...	1200	25	451	8.0	21.5	--	5.2
SEP							
23...	1045	--	--	--	--	1.0	--
23...	1046	0.0	542	8.2	19.0	--	6.9
23...	1047	2.0	541	8.2	19.0	--	6.8
23...	1048	4.0	541	8.2	18.5	--	6.8
23...	1049	6.0	543	8.2	18.5	--	6.7
23...	1050	8.0	542	8.3	18.5	--	6.6
23...	1051	10	543	8.3	18.5	--	6.6
23...	1052	12	543	8.3	18.5	--	6.6
23...	1053	14	543	8.2	18.5	--	6.7
23...	1054	16	544	8.2	18.0	--	6.7
23...	1055	18	585	8.2	18.0	--	6.6
23...	1056	20	590	8.2	17.5	--	6.7

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381559104465500 PUEBLO RESERVOIR SITE 5B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JUN 1992							
04...	0945	--	--	--	--	2.3	--
04...	0946	0.0	423	8.6	17.0	--	9.0
04...	0947	3.0	423	8.5	17.0	--	9.1
04...	0948	6.0	425	8.5	17.0	--	9.1
04...	0949	9.0	424	8.5	17.0	--	9.0
04...	0950	12	423	8.5	17.0	--	9.0
04...	0951	15	421	8.5	17.0	--	8.9
04...	0952	18	421	8.5	16.5	--	8.7
04...	0953	21	421	8.4	16.5	--	8.4
04...	0954	24	420	8.4	16.5	--	8.2
04...	0955	27	421	8.3	16.5	--	8.0
04...	0956	30	426	8.3	16.5	--	7.9
04...	0957	33	424	8.3	16.5	--	7.8
04...	0958	36	420	8.2	16.0	--	7.3
04...	0959	39	396	8.2	16.0	--	7.2
04...	1000	42	373	8.1	15.0	--	7.2
04...	1001	45	342	8.1	14.5	--	7.1
04...	1002	48	333	8.0	14.0	--	6.8
04...	1003	49	332	8.0	14.0	--	6.7
AUG							
04...	1200	--	--	--	--	1.8	--
04...	1201	0.0	388	8.6	23.0	--	7.7
04...	1202	3.0	388	8.6	23.0	--	7.8
04...	1203	6.0	388	8.5	22.5	--	7.5
04...	1204	9.0	387	8.5	22.5	--	7.3
04...	1205	12	386	8.5	22.5	--	7.0
04...	1206	15	386	8.4	22.5	--	7.0
04...	1207	18	387	8.3	22.5	--	6.5
04...	1208	21	389	8.3	22.5	--	6.1
04...	1209	24	391	8.0	22.0	--	4.7
04...	1210	27	393	7.8	22.0	--	4.1
04...	1211	30	395	7.7	21.5	--	3.8
04...	1212	32	395	7.7	21.5	--	3.9
27...	1200	--	--	--	--	0.9	--
27...	1201	0.0	408	8.2	21.5	--	6.4
27...	1202	3.0	408	8.2	21.5	--	6.3
27...	1203	6.0	408	8.2	21.5	--	6.3
27...	1204	9.0	409	8.1	21.5	--	6.1
27...	1205	12	408	8.1	21.5	--	5.9
27...	1206	15	408	8.1	21.5	--	5.9
27...	1207	18	408	8.1	21.5	--	5.8
27...	1208	21	407	8.0	21.5	--	5.7
27...	1209	24	407	8.0	21.0	--	5.7
27...	1210	27	408	8.0	21.0	--	5.7
27...	1211	30	410	8.0	21.0	--	5.7
27...	1212	33	419	8.0	20.0	--	5.8
27...	1213	36	421	7.9	18.5	--	5.9
27...	1214	38	422	7.8	18.5	--	5.8
SEP							
29...	1100	--	--	--	--	1.2	--
29...	1101	0.0	451	8.2	18.5	--	7.6
29...	1102	3.0	451	8.2	18.5	--	7.6
29...	1103	6.0	451	8.2	18.0	--	7.7
29...	1104	9.0	453	8.2	18.0	--	7.7
29...	1105	12	453	8.2	18.0	--	7.4
29...	1106	15	453	8.2	18.0	--	7.4
29...	1107	18	453	8.2	18.0	--	7.4
29...	1108	21	452	8.2	18.0	--	7.4
29...	1109	24	451	8.2	18.0	--	7.2

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WATER-QUALITY RECORDS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	TUR- BID- ITY (NTU)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	ALKA- LITY LAB (MG/L AS CACO3)
MAY 1991							
13...	1040	8.0	1.9	210	58	16	116
13...	1045	24	1.3	220	59	17	122
13...	1050	24	1.3	220	60	16	122
13...	1055	24	2.4	230	62	18	127
13...	1100	47	4.7	220	61	16	131
JUN							
24...	1030	5.0	3.9	140	40	10	83
24...	1035	24	7.2	130	38	9.3	78
24...	1036	24	7.3	130	38	9.5	77
24...	1040	24	7.9	140	39	10	80
24...	1045	43	45	100	31	6.5	72
AUG							
05...	1000	4.0	2.4	160	43	12	88
05...	1005	18	4.7	160	43	12	93
05...	1010	18	3.5	160	44	12	92
05...	1015	18	6.0	160	44	11	96
05...	1020	22	20	160	44	12	95
SEP							
23...	1000	3.0	6.8	200	56	14	113
23...	1010	14	9.7	200	57	14	112
23...	1020	18	9.6	200	57	14	118

[illegible]

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381559104465500 PUEBLO RESERVOIR SITE 5B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
MAY 1991									
13...	1040	1	0.4	3	2	70	21	3	2
13...	1045	<1	0.3	1	1	70	23	2	2
13...	1050	1	0.5	2	1	70	14	3	2
13...	1055	<1	<0.1	1	1	60	10	1	1
13...	1100	1	0.4	3	2	130	26	3	3
JUN									
24...	1030	<1	0.1	2	1	100	<5	2	2
24...	1035	<1	0.1	3	1	190	11	2	2
24...	1036	<1	<0.1	2	2	210	10	1	1
24...	1040	<1	<0.1	4	<1	320	15	1	<1
24...	1045	<1	0.1	6	<1	790	19	3	2
AUG									
05...	1000	<1	0.2	1	<1	90	10	2	1
05...	1005	1	0.2	2	<1	180	<5	3	2
05...	1010	1	0.2	2	<1	200	<5	3	2
05...	1015	<1	<0.1	3	1	170	<3	--	<1
05...	1020	1	0.3	3	<1	180	6	3	2
SEP									
23...	1000	1	0.8	2	<1	230	<5	3	2
23...	1010	1	0.3	2	<1	270	<5	3	3
23...	1020	<1	0.3	1	<1	290	<5	3	3

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 1991								
13...	36	7	8	5	<1	<0.5	<5	<5
13...	26	8	6	5	<1	<0.5	<5	<5
13...	26	7	6	5	<1	<0.5	<5	<5
13...	20	4	3	2	<1	2.0	<10	3
13...	77	35	7	6	<1	<0.5	<5	<5
JUN								
24...	11	<5	5	<2	<1	<0.5	<5	<5
24...	25	<5	4	<2	<1	<0.5	<5	<5
24...	23	<5	3	<2	<1	<0.5	<5	<5
24...	<10	2	2	2	<1	<1.0	<10	3
24...	120	29	3	<2	<1	<0.5	20	<5
AUG								
05...	48	<5	5	5	<1	<0.5	<5	<5
05...	41	<5	5	4	1	0.6	<5	<5
05...	42	<5	7	5	1	0.5	<5	<5
05...	40	2	--	1	<1	<1.0	<10	6
05...	75	11	8	5	1	0.6	<5	<5
SEP								
23...	48	8	7	6	<1	<0.5	<5	<5
23...	51	10	7	6	<1	<0.5	<5	<5
23...	49	--	8	6	<1	<0.5	<5	<5

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381559104465500 PUEBLO RESERVOIR SITE 5B--Continued

QUALITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PHYTOPLANKTON

[dashes indicate taxa not detected; sp., species are distinguishable but not identifiable;
¹/₂, species identification probable but not positive; var., identifies a variation in the species]

Date	May 13, 1991	June 24, 1991	Aug. 20, 1991	Sep. 23, 1991
Time	1040	1030	1000	1000
Depth	8 ft	5 ft	4 ft.	3 ft.
Sampling method	Van-Dorn grab	Van-Dorn grab	Van-Dorn grab	Van-Dorn grab
TAXA	Count (cells/ml)	Count (cells/ml)	Count (cells/ml)	Count (cells/ml)
<hr/>				
BACILLARIOPHYTA (Diatoms)				
Order Centrales				
Cyclotella				
kuetzingiana	170	--	--	--
meneghiniana	--	--	1600	1000
Stephanodiscus				
astrea	--	--	--	1000
astrea var. minutula	--	--	--	1000
Unknown centric	--	--	15	--
Order Pennale				
Achnanthes				
exigua	--	--	--	350
minutissima	110	160	--	--
Asterionella				
formosa	12000	9200	--	1000
Cymbella				
minuta	110	160	--	--
Fragilaria				
crotonensis	9100	2800	--	--
vaucheriae	--	630	--	--
Gomphonema				
parvulum	--	160	--	--
Navicula				
cryptocephala	110	160	--	350
Nitzschia				
acicularis	110	1100	6600	350
palea	--	--	290	1000
Nitzschia				
dissipata	--	320	--	--
Surirella				
minuta	110	--	--	--
Synedra				
delicatissima	--	--	720	--
Unknown pennate	--	--	570	--
CHLOROPHYTA (Green algae)				
Ankistrodesmus				
falcatus	340	--	--	--
Chlamydomonas				
sp.	--	1600	20000	6300
Chlorella				
ellipsoldea	--	8200	1600	9400
Chlorococcum				
humicola	--	1600	6500	3100
Oocystis				
borgei	--	--	3300	--
Pandorium				
morum	--	--	6500	--
CHRYSTOPHYTA				
Unknown flagellate	--	--	6500	--
CHRYPTOPHYTA (Cryptomonads)				
Aphanocapsa				
delicatissima	--	290000	--	--
Cryptomonas				
erosa	170	--	1600	--
Rhodomonas				
minuta	500	--	1600	--
Synechococcus				
sp.	--	20000	--	--
CYANOPHYTA (Blue-green algae)				
Aphanocapsa				
delicatissima	24000	--	370000	420000
elachista	--	--	11000	--
Chroococcus				
sp.	--	--	3300	--
Synechococcus				
sp.	1500	--	4900	--
EUGLENOPHYTA (Euglenoids)				
Englena				
sp.	170	1600	3300	--
PYRRHOPHYTA (Dinoflagellates)				
Glenodinium				
sp.	170	--	--	--
Peridinium				
wisconsinense	--	--	6500	--
TOTAL CELLS/ml	49000	340000	460000	480000
NUMBER OF SPECIES	15	15	20	13

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381548104453300 PUEBLO RESERVOIR SITE 6C

LOCATION.--Lat 38°15'48", long 104°45'33", in NE¹/4SE¹/4, sec. 34, T. 20 S., R. 66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 0.2 mi downstream from Rock Creek, 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 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
MAY 1991							
14...	1300	--	--	--	--	2.8	--
14...	1301	3.0	541	8.4	16.0	--	9.5
14...	1302	6.0	543	8.5	15.5	--	9.4
14...	1303	9.0	544	8.4	15.0	--	9.4
14...	1304	12	544	8.4	15.0	--	9.6
14...	1305	15	544	8.5	14.0	--	9.7
14...	1306	18	545	8.4	13.5	--	9.2
14...	1307	21	546	8.4	13.5	--	9.2
14...	1308	24	546	8.4	13.0	--	9.1
14...	1309	27	547	8.4	13.0	--	9.0
14...	1310	30	547	8.4	12.5	--	8.8
14...	1311	33	547	8.3	12.5	--	8.6
14...	1312	36	547	8.4	12.0	--	8.4
14...	1313	39	547	8.4	11.0	--	8.3
14...	1314	42	547	8.4	11.0	--	8.3
14...	1315	45	547	8.3	10.5	--	8.1
14...	1316	48	547	8.4	10.5	--	8.1
14...	1317	51	547	8.3	10.5	--	8.0
14...	1318	54	546	8.3	10.0	--	8.0
14...	1319	57	546	8.3	10.0	--	8.0
14...	1320	60	546	8.3	10.0	--	7.8
14...	1321	63	546	8.3	10.0	--	7.7
14...	1322	66	546	8.3	9.5	--	7.7
14...	1323	69	546	8.3	9.5	--	7.6
14...	1324	72	546	8.3	9.5	--	7.5
14...	1325	75	546	8.3	9.5	--	7.2
14...	1326	77	547	8.3	9.5	--	7.1
JUN							
26...	1315	--	--	--	--	2.3	--
26...	1316	0.0	388	8.4	21.0	--	7.8
26...	1317	3.0	391	8.4	21.0	--	7.8
26...	1318	6.0	389	8.4	21.0	--	7.8
26...	1319	9.0	389	8.4	21.0	--	7.6
26...	1320	12	388	8.4	21.0	--	7.6
26...	1321	15	388	8.3	20.5	--	7.2
26...	1322	18	388	8.3	20.5	--	7.0
26...	1323	21	389	8.3	20.5	--	6.8
26...	1324	24	390	8.3	20.5	--	6.9
26...	1325	27	382	8.2	20.0	--	6.8
26...	1326	30	370	8.2	20.0	--	6.6
26...	1327	33	373	8.2	20.0	--	6.6
26...	1328	36	371	8.2	20.0	--	6.5
26...	1329	39	369	8.0	19.0	--	5.8
26...	1330	42	348	7.9	19.0	--	5.7
26...	1331	45	321	7.9	18.5	--	5.6
26...	1332	48	314	7.9	18.0	--	5.3
26...	1333	51	309	7.8	18.0	--	5.2
26...	1334	54	309	7.8	18.0	--	5.1
26...	1335	57	312	7.8	17.5	--	5.0
26...	1336	60	321	7.8	17.5	--	5.0
26...	1337	63	324	7.8	17.0	--	4.9
26...	1338	66	329	7.7	17.0	--	4.7
26...	1339	69	350	7.7	17.0	--	4.4
26...	1340	72	354	7.7	16.5	--	4.1
AUG							
05...	1310	--	--	--	--	1.8	--
05...	1311	0.0	396	8.6	24.5	--	7.9
05...	1312	3.0	396	8.7	24.0	--	8.1
05...	1313	6.0	396	8.7	23.0	--	8.3
05...	1314	9.0	397	8.6	23.0	--	7.3
05...	1315	12	399	8.5	22.5	--	6.7
05...	1316	15	399	8.5	22.5	--	6.7
05...	1317	18	401	8.5	22.5	--	6.5
05...	1318	21	405	8.3	22.5	--	6.0
05...	1319	24	414	8.1	22.5	--	5.0
05...	1320	27	411	7.9	22.0	--	3.5
05...	1322	33	412	7.7	22.0	--	2.7
05...	1323	36	421	7.7	22.0	--	2.4
05...	1324	39	421	7.7	21.5	--	2.0
05...	1325	42	424	7.6	21.5	--	2.1
05...	1326	45	428	7.6	21.5	--	2.5
05...	1327	48	442	7.8	21.0	--	4.3
05...	1328	51	442	7.8	21.0	--	4.6
05...	1329	54	442	7.8	20.5	--	3.0
05...	1330	55	444	7.7	20.5	--	3.4

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381548104453300 PUEBLO RESERVOIR SITE 6C--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
SEP 1991							
23...	1345	--	--	--	--	1.0	--
23...	1346	0.0	541	8.2	21.0	--	6.8
23...	1347	3.0	539	8.3	19.5	--	7.0
23...	1348	6.0	540	8.3	19.0	--	6.4
23...	1349	9.0	541	8.2	19.0	--	6.2
23...	1350	12	541	8.2	19.0	--	6.2
23...	1351	15	541	8.1	19.0	--	6.2
23...	1352	18	542	8.1	18.5	--	6.2
23...	1353	21	543	8.1	18.5	--	6.2
23...	1354	24	543	8.1	18.5	--	6.2
23...	1355	27	543	8.1	18.5	--	6.2
23...	1356	30	544	8.1	18.5	--	6.3
23...	1357	33	544	8.1	18.5	--	6.4
23...	1358	36	544	8.1	18.5	--	6.4
23...	1359	39	544	8.1	18.5	--	6.4
23...	1400	42	549	8.1	18.5	--	6.3
23...	1401	45	550	8.1	18.5	--	6.2
23...	1402	48	546	8.1	18.5	--	6.1
23...	1403	51	550	8.1	18.5	--	5.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JUN 1992							
04...	1225	--	--	--	--	2.6	--
04...	1226	0.0	454	8.5	17.5	--	8.0
04...	1227	6.0	449	8.5	17.0	--	8.5
04...	1228	12	448	8.5	16.5	--	8.2
04...	1229	18	456	8.3	16.5	--	7.5
04...	1230	24	460	8.3	16.5	--	7.2
04...	1231	30	475	8.2	16.0	--	6.7
04...	1232	36	473	8.2	16.0	--	6.6
04...	1233	42	463	8.1	15.5	--	6.3
04...	1234	48	452	8.1	15.5	--	6.3
04...	1235	54	440	8.1	15.5	--	6.1
04...	1236	60	424	8.1	15.5	--	6.2
04...	1237	66	402	8.0	15.0	--	5.8
04...	1238	72	421	7.9	14.0	--	4.6
04...	1239	78	435	7.8	13.5	--	3.9
AUG							
04...	1405	--	--	--	--	2.7	--
04...	1406	0.0	380	8.6	23.0	--	7.5
04...	1407	6.0	380	8.5	23.0	--	7.5
04...	1408	12	380	8.5	22.5	--	7.2
04...	1409	18	381	8.4	22.5	--	6.7
04...	1410	24	384	8.2	22.0	--	5.5
04...	1411	30	384	8.0	21.5	--	4.7
04...	1412	36	384	7.9	21.5	--	4.4
04...	1413	42	390	7.6	21.5	--	3.3
04...	1414	48	390	7.6	21.0	--	2.9
04...	1415	54	393	7.5	21.0	--	2.3
04...	1416	60	395	7.5	21.0	--	1.9
04...	1417	64	396	7.4	20.5	--	1.4
27...	1205	--	--	--	--	1.2	--
27...	1206	0.0	408	8.1	21.5	--	5.7
27...	1207	6.0	408	8.1	21.5	--	5.6
27...	1208	12	408	8.0	21.5	--	5.6
27...	1209	18	407	8.0	21.5	--	5.5
27...	1210	24	407	8.0	21.5	--	5.4
27...	1211	30	407	8.0	21.5	--	5.3
27...	1212	36	408	7.9	21.0	--	5.3
27...	1213	42	413	7.7	21.0	--	4.4
27...	1214	48	421	7.8	20.0	--	4.9
27...	1215	54.0	427	7.7	19.5	--	4.7
27...	1216	60	420	7.8	19.0	--	4.8
27...	1217	63	420	7.8	19.0	--	--
SEP							
29...	1430	--	--	--	--	1.2	--
29...	1431	0.0	438	8.0	20.0	--	7.2
29...	1432	6.0	437	8.1	19.0	--	7.5
29...	1433	12	440	8.0	18.5	--	6.4
29...	1434	18	440	8.0	18.5	--	6.2
29...	1435	24	441	8.0	18.5	--	6.2
29...	1436	30	442	8.0	18.5	--	6.2
29...	1437	36	446	8.0	18.0	--	6.3
29...	1438	42	447	8.0	18.0	--	6.4
29...	1439	48	456	8.0	18.0	--	6.4
29...	1440	54	473	8.0	18.0	--	6.1
29...	1441	60	487	7.9	17.5	--	5.6

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B

LOCATION.--Lat 38°16'02", long 104°43'52", in SW¹/4NE¹/4, sec. 36, T. 20 S., R. 66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 0.3 mi downstream from Boggs Creek, and 0.4 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
MAY 1991							
14...	1110	--	--	--	--	3.3	--
14...	1111	3.0	545	8.4	15.0	--	9.0
14...	1112	6.0	546	8.4	15.0	--	8.9
14...	1113	9.0	546	8.5	15.0	--	8.9
14...	1114	12	547	8.5	14.5	--	8.9
14...	1115	15	547	8.4	14.5	--	8.9
14...	1116	18	546	8.4	14.0	--	8.8
14...	1117	21	546	8.4	13.5	--	8.8
14...	1118	24	546	8.4	13.5	--	8.7
14...	1119	27	545	8.4	13.5	--	8.8
14...	1120	30	546	8.4	13.0	--	8.5
14...	1121	33	547	8.4	12.0	--	8.4
14...	1122	36	553	8.4	12.0	--	8.3
14...	1123	39	551	8.4	11.5	--	8.2
14...	1124	42	545	8.5	11.0	--	8.3
14...	1125	45	545	8.4	10.5	--	8.2
14...	1126	48	544	8.5	10.5	--	8.0
14...	1127	51	544	8.5	10.5	--	8.1
14...	1128	54	544	8.4	10.5	--	8.0
14...	1129	57	544	8.5	10.0	--	8.0
14...	1130	60	544	8.4	10.0	--	8.0
14...	1131	63	545	8.4	10.0	--	7.9
14...	1132	66	545	8.4	10.0	--	7.8
14...	1133	69	545	8.4	10.0	--	7.8
14...	1134	72	544	8.4	9.5	--	7.8
14...	1135	75	544	8.4	9.5	--	7.7
14...	1136	78	544	8.4	9.5	--	7.7
14...	1137	81	544	8.4	9.5	--	7.6
14...	1138	84	544	8.3	9.5	--	7.5
14...	1139	87	544	8.3	9.5	--	7.5
14...	1140	90	544	8.3	9.5	--	7.5
14...	1141	93	544	8.3	9.5	--	7.3
14...	1142	96	544	8.2	9.5	--	6.8
14...	1143	97	550	8.2	9.5	--	6.1
JUN							
25...	1000	--	--	--	--	2.9	--
25...	1001	0.0	358	8.4	22.5	--	7.6
25...	1002	3.0	351	8.5	21.5	--	7.7
25...	1003	6.0	366	8.5	21.5	--	7.8
25...	1004	9.0	370	8.5	21.5	--	7.8
25...	1005	12	376	8.5	21.0	--	7.9
25...	1006	15	384	8.5	20.0	--	7.8
25...	1007	18	388	8.4	20.5	--	7.6
25...	1008	21	387	8.4	20.0	--	7.2
25...	1009	24	389	8.3	20.0	--	6.9
25...	1010	27	391	8.3	20.0	--	6.8
25...	1011	30	392	8.3	19.5	--	6.5
25...	1012	33	390	8.2	19.5	--	6.3
25...	1013	36	399	8.1	18.5	--	6.3
25...	1014	39	388	8.1	19.0	--	6.6
25...	1015	42	366	8.0	18.5	--	6.1
25...	1016	45	354	8.0	18.5	--	5.9
25...	1017	48	336	8.0	18.0	--	5.8
25...	1018	51	338	7.9	17.0	--	5.9
25...	1019	54	329	7.9	17.0	--	6.2
25...	1020	57	307	7.9	17.0	--	6.9
25...	1021	60	304	7.8	17.5	--	5.6
25...	1022	63	301	7.8	17.0	--	5.4
25...	1023	66	299	7.8	17.0	--	5.4
25...	1024	69	325	7.8	16.5	--	5.3
25...	1025	72	332	7.8	16.5	--	5.1
25...	1026	75	374	7.7	16.5	--	4.5
25...	1027	78	402	7.8	16.0	--	5.7
25...	1028	81	423	7.7	15.5	--	4.0
25...	1029	84	475	7.7	14.5	--	2.7
25...	1030	87	502	7.7	14.0	--	2.2
25...	1031	90	512	7.6	13.0	--	1.4
25...	1032	93	518	7.5	13.0	--	0.8
25...	1033	94	563	7.5	13.0	--	0

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
AUG 1991							
06...	1125	--	--	--	--	1.4	--
06...	1126	0.0	404	8.5	24.5	--	7.0
06...	1127	3.0	405	8.5	23.0	--	6.6
06...	1128	6.0	406	8.5	22.5	--	5.9
06...	1129	9.0	409	8.3	22.5	--	5.3
06...	1130	12	408	8.2	22.5	--	5.5
06...	1131	15	408	8.2	22.5	--	5.6
06...	1132	18	408	8.2	22.5	--	5.6
06...	1133	21	408	8.2	22.5	--	5.7
06...	1134	24	408	8.2	22.0	--	5.5
06...	1135	27	409	8.1	22.0	--	5.1
06...	1136	30	409	8.0	22.0	--	5.5
06...	1137	33	409	8.0	22.0	--	4.7
06...	1138	36	409	7.9	22.0	--	4.5
06...	1139	39	409	7.9	22.0	--	4.5
06...	1140	42	410	7.9	22.0	--	4.5
06...	1141	45	411	7.9	22.0	--	4.4
06...	1142	48	413	7.9	22.0	--	4.3
06...	1143	51	418	7.7	21.5	--	2.9
06...	1144	54	423	7.6	21.0	--	1.8
06...	1145	57	422	7.6	20.5	--	1.2
06...	1146	60	423	7.6	20.5	--	0.9
06...	1147	63	423	7.6	20.0	--	0.8
06...	1148	66	428	7.6	19.5	--	0.3
06...	1149	69	425	7.6	19.5	--	0
06...	1150	72	422	7.6	19.0	--	0
06...	1151	74	422	7.6	18.5	--	0
SEP							
24...	1030	--	--	--	--	0.8	--
24...	1031	0.0	542	8.2	19.0	--	5.9
24...	1032	3.0	542	8.2	18.5	--	6.0
24...	1033	6.0	542	8.2	18.5	--	5.9
24...	1034	9.0	542	8.1	18.5	--	5.8
24...	1035	12	542	8.0	18.5	--	5.8
24...	1036	15	542	8.0	18.5	--	5.7
24...	1037	18	542	8.0	18.5	--	5.7
24...	1038	21	542	8.0	18.5	--	5.7
24...	1039	24	542	8.0	18.5	--	5.7
24...	1040	27	542	8.0	18.5	--	5.7
24...	1041	30	542	8.0	18.5	--	5.7
24...	1042	33	542	8.0	18.5	--	5.7
24...	1043	36	542	8.0	18.5	--	5.7
24...	1044	39	542	8.0	18.5	--	5.7
24...	1045	42	541	8.0	18.5	--	5.7
24...	1046	45	541	8.0	18.5	--	5.7
24...	1047	48	541	8.0	18.5	--	5.7
24...	1048	51	541	8.0	18.5	--	5.8
24...	1049	54	541	8.0	18.5	--	5.8
24...	1050	57	541	8.0	18.5	--	5.7
24...	1051	60	541	8.0	18.0	--	5.8
24...	1052	63	541	8.0	18.0	--	5.8
24...	1053	66	541	8.0	18.0	--	5.7
24...	1054	69	541	8.0	18.0	--	5.6
24...	1055	72	542	8.0	18.0	--	5.5

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
JUN 1992							
04...	1315	--	--	--	--	2.1	--
04...	1316	0.0	477	8.4	17.5	--	8.4
04...	1317	3.0	477	8.4	17.5	--	8.0
04...	1318	6.0	477	8.4	17.0	--	8.0
04...	1319	9.0	477	8.4	17.0	--	7.9
04...	1320	12	476	8.4	16.5	--	7.8
04...	1321	15	474	8.3	16.5	--	7.6
04...	1322	18	472	8.3	16.5	--	7.5
04...	1323	21	473	8.3	16.0	--	7.1
04...	1324	24	474	8.3	16.0	--	7.2
04...	1325	27	475	8.3	16.0	--	7.2
04...	1326	30	476	8.3	16.0	--	7.2
04...	1327	33	476	8.3	16.0	--	7.2
04...	1328	36	475	8.3	16.0	--	7.2
04...	1329	39	472	8.3	16.0	--	7.1
04...	1330	42	471	8.2	16.0	--	7.0
04...	1331	45	470	8.2	16.0	--	7.0
04...	1332	48	469	8.2	16.0	--	7.0
04...	1333	51	464	8.2	16.0	--	6.8
04...	1334	54	465	8.2	16.0	--	6.8
04...	1335	57	467	8.2	16.0	--	6.6
04...	1336	60	463	8.1	15.0	--	6.1
04...	1337	63	455	8.0	15.0	--	5.9
04...	1338	66	453	8.0	14.5	--	5.5
04...	1339	69	452	7.9	14.0	--	5.2
04...	1340	72	470	7.9	14.0	--	4.9
04...	1341	75	488	7.9	14.0	--	4.6
04...	1342	78	508	7.9	13.5	--	4.3
04...	1343	81	520	7.9	12.5	--	4.0
04...	1344	84	524	8.0	11.5	--	3.9
04...	1345	87	526	8.0	11.0	--	3.9
04...	1346	90	526	8.0	10.5	--	3.4
04...	1347	93	529	8.0	10.0	--	2.8

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
AUG 1992							
04...	1345	--	--	--	--	2.7	--
04...	1346	0.0	375	8.5	23.0	--	7.1
04...	1347	3.0	380	8.5	22.5	--	7.2
04...	1348	6.0	380	8.5	22.5	--	7.2
04...	1349	9.0	380	8.4	22.0	--	6.9
04...	1350	12	381	8.4	22.0	--	6.7
04...	1351	15	382	8.3	22.0	--	6.5
04...	1352	18	381	8.3	22.0	--	6.4
04...	1353	21	381	8.3	22.0	--	6.2
04...	1354	24	381	8.3	22.0	--	6.2
04...	1355	27	380	8.3	22.0	--	6.4
04...	1356	30	382	8.2	22.0	--	6.0
04...	1357	33	383	8.1	22.0	--	5.6
04...	1358	36	384	8.0	21.5	--	5.2
04...	1359	39	384	8.0	21.5	--	4.9
04...	1400	42	386	7.9	21.5	--	4.7
04...	1401	45	385	7.9	21.5	--	4.6
04...	1402	48	385	7.9	21.5	--	4.6
04...	1403	51	389	7.6	21.5	--	3.4
04...	1404	54	391	7.5	21.0	--	2.8
04...	1405	57	392	7.5	21.0	--	2.6
04...	1406	60	393	7.5	21.0	--	2.4
04...	1407	63	394	7.4	20.5	--	2.0
04...	1408	66	394	7.4	20.5	--	1.9
04...	1409	69	391	7.4	20.0	--	1.5
04...	1410	72	392	7.4	20.0	--	1.2
04...	1411	75	393	7.4	20.0	--	1.0
04...	1412	78	396	7.4	19.0	--	0.4
04...	1413	81	398	7.4	18.5	--	0.1
04...	1414	84	401	7.5	18.0	--	0
04...	1415	88	401	7.5	18.0	--	0
27...	1255	--	--	--	--	1.2	--
27...	1256	0.0	408	8.1	22.0	--	5.4
27...	1257	3.0	407	8.1	22.0	--	5.4
27...	1258	6.0	408	8.0	21.5	--	5.3
27...	1259	9.0	409	7.9	21.5	--	4.9
27...	1300	12	410	7.9	21.0	--	4.6
27...	1301	15	410	7.8	21.0	--	4.6
27...	1302	18	412	7.8	21.0	--	4.6
27...	1303	21	412	7.8	21.0	--	4.6
27...	1304	24	412	7.8	21.0	--	4.5
27...	1305	27	412	7.8	21.0	--	4.3
27...	1306	30	414	7.7	21.0	--	4.0
27...	1307	33	415	7.7	21.0	--	4.0
27...	1308	36	418	7.6	21.0	--	3.7
27...	1309	39	419	7.6	21.0	--	3.7
27...	1310	42	420	7.6	21.0	--	3.5
27...	1311	45	422	7.6	21.0	--	3.5
27...	1312	48	423	7.6	21.0	--	3.4
27...	1313	51	428	7.6	21.0	--	3.1
27...	1314	54	431	7.4	20.5	--	2.2
27...	1315	57	435	7.4	20.5	--	--
27...	1316	60	441	7.4	20.5	--	--
27...	1317	63	444	7.5	20.0	--	--
27...	1318	66	444	7.4	20.0	--	--
27...	1319	69	450	7.5	19.5	--	--
27...	1320	72	440	7.6	19.5	--	--
27...	1321	75	438	7.6	19.5	--	--
27...	1322	78	446	7.6	19.0	--	--
27...	1323	81	449	7.6	18.5	--	--
27...	1324	84	450	7.7	18.0	--	--
27...	1325	87	452	7.5	18.5	--	--

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TRANS- PAR- ENCY (SECCHI DISK) (M)	OXYGEN, DIS- SOLVED (MG/L)
SEP 1992							
29...	1230	--	--	--	--	0.9	--
29...	1231	0.0	436	7.9	19.0	--	6.1
29...	1232	3.0	436	7.9	19.0	--	6.1
29...	1233	6.0	434	7.9	18.5	--	5.9
29...	1234	9.0	438	7.9	18.0	--	5.9
29...	1235	12	438	7.9	18.0	--	5.9
29...	1236	15	438	7.9	18.0	--	5.9
29...	1237	18	439	7.9	18.0	--	5.9
29...	1238	21	439	7.9	18.0	--	5.8
29...	1239	24	439	7.9	18.0	--	5.9
29...	1240	27	439	7.9	18.0	--	5.8
29...	1241	30	440	7.9	18.0	--	5.8
29...	1242	33	439	7.9	18.0	--	5.8
29...	1243	36	439	7.9	18.0	--	5.8
29...	1244	39	439	7.9	18.5	--	5.8
29...	1245	42	439	7.9	18.0	--	5.8
29...	1246	45	438	7.9	18.0	--	5.9
29...	1247	48	438	7.9	18.0	--	5.9
29...	1248	51	438	7.9	18.0	--	6.0
29...	1249	54	439	7.9	18.0	--	5.9
29...	1250	57	438	7.9	18.0	--	6.0
29...	1251	60	440	7.9	18.0	--	5.9
29...	1252	63	438	7.9	18.0	--	6.1
29...	1253	66	441	7.9	18.0	--	6.0
29...	1254	69	445	7.9	18.0	--	5.5
29...	1255	72	456	7.8	18.0	--	5.2
29...	1256	75	465	7.8	18.0	--	4.7
29...	1257	78	483	7.8	18.0	--	4.6
29...	1258	81	482	7.8	18.0	--	4.6
29...	1259	84	482	7.8	18.0	--	4.6
29...	1300	87	482	7.8	18.0	--	4.6

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

		SAM- PLING DEPTH (FEET)	TUR- BID- ITY (NTU)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	ALKA- LITY LAB (MG/L AS CACO3)				
DATE	TIME										
MAY 1991											
14...	1030	12	1.2	210	59	16	123				
14...	1040	36	1.2	220	60	16	126				
14...	1050	95	2.7	210	56	16	124				
JUN											
25...	0940	9.0	1.3	150	43	11	91				
25...	0945	69	20	130	38	9.2	78				
25...	0950	90	20	200	55	15	114				
AUG											
06...	1000	5.0	3.0	160	46	12	91				
06...	1010	51	14	160	45	12	92				
06...	1020	73	41	170	48	12	98				
SEP											
24...	0935	3.0	11	200	58	14	119				
24...	0940	3.0	11	200	56	14	116				
24...	0945	3.0	6.7	230	63	17	120				
24...	0950	36	11	200	55	14	113				
24...	1000	68	45	200	56	14	116				
DATE	TIME	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	
MAY 1991											
14...	1030	0.005	0.004	0.044	0.036	0.059	0.050	0.029	0.021	0.014	0.012
14...	1040	0.004	0.004	0.087	0.078	0.067	0.065	0.023	0.021	0.014	0.012
14...	1050	0.004	0.004	0.085	0.082	0.115	0.113	0.032	0.023	0.016	0.014
JUN											
25...	0940	0.005	0.004	0.071	0.068	0.038	0.032	0.033	0.023	0.011	0.009
25...	0945	0.032	0.027	0.147	0.121	0.064	0.053	0.049	0.028	0.026	0.015
25...	0950	0.035	0.003	0.360	0.297	0.031	0.022	0.066	0.035	0.054	0.023
AUG											
06...	1000	0.009	0.007	0.108	0.105	0.026	0.014	0.029	0.013	0.012	0.006
06...	1010	0.003	0.002	0.261	0.243	0.037	0.018	0.031	0.020	0.018	0.004
06...	1020	0.003	0.002	0.325	0.273	0.049	0.027	0.058	0.053	0.021	0.015
SEP											
24...	0935	--	--	--	--	--	--	--	--	--	--
24...	0940	--	--	--	--	--	--	--	--	--	--
24...	0945	0.002	0.002	0.261	0.254	0.038	0.032	0.027	0.006	0.012	0.002
24...	0950	--	--	--	--	--	--	--	--	--	--
24...	1000	--	--	--	--	--	--	--	--	--	--
DATE	TIME	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)		
MAY 1991											
14...	1030	<1	0.3	3	2	70	30	3	2		
14...	1040	<1	0.4	2	2	70	20	3	3		
14...	1050	<1	0.4	4	2	100	16	3	3		
JUN											
25...	0940	<1	0.1	1	<1	20	21	2	2		
25...	0945	<1	0.1	1	1	290	13	2	2		
25...	0950	<1	0.1	1	1	320	8	3	2		
AUG											
06...	1000	1	0.2	1	<1	120	<5	2	2		
06...	1010	2	0.3	2	<1	330	<5	3	2		
06...	1020	<1	0.3	2	<1	150	12	3	3		
SEP											
24...	0935	1	0.3	2	<1	260	<5	3	2		
24...	0940	1	0.3	1	<1	230	<5	3	3		
24...	0945	<1	0.1	2	<1	220	<3	1	<1		
24...	0950	<1	0.3	1	<1	230	5	4	3		
24...	1000	1	0.4	3	<1	190	<5	4	3		

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN,	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 1991								
14...	9	8	7	6	<1	<0.5	<5	<5
14...	14	7	9	5	<1	<0.5	<5	<5
14...	130	77	6	6	<1	<0.5	<5	<5
JUN								
25...	<5	<5	3	2	<1	<0.5	<5	<5
25...	45	<5	3	<2	<1	<0.5	9	<5
25...	390	300	4	3	<1	<0.5	9	<5
AUG								
06...	23	<5	5	5	1	0.5	<5	<5
06...	49	17	7	5	1	<0.5	<5	<5
06...	270	200	8	5	<1	<0.5	<5	<5
SEP								
24...	95	66	6	5	<1	<0.5	<5	<5
24...	93	66	6	6	<1	<0.5	<5	<5
24...	70	44	2	1	<1	<1.0	<10	<3
24...	87	55	7	6	<1	<0.5	<5	<5
24...	150	110	8	6	<1	<0.5	<5	<5

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7C--Continued

QUALITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PHYTOPLANKTON

[dashes indicate taxa not detected; sp., species are distinguishable but not identifiable;
¹/₂, species identification probable but not positive; var., identifies a variation in the species]

Date	May 14, 1991		June 25, 1991		Aug. 6, 1991		Sep. 24, 1991	
Time	1030		0940		1000		0940	
Depth	12 ft.		9 ft.		5 ft.		3 ft.	
Sampling method	Van-Dorn grab		Van-Dorn grab		Van-Dorn grab		Van-Dorn grab	
	Count (cells/ml)		Count (cells/ml)		Count (cells/ml)		Count (cells/ml)	
TAXA	A	B	A	B	A	B	A	B
BACILLARIOPHYTA (Diatoms)								
Order Centrales								
Cyclotella	--	--	--	--	--	--	--	--
meneghiniana	--	--	330	--	1600	--	--	--
Stephanodiscus	--	9	--	3	--	52	--	6
astrea	--	--	--	--	--	--	2600	--
astrea var. minutula	--	--	--	--	50	--	--	--
Order Pennales								
Acnanthes	--	--	--	--	--	3	--	--
minutissima	80	--	90	--	50	--	--	--
Amphora	--	--	--	--	--	3	--	--
perpusilla	--	--	23	--	50	--	--	--
Asterionella	--	2500	--	790	--	32	--	40
formosa	5200	--	2600	--	320	--	--	--
Cymbella	--	--	--	6	--	--	--	--
minuta	42	--	--	--	--	--	--	--
minuta var. silesiaca	--	--	23	--	--	--	--	--
Fragillaria	--	620	--	120	--	86	--	--
crotonensis	3300	--	110	--	3800	--	--	--
vaucheriae	--	--	23	--	--	--	--	--
Frustulia	--	--	--	--	--	--	--	11
Gomphonema	--	--	--	--	--	--	--	--
parvulum	--	--	23	--	50	--	--	--
Melosira	--	--	--	49	--	--	--	--
Navicula	--	6	--	9	--	55	--	--
cyptocephala	--	--	--	--	50	--	--	--
Nitzschia	--	3	--	--	--	55	--	20
acicularis	--	--	--	--	5200	--	--	--
palea	--	--	--	--	100	--	--	--
Pinnularia	--	--	--	--	--	--	--	6
Staurastrum	--	--	--	3	--	--	--	--
Synedra	--	--	--	--	--	1000	--	51
delicatissima	--	--	--	--	1400	--	--	--
Tabellaria	--	--	--	--	--	--	--	--
fenestrata	--	--	--	--	320	--	--	--
CHLOROPHYTA (Green algae)								
Actinastrum	--	--	--	--	--	17	--	--
Ankistrodesmus	--	9	--	69	--	34	--	--
Chlamydomonas	--	9	--	26	--	--	--	--
sp.	--	--	650	--	1600	--	--	--
Chlorella	--	23	--	34	--	--	--	11
ellipsoidea	--	--	330	--	8200	--	--	--
Chlorococcum	--	9	--	20	--	29	--	40
humicola	400	--	330	--	8200	--	2600	--
Chlorogonium	--	--	--	46	--	--	--	--
Cosmarium	--	--	--	6	--	--	--	--
Cylindrocystis	--	--	--	9	--	--	--	11
Haematococcus	--	--	--	--	--	80	--	--
Kirchneriella	--	--	--	--	--	--	--	11
Mesotaenium	--	--	--	17	--	26	--	--
Oocystis	--	--	--	29	--	--	--	29
Oophila	--	--	--	--	--	12	--	--
Pandorina	--	--	--	34	--	230	--	46
Phacus	--	--	--	--	--	6	--	--
Scenedesmus	--	--	--	--	--	92	--	11
bi-juga	--	--	--	--	3300	--	--	--
Schroderia	--	17	--	--	--	--	--	--
Sphaerocystis	--	--	--	23	--	160	--	--
Tetraedron	--	--	--	20	--	--	--	--
Ulothrix	--	--	--	--	--	40	--	--
CHRYSOPHYTA								
Dinobryon	--	20	--	400	--	--	--	--
divergens	--	--	1600	--	--	--	--	--
Unknown flagellate	--	--	2600	--	4900	--	5200	--
CRYPTOPHYTA (Cryptomonads)								
Chrytomonas	--	--	--	--	--	--	--	--
erosa	--	--	--	--	--	--	2600	--
Chroomonas	--	--	--	--	--	--	--	--
erosa	270	--	--	--	--	--	--	--
Rhodomonas	--	--	--	--	--	--	--	--
minuta	400	--	--	--	3300	--	--	--

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

381602104435200 PUEBLO RESERVOIR SITE 7C--Continued

QUALITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PHYTOPLANKTON--Continued

[dashes indicate taxa not detected; sp., species are distinguishable but not identifiable;
 1/2, species identification probable but not positive; var., identifies a variation in the species]

Date	May 14, 1991		June 25, 1991		Aug. 6, 1991		Sep. 24, 1991	
Time	1030		0940		1000		0940	
Depth	12 ft.		9 ft.		5 ft.		3 ft.	
Sampling method	Van-Dorn grab		Van-Dorn grab		Van-Dorn grab		Van-Dorn grab	
	Count (cells/ml)		Count (cells/ml)		Count (cells/ml)		Count (cells/ml)	
TAXA	A	B	A	B	A	B	A	B
CYANOPHYTA (Blue-green algae)								
Aphanocapsa	--	5600	--	--	--	--	--	--
delicatissima	15000	--	47000	--	290000	--	390000	--
Chroococcus	--	1900	--	1000	--	11000	--	3400
Dactylocopsis	--	17	--	23	--	--	--	9
Gleocapsa	--	550	--	--	--	--	--	--
Gleotheca	--	--	--	17	--	7000	--	20
Oscillatoria	--	92	--	--	--	--	--	--
Polycystis	--	4800	--	4900	--	1800	--	3100
Synechococcus	--	--	--	23	--	--	--	46
sp.	950	--	4900	--	9800	--	10000	--
DINOPHYCEAE								
Ceratium	--	--	--	--	--	14	--	--
Glenodinium	--	--	--	--	--	--	--	20
Peridinium	--	--	--	--	--	86	--	--
EUGLENOPHYTA (Euglenoids)								
Ceratium	--	--	--	--	--	11	--	--
Codonella	--	--	--	--	--	6	--	--
Euglena	--	--	--	--	--	--	--	--
sp.	270	--	650	--	--	--	2600	--
Trachelomonas	--	--	--	--	--	160	--	17
PYRRHOPHYTA								
Peridinium	--	--	--	--	--	--	--	--
wisconsinense	--	--	--	--	1600	--	--	--
ROTIFERA								
Keratella	--	--	--	3	--	--	--	--
Polyarthra	--	--	--	--	--	9	--	--
TOTAL CELLS/ml	26000	16000	61000	7700	340000	22000	420000	6900
NUMBER OF SPECIES	10	--	16	--	21	--	7	--

A - Phytoplankton identified to the species level by Chadwick and Associates Laboratory.

B - Phytoplankton identified to the genus level by City of Colorado Springs Water Treatment Laboratory.

Any use of firm names is for descriptive purposes only and does not constitute endorsement by the U.S. Geological Survey.

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

LOCATION (REVISED).--Lat 38°16'18", long 104°43'03", in SE¹/₄NE¹/₄ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on left bank 200 ft downstream from NE corner of Arkansas River bridge, 0.4 mi downstream from Pueblo Dam, and 7 mi west of Pueblo.

DRAINAGE AREA.--4,670 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Streamflow records, October 1965 to current year. Water-quality data available, October 1965 to September 1970, Dec. 1985 to current year. Sediment data available October 1965 to September 1970. Statistical summary computed for 1975 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,740 ft above National Geodetic Vertical Datum of 1929, 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.--No estimated daily discharges. Records good. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	241	323	129	140	254	174	497	718	1140	1330	869	738
2	223	352	131	140	254	187	474	717	1170	1300	993	816
3	206	352	131	140	254	277	480	701	1250	1260	1080	792
4	202	411	129	140	254	278	491	782	1240	1100	1070	689
5	202	451	129	142	256	277	491	834	1190	1130	1020	640
6	254	508	130	142	256	275	449	895	1050	1110	939	640
7	282	509	131	141	256	274	402	992	1020	968	900	709
8	251	468	131	173	256	274	370	1030	1090	928	789	1040
9	276	443	133	194	257	292	360	1010	1240	1290	647	977
10	299	444	131	194	258	318	338	864	1310	1570	744	894
11	281	444	132	195	259	318	326	954	1280	1630	844	840
12	250	382	133	196	257	316	328	807	1300	1600	905	822
13	251	315	133	196	258	315	353	655	1400	1570	842	751
14	250	219	132	196	257	314	406	635	1500	1460	724	408
15	277	124	133	196	258	260	468	635	1570	1210	680	576
16	304	124	133	196	258	260	560	663	1690	1070	656	844
17	311	125	133	196	257	278	675	668	1750	1030	666	841
18	281	126	133	196	258	297	685	778	1660	679	1240	820
19	263	127	134	196	259	334	690	974	1460	676	777	784
20	228	127	135	197	258	367	750	1110	1270	679	772	784
21	195	127	135	198	226	377	781	1320	1200	680	705	607
22	187	127	135	198	205	376	762	1500	1200	635	643	366
23	185	127	135	199	209	408	724	1630	1350	572	775	375
24	187	127	135	199	209	421	677	1660	1500	580	855	358
25	203	128	136	201	210	410	656	1630	1580	718	1550	338
26	213	128	137	201	210	411	655	1550	1640	792	1730	329
27	213	129	137	201	210	394	636	1450	1690	861	1200	329
28	202	129	137	202	194	385	611	1360	1690	952	948	318
29	194	129	137	202	174	385	676	1320	1650	969	724	296
30	208	129	139	234	---	408	719	1200	1500	946	589	220
31	245	---	140	255	---	453	---	1130	---	898	610	---
TOTAL	7364	7654	4139	5796	6981	10113	16490	32172	41580	32193	27486	18941
MEAN	238	255	134	187	241	326	550	1038	1386	1038	887	631
MAX	311	509	140	255	259	453	781	1660	1750	1630	1730	1040
MIN	185	124	129	140	174	174	326	635	1020	572	589	220
AC-FT	14610	15180	8210	11500	13850	20060	32710	63810	82470	63850	54520	37570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	375	249	153	189	235	297	548	1112	2306	1651	1038	463						
MAX	1103	505	553	558	837	718	1389	2564	4219	3204	2716	1040						
(WY)	1985	1985	1987	1985	1985	1985	1985	1984	1980	1983	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1975 - 1992
ANNUAL TOTAL	209910	210909	
ANNUAL MEAN	575	576	a 720
HIGHEST ANNUAL MEAN			1227
LOWEST ANNUAL MEAN			265
HIGHEST DAILY MEAN	2780	Jun 14	b 5640
LOWEST DAILY MEAN	80	Apr 25	c 124
ANNUAL SEVEN-DAY MINIMUM	94	Apr 20	d 47
INSTANTANEOUS PEAK FLOW			e 10100
INSTANTANEOUS PEAK STAGE		5.41	f 9.40
ANNUAL RUNOFF (AC-FT)	416400	418300	521300
10 PERCENT EXCEEDS	1560	1280	1820
50 PERCENT EXCEEDS	299	389	382
90 PERCENT EXCEEDS	129	135	87

a-Average discharge for 8 years (water years 1966-73), 643 ft³/s; 465900 acre-ft/yr, prior to completion of Pueblo Dam.

b-Also the maximum daily discharge for period of record.

c-Also occurred Nov 16.

d-Minimum daily discharge for period of record, 28 ft³/s, May 11, 1967.

e-Present site and datum, from rating curve extended above 1600 ft³/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.--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.

REMARKS.--Records for daily specific conductance and water temperature are excellent. Daily data not published is either missing or of unacceptable quality. Daily maximum and minimum specific conductance and daily mean water temperature data are available in the district office. Specific conductance data may not be representative of the river at the site during periods of transient hydrologic conditions caused by abrupt flow changes from Pueblo Reservoir.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 814 microsiemens, Nov. 14, 1990; minimum, 223 microsiemens, July 13, 1986.

WATER TEMPERATURE: Maximum, 22.1°C, Aug. 30, 1989, Aug. 31 and Sept. 17, 1991; minimum, 1.4°C, Feb. 7, 8, 1989, and Jan. 22, 1992.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 686 microsiemens, Oct. 22; minimum, 390 microsiemens, July 17.

WATER TEMPERATURE: Maximum, 21.6°C, Aug. 18; minimum, 1.4°C, Jan. 22.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	644	659	646	598	568	554	556	514	422	409	443
2	---	647	---	639	603	566	557	556	513	417	409	443
3	---	646	---	628	599	564	559	556	485	414	411	445
4	---	647	---	635	593	574	560	556	479	417	409	446
5	---	647	---	629	592	568	560	555	481	413	412	443
6	---	649	---	632	590	563	560	560	480	405	413	444
7	---	649	---	628	590	559	561	554	485	408	413	443
8	---	650	---	617	589	560	558	553	474	407	415	440
9	---	650	---	616	589	556	559	554	479	403	416	444
10	---	652	---	617	589	555	559	555	474	399	415	446
11	615	652	---	619	590	557	559	554	476	398	416	444
12	617	650	648	622	589	558	556	555	471	395	417	438
13	615	650	649	618	592	559	556	555	470	394	419	443
14	614	657	651	617	587	558	555	555	461	395	423	453
15	604	662	651	617	583	561	555	554	453	397	425	446
16	605	661	645	618	574	563	555	553	442	396	430	443
17	609	659	650	617	575	564	556	554	433	394	435	446
18	611	658	657	616	578	563	557	554	429	400	431	449
19	612	658	657	615	575	560	557	554	428	398	435	452
20	616	660	658	615	575	558	557	554	431	399	440	450
21	626	660	659	615	577	558	558	553	434	400	442	457
22	636	659	664	608	577	559	558	552	430	402	444	463
23	629	660	653	603	578	555	559	552	429	403	443	473
24	629	660	648	603	577	555	559	552	428	402	443	469
25	631	661	647	600	577	556	558	552	427	401	439	480
26	636	661	644	598	577	557	558	551	428	402	445	475
27	640	661	647	599	577	557	558	551	428	403	449	471
28	647	661	650	600	579	555	558	547	428	404	452	469
29	643	661	647	600	571	555	556	542	427	403	455	472
30	642	662	644	600	---	555	556	543	418	404	452	483
31	642	---	646	600	---	554	---	498	---	407	446	---
MEAN	---	655	---	616	584	560	558	551	454	403	429	454

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	11.2	10.1	6.0	5.2	3.8	3.0	2.7	2.1	4.7	3.6
2	---	---	10.2	9.6	---	---	3.8	2.6	2.8	2.2	5.0	4.1
3	---	---	10.0	9.4	---	---	3.2	2.4	2.6	2.3	5.0	4.0
4	---	---	9.7	8.9	---	---	3.4	2.5	2.9	2.3	4.3	3.9
5	---	---	9.4	8.6	---	---	3.0	2.2	2.9	2.2	4.8	4.1
6	---	---	8.9	8.0	---	---	3.4	2.5	2.9	2.2	5.4	4.2
7	---	---	8.7	8.0	---	---	3.0	2.5	2.8	2.2	5.5	4.8
8	---	---	8.6	8.1	---	---	2.9	2.4	2.9	2.2	5.5	4.7
9	---	---	8.8	8.1	---	---	3.0	2.4	3.1	2.3	5.6	4.9
10	---	---	8.5	8.1	---	---	3.1	2.2	3.0	2.3	5.6	4.9
11	16.6	15.8	8.4	8.1	4.0	---	3.0	2.4	3.1	2.4	5.7	4.8
12	16.5	15.7	8.7	8.1	4.3	3.5	2.8	2.3	3.2	2.7	5.5	4.8
13	16.5	15.7	8.6	8.0	4.3	3.5	2.7	2.2	3.1	2.6	5.7	4.8
14	16.4	15.7	8.6	8.0	4.0	3.3	2.8	2.1	3.5	2.6	6.0	5.0
15	16.3	15.5	8.2	7.9	3.9	3.2	2.6	2.0	3.4	2.7	6.2	5.3
16	16.2	15.5	7.9	7.6	4.1	3.2	2.6	1.9	3.2	2.9	6.1	5.2
17	16.2	15.2	8.3	7.6	3.5	3.2	2.2	2.0	3.5	2.8	6.0	5.0
18	15.8	15.2	8.1	7.3	3.6	3.2	2.5	2.0	3.5	2.7	5.7	5.0
19	15.7	15.0	7.9	7.2	4.0	3.5	2.6	1.9	3.4	2.6	5.7	5.1
20	15.4	14.3	7.9	7.0	3.8	3.3	2.4	1.9	3.6	2.7	6.2	5.1
21	15.3	14.6	8.0	7.1	4.1	3.5	2.6	1.9	3.8	3.1	6.2	5.2
22	15.4	14.5	7.7	6.8	3.9	3.6	2.2	1.4	3.7	2.9	5.9	5.2
23	15.7	14.0	7.3	6.4	3.8	3.2	2.2	1.6	3.7	3.1	6.5	5.4
24	15.1	14.0	7.0	6.3	3.7	2.9	2.6	1.8	3.8	3.1	7.0	5.6
25	14.7	14.0	7.1	6.4	3.4	2.8	2.6	1.9	3.8	3.1	6.5	5.8
26	14.5	13.7	7.2	6.3	3.5	2.8	2.7	2.0	3.8	3.0	6.6	5.9
27	14.3	13.6	7.1	6.3	3.6	2.9	2.7	1.9	4.2	3.4	6.6	6.0
28	13.6	12.8	6.7	6.2	3.6	3.0	2.8	1.9	4.6	3.4	6.6	6.1
29	13.1	12.4	6.5	5.8	3.8	2.9	2.7	2.0	4.7	3.7	7.0	6.2
30	12.5	11.7	6.1	5.6	3.6	2.9	2.7	2.0	---	---	6.9	5.9
31	12.0	11.1	---	---	3.6	3.0	2.8	2.1	---	---	6.8	6.3
MONTH	---	---	11.2	5.6	---	---	3.8	1.4	4.7	2.1	7.0	3.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.1	6.2	8.8	7.8	14.0	13.4	17.9	17.1	20.6	19.9	20.2	19.4
2	7.1	6.3	9.3	8.1	14.4	13.6	18.2	17.3	20.8	19.9	20.3	19.5
3	7.1	6.3	9.2	8.4	14.2	13.6	18.1	17.6	20.8	20.2	20.1	19.4
4	7.0	6.3	9.2	8.5	14.4	13.8	17.9	17.6	21.0	20.4	19.9	19.4
5	6.9	6.5	9.4	8.7	14.7	14.0	18.2	17.4	20.9	20.3	20.2	19.4
6	7.2	6.5	10.4	8.6	14.7	13.9	18.5	17.7	20.9	20.4	20.1	19.4
7	7.4	6.6	9.5	8.7	14.7	14.0	18.2	17.6	21.0	20.3	19.9	19.3
8	7.5	6.8	10.2	9.2	14.9	14.0	18.5	17.8	21.1	20.4	19.9	19.3
9	7.5	6.6	10.1	9.3	15.0	14.1	18.8	18.0	21.2	20.3	19.9	19.2
10	7.4	6.6	9.8	9.1	15.1	14.6	18.8	18.2	20.9	20.4	19.8	19.2
11	7.5	6.6	10.5	9.5	15.5	14.8	18.9	18.3	21.2	20.5	19.8	19.2
12	7.7	6.9	10.2	9.3	15.4	14.8	19.2	18.4	21.2	20.6	20.0	19.3
13	7.8	6.8	10.5	9.2	15.7	15.0	19.3	18.6	21.2	20.6	19.9	19.2
14	7.4	6.8	10.6	9.3	15.8	14.9	19.4	18.7	21.2	20.6	19.8	19.1
15	7.8	6.9	10.8	9.7	17.7	15.3	19.4	18.6	21.3	20.5	20.3	19.2
16	7.7	7.0	10.8	9.6	17.6	15.8	19.2	18.8	21.2	20.6	20.3	19.6
17	7.8	7.2	11.2	9.8	17.4	16.1	19.4	18.8	21.2	20.6	20.2	19.5
18	7.6	7.3	10.9	10.1	17.0	16.4	19.1	18.4	21.6	20.6	19.9	19.3
19	7.8	7.2	11.7	10.5	17.1	16.3	19.3	18.4	21.4	20.6	19.9	19.3
20	7.7	7.2	11.9	10.6	17.1	16.3	19.3	18.7	21.2	20.6	19.8	19.2
21	8.0	7.3	12.6	10.7	16.9	16.3	19.6	18.8	21.2	20.6	19.6	19.0
22	7.9	7.3	13.1	11.1	17.0	16.4	19.6	18.8	21.5	20.5	19.5	18.7
23	8.2	---	12.8	12.0	17.3	16.4	19.6	19.0	21.1	20.5	19.2	18.4
24	---	---	13.1	12.5	17.3	16.5	19.8	18.9	20.9	20.6	19.1	18.3
25	---	---	13.6	12.7	17.4	16.7	19.9	19.2	21.3	20.7	18.8	18.2
26	---	---	13.5	12.9	17.5	17.0	20.1	19.4	21.1	20.4	18.8	18.0
27	---	---	14.1	12.9	17.5	17.1	20.2	19.6	20.8	19.8	18.6	17.9
28	---	---	13.8	13.5	17.5	17.1	20.4	19.6	20.5	19.6	18.5	17.7
29	8.6	8.1	14.2	13.3	17.7	17.2	20.5	19.6	20.2	19.4	18.4	17.6
30	8.7	7.9	13.8	13.1	17.9	17.4	20.5	19.9	20.1	19.5	18.3	17.3
31	---	---	13.8	12.9	---	---	20.6	20.0	20.1	19.4	---	---
MONTH	---	---	14.2	7.8	17.9	13.4	20.6	17.1	21.6	19.4	20.3	17.3

07099969 ARKANSAS RIVER AT ST CHARLES MESA DIVERSION AT PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°15'13", long 104°36'20", in SW¹/4NW¹/4 sec.6, T.21 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, on right bank 10 ft upstream from intake of Saint Charles Mesa Water Association, 150 ft downstream from Santa Fe Avenue bridge, and 1.1 mi upstream from Fountain Creek.

DRAINAGE AREA.--4,778 mi².

PERIOD OF RECORD.--October 1988 to current year. Prior to October 1989, published as Arkansas River at Moffat Street at Pueblo (07099970).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Records for daily specific conductance are excellent except those for Mar. 13 to Apr. 6, which are good. Daily data not published is either missing or of poor quality. Daily maximum and minimum specific conductance data available in the district office. Specific conductance data is not representative of the cross section at the site. Specific conductance data representative of the cross section at the site is published as Arkansas River at Moffat Street at Pueblo (07099970) for water year 1991.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,980 microsiemens Nov. 24, 1988; minimum, 270 microsiemens Jul. 10, 1990.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,030 microsiemens Nov. 26; minimum, 338 microsiemens Aug. 24.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	718	752	892	846	718	703	665	675	562	545	524	562
2	723	732	923	847	715	694	668	665	639	573	527	559
3	728	742	930	836	729	682	669	660	615	589	530	560
4	726	739	925	829	727	652	666	675	583	556	552	565
5	722	732	893	817	720	711	660	676	572	549	551	559
6	712	729	894	821	720	724	673	669	592	563	538	561
7	718	727	902	870	712	708	683	657	606	576	536	561
8	736	730	851	800	705	711	698	634	632	580	538	570
9	744	737	846	740	711	697	700	632	664	548	534	602
10	730	730	873	750	702	688	704	653	662	495	519	630
11	744	736	842	757	705	692	687	649	644	476	550	600
12	766	736	866	762	715	693	690	658	695	473	540	598
13	767	744	863	751	713	689	699	657	697	475	551	599
14	757	---	846	750	720	688	690	658	626	505	560	583
15	734	---	848	771	706	691	683	659	636	526	551	608
16	732	---	874	766	697	695	636	654	618	535	547	610
17	741	---	879	741	749	679	667	643	604	537	555	611
18	727	---	874	740	715	683	622	649	642	550	536	616
19	731	---	872	746	689	678	633	648	666	542	555	589
20	740	---	865	739	714	679	677	633	668	526	556	611
21	765	---	864	738	705	671	701	610	682	551	559	599
22	784	---	850	738	707	676	701	598	665	527	557	599
23	771	---	847	732	706	674	711	591	645	549	557	608
24	759	---	825	735	699	659	709	588	619	560	489	618
25	765	969	817	737	703	666	705	593	606	539	563	616
26	761	971	824	734	702	665	676	600	573	550	545	594
27	772	971	840	733	709	656	688	612	541	558	575	590
28	---	896	815	732	706	654	689	622	513	547	571	603
29	---	883	813	735	707	650	695	622	540	523	571	593
30	---	882	822	729	---	658	692	638	571	521	571	620
31	815	---	847	720	---	653	---	606	---	522	563	---
MEAN	---	---	862	766	711	681	681	638	619	538	547	593

07099970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO

LOCATION.--Lat 38°15'13", long 104°36'20", in SW¹/4NW¹/4 sec.6, T.21 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, on right bank 10 ft upstream from intake of Saint Charles Mesa Water Association, 150 ft downstream from Santa Fe Avenue bridge, and 1.1 mi upstream from Fountain Creek.

DRAINAGE AREA.--4,778 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year.

REVISED RECORDS: WDR CO-90-1: 1989(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,653 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 15-21. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	171	58	73	162	123	448	591	1170	1340	730	600
2	127	214	47	71	164	125	442	598	1160	1290	830	674
3	121	210	46	70	171	197	424	602	1270	1240	938	664
4	126	242	53	70	162	228	428	634	1270	1030	965	584
5	120	307	53	77	169	213	430	691	1180	1020	885	526
6	155	353	54	75	177	204	401	752	967	1000	798	526
7	178	371	47	64	184	208	331	851	883	837	751	545
8	164	341	52	80	182	210	297	874	940	791	683	896
9	166	313	52	120	181	207	264	892	1120	1180	529	838
10	197	315	41	124	184	236	250	746	1240	1630	606	763
11	180	316	45	120	180	240	229	808	1210	1730	717	701
12	157	269	51	120	185	246	247	711	1200	1700	764	678
13	165	198	47	121	186	244	263	546	1290	1660	738	663
14	172	135	58	123	186	243	297	507	1410	1550	626	303
15	187	50	54	122	186	200	378	498	1460	1150	569	404
16	237	50	54	122	184	190	492	520	1580	960	541	712
17	272	50	58	127	185	199	585	548	1610	908	541	702
18	254	50	56	126	183	225	623	635	1470	587	1170	695
19	233	50	65	123	182	270	613	833	1210	558	614	696
20	210	50	70	124	187	292	658	1040	1010	573	626	687
21	179	51	67	125	169	314	689	1410	912	579	557	578
22	136	52	77	125	148	323	665	1650	938	549	501	284
23	111	46	71	125	147	332	619	1830	1120	491	594	286
24	119	43	69	125	147	372	563	1880	1400	459	813	273
25	134	44	68	120	150	363	549	1840	1560	614	1450	260
26	138	44	66	122	161	355	548	1740	1660	688	1910	259
27	131	44	67	122	159	352	524	1640	1750	729	1210	253
28	99	54	71	121	144	347	489	1520	1790	802	846	232
29	76	63	69	118	123	344	532	1420	1750	829	637	214
30	81	58	72	141	---	348	595	1230	1610	811	502	160
31	107	---	71	159	---	397	---	1110	---	770	494	---
TOTAL	4864	4554	1829	3455	4928	8147	13873	31147	39140	30055	24135	15656
MEAN	157	152	59.0	111	170	263	462	1005	1305	970	779	522
MAX	272	371	77	159	187	397	689	1880	1790	1730	1910	896
MIN	76	43	41	64	123	123	229	498	883	459	494	160
AC-FT	9650	9030	3630	6850	9770	16160	27520	61780	77630	59610	47870	31050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	1989	1990	1991	1992
MEAN	208	151	32.7	77.0
MAX	375	265	59.0	161
(WY)	1991	1991	1992	1991
MIN	125	87.9	16.1	16.7
(WY)	1990	1989	1990	1989

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1989 - 1992
ANNUAL TOTAL	199021	181783	
ANNUAL MEAN	545	497	497
HIGHEST ANNUAL MEAN			571
LOWEST ANNUAL MEAN			444
HIGHEST DAILY MEAN	3110	Jun 14	4090
LOWEST DAILY MEAN	28	Apr 25	3.6
ANNUAL SEVEN-DAY MINIMUM	46	Nov 21	8.2
INSTANTANEOUS PEAK FLOW		3490	Aug 18
INSTANTANEOUS PEAK STAGE		11.30	Aug 18
ANNUAL RUNOFF (AC-FT)	394800	360600	360300
10 PERCENT EXCEEDS	1710	1220	1400
50 PERCENT EXCEEDS	210	310	253
90 PERCENT EXCEEDS	57	66	29

a-From rating curve extended above 3900 ft³/s.

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.

REMARKS.--Records for daily water temperature and specific conductance are good. Daily data not published are either missing or unrepresentative of the river for the day. Specific conductance data computed by using discharge-related coefficients, the discharge record at the site, and the daily mean specific conductance from Arkansas River at St Charles Mesa Diversion at Pueblo (07099969). Prior to October 1989, specific conductance data was not representative of the cross section at the site.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 1140 microsiemens, Dec. 31, 1989; minimum daily mean, 363 microsiemens, June 24, 1991.

WATER TEMPERATURE: Maximum, 26.3°C, Aug. 31, 1990; minimum, 0.0°C, on many days during winter.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 961 microsiemens, Nov. 26-27; minimum daily mean, 381 microsiemens, July 10.

WATER TEMPERATURE: Maximum, 24.8°C, Aug. 8; minimum, 0.1°C, Jan. 16, 19, 23.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	653	677	865	804	646	640	579	587	---	425	424	461
2	658	651	905	805	644	632	581	579	505	447	422	458
3	662	660	921	794	656	607	582	541	480	459	---	459
4	661	650	897	788	654	---	579	554	455	439	442	463
5	664	644	866	768	648	---	574	548	---	434	441	464
6	641	634	867	772	648	644	586	542	474	445	436	466
7	646	632	884	835	634	630	601	---	485	461	434	466
8	662	642	834	752	627	633	614	---	506	470	441	456
9	670	649	829	681	633	620	616	---	525	427	443	---
10	650	642	873	682	625	605	620	---	516	381	---	510
11	670	648	834	696	634	609	611	---	---	---	446	486
12	689	648	---	701	636	610	607	---	542	---	---	490
13	690	662	846	683	635	606	615	572	544	---	446	491
14	681	---	821	682	641	605	607	572	---	389	459	501
15	653	---	823	---	628	615	594	573	490	416	457	517
16	644	---	848	697	620	619	---	569	476	428	454	494
17	652	---	853	674	667	604	580	559	465	430	461	495
18	640	---	848	673	636	608	---	532	494	451	---	499
19	651	---	837	679	613	597	519	---	519	450	455	---
20	651	---	822	672	635	598	---	---	---	437	456	501
21	681	---	821	672	634	590	575	---	546	457	464	497
22	713	---	799	672	636	595	575	---	532	---	462	515
23	709	---	805	666	635	593	583	---	---	456	457	523
24	698	---	784	669	629	573	617	---	---	470	---	538
25	696	---	776	678	633	579	613	---	467	---	---	536
26	693	961	791	668	632	579	588	---	---	---	---	517
27	718	961	798	667	638	571	599	---	411	452	448	513
28	---	869	774	666	642	576	599	---	---	443	457	531
29	---	848	772	---	643	572	605	---	---	418	468	522
30	---	856	781	663	---	579	602	---	440	422	474	558
31	750	---	805	648	---	568	---	479	---	423	467	---
MEAN	---	---	---	---	637	---	---	---	---	---	---	---

07099970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.1	14.6	10.2	6.7	4.8	1.7	4.7	2.3	5.2	1.0	8.6	3.1
2	21.0	14.5	8.2	6.0	4.2	.6	4.4	.8	5.4	1.4	10.1	3.8
3	20.8	13.8	9.5	5.1	4.6	1.0	4.0	1.0	3.9	2.7	8.2	3.7
4	14.6	12.6	10.5	6.0	5.3	1.6	5.1	1.9	4.6	2.2	7.6	5.4
5	18.0	12.3	11.0	7.7	6.1	2.7	4.9	1.8	4.8	1.3	8.1	4.4
6	17.9	12.0	11.1	7.5	6.8	2.9	5.0	1.9	5.4	1.3	9.6	3.6
7	19.2	12.8	10.1	7.2	7.5	3.3	4.1	1.9	5.1	.8	9.4	4.4
8	19.3	13.3	10.5	6.9	7.1	3.6	4.2	.9	4.4	1.1	8.8	4.4
9	18.8	13.8	11.1	7.4	6.1	2.6	3.6	.5	5.8	.8	7.1	3.8
10	19.0	13.5	9.7	8.2	5.6	2.7	4.2	.4	5.5	1.2	9.0	3.1
11	18.9	13.2	9.2	7.4	4.1	1.9	4.3	1.0	5.8	2.4	9.8	3.8
12	18.8	13.1	10.5	6.5	5.5	1.8	3.8	1.9	6.6	2.8	9.4	4.2
13	17.8	13.6	10.4	6.5	5.3	1.4	3.7	.9	4.6	1.6	10.6	4.0
14	17.2	12.5	9.9	3.4	4.4	.9	3.3	.2	6.7	1.7	10.9	4.2
15	17.5	12.5	---	---	4.5	1.0	2.1	.2	6.3	1.7	10.5	4.5
16	18.1	12.8	---	---	6.3	1.2	4.2	.1	3.8	1.7	10.8	4.6
17	18.2	13.4	---	---	4.2	2.3	2.6	.9	5.7	2.1	9.8	4.7
18	16.4	12.9	---	---	3.9	1.5	3.6	.9	5.8	.9	9.4	5.1
19	16.5	12.0	---	---	5.1	3.2	3.7	.1	6.1	.8	10.0	5.1
20	16.3	12.0	---	---	4.5	3.0	4.2	.2	6.5	2.1	10.6	4.2
21	16.5	11.6	---	---	4.9	1.7	4.3	.3	7.4	2.9	10.4	4.8
22	16.9	12.0	---	---	4.0	3.2	3.9	.4	6.4	1.9	7.2	4.6
23	16.4	11.8	---	---	4.9	2.0	3.9	.1	6.7	3.3	10.8	4.6
24	14.7	11.8	---	---	4.6	1.3	5.2	.8	7.1	1.6	10.6	5.4
25	14.5	10.3	7.6	---	4.7	1.3	4.7	.7	5.6	2.8	11.6	5.3
26	14.6	10.2	9.1	4.5	4.8	1.4	4.7	.7	5.5	1.9	11.0	5.4
27	15.3	10.7	8.0	4.5	4.1	1.2	4.3	.6	9.0	3.5	9.9	5.4
28	13.4	8.3	6.7	4.7	3.6	.9	4.6	.4	9.1	3.0	8.0	6.2
29	9.5	7.0	5.8	3.2	4.7	1.5	5.2	.7	9.4	2.6	11.5	6.4
30	8.1	5.9	4.0	1.8	3.9	1.1	5.0	.7	---	---	11.8	5.3
31	9.6	6.6	---	---	4.7	2.2	5.6	.9	---	---	9.2	5.8
MONTH	21.1	5.9	---	---	7.5	.6	5.6	.1	9.4	.8	11.8	3.1

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.1	5.8	14.3	8.3	14.6	12.8	20.9	16.9	23.8	18.7	22.4	18.0
2	10.1	5.7	13.7	8.7	17.6	13.2	20.8	17.1	23.7	18.8	22.3	18.2
3	12.5	5.8	13.9	8.6	17.0	13.2	21.1	17.2	23.1	19.2	22.9	17.9
4	12.1	6.0	14.2	8.6	17.4	13.5	20.7	17.2	23.7	19.6	20.9	18.4
5	12.5	5.9	13.9	8.7	18.2	14.2	21.4	16.9	23.4	19.4	22.4	17.1
6	12.4	6.2	14.7	8.9	17.6	13.8	22.3	17.7	22.4	19.7	22.6	17.5
7	12.8	6.4	13.9	9.2	17.6	13.9	20.8	17.2	24.2	19.3	22.2	17.5
8	13.9	6.2	13.4	9.5	16.9	13.8	21.6	17.5	24.8	19.6	22.2	18.2
9	13.9	6.5	13.4	9.4	16.4	14.3	20.5	17.5	24.7	19.3	21.6	18.1
10	13.5	6.6	11.0	9.9	18.5	14.3	20.1	17.8	21.7	19.7	21.7	17.8
11	12.8	6.7	14.6	9.2	18.8	14.6	20.8	18.1	24.1	19.5	22.3	17.6
12	10.2	7.5	13.8	9.6	19.0	14.6	20.8	18.1	23.1	19.4	22.7	18.1
13	14.6	6.8	16.4	10.3	19.2	15.0	21.7	18.1	22.3	19.9	22.0	18.1
14	13.1	7.4	16.5	9.6	18.8	14.8	21.7	18.4	24.0	19.6	22.6	17.3
15	13.1	7.2	16.7	9.9	20.1	14.8	22.2	18.2	24.7	19.2	22.8	17.9
16	12.8	7.7	16.1	10.0	19.1	15.5	22.1	18.1	23.4	19.3	22.5	18.4
17	11.8	7.2	15.9	10.1	19.8	16.0	21.6	18.4	24.1	19.5	22.2	18.2
18	9.4	7.5	16.3	10.0	20.0	15.9	22.6	17.6	22.7	19.3	21.1	17.4
19	9.6	7.1	15.9	10.5	20.3	16.4	23.4	17.5	24.3	19.1	21.5	18.1
20	11.3	7.1	15.6	10.8	19.6	16.4	22.3	17.8	24.6	19.3	21.2	17.7
21	12.5	6.9	15.7	11.1	19.9	16.3	23.2	18.3	24.6	19.5	20.4	17.5
22	11.9	7.3	13.8	11.3	20.9	15.8	22.0	17.7	24.7	19.5	21.8	16.1
23	12.7	7.5	13.3	12.2	20.6	16.4	23.5	18.4	22.6	19.6	21.8	16.2
24	12.9	7.3	15.3	12.6	19.3	16.7	23.9	18.2	20.0	18.8	22.2	16.3
25	13.2	7.6	13.6	12.8	19.8	16.5	21.6	18.9	21.9	19.5	18.8	16.2
26	13.3	7.5	16.0	12.9	20.3	16.9	23.2	19.0	22.2	19.6	20.2	14.8
27	13.7	7.5	13.5	12.6	19.4	16.9	23.9	18.9	22.9	19.1	20.6	14.6
28	14.0	7.8	15.3	12.9	19.6	16.8	23.4	18.9	23.0	18.3	19.9	15.2
29	14.5	8.2	16.5	12.9	20.5	16.8	23.0	18.8	22.2	18.1	20.6	14.5
30	14.3	8.4	15.6	13.1	20.9	17.2	23.4	18.6	22.2	18.1	21.0	14.6
31	---	---	16.7	13.0	---	---	23.5	19.1	22.8	17.9	---	---
MONTH	14.6	5.7	16.7	8.3	20.9	12.8	23.9	16.9	24.8	17.9	22.9	14.5

Water-Quality and Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO

Streamflow data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07103703 CAMP CREEK AT GARDEN OF THE GODS

07103747 MONUMENT CREEK AT PALMER LAKE, CO

LOCATION.--Lat 39°06'07", long 104°53'27", in SE¹/4SE¹/4 sec.9, T.11 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 0.9 mi upstream from Monument Lake, 1.5 mi downstream from North Monument Creek, and 1.9 mi southeast of town of Palmer Lake.

PERIOD OF RECORD.--April 1977 to September 1980; January 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 23...	1035	0.48	168	8.0	11.0	8.2	0.5	K78	130	22	4.0
NOV 20...	1100	1.4	147	7.8	2.0	10.4	0.2	K15	160	18	3.0
DEC 11...	1105	1.4	147	8.0	1.5	10.9	0.6	K220	180	17	2.8
JAN 08...	1105	1.6	147	7.7	0.5	11.0	0.7	K1	43	17	2.8
FEB 19...	0955	1.1	152	7.9	0.5	10.9	0.8	K1	22	18	3.2
MAR 25...	1000	5.3	102	8.0	4.0	10.0	0.3	K2	63	14	2.1
APR 15...	1000	40	75	7.8	6.0	9.5	0.5	K4	66	8.8	1.2
MAY 13...	0955	11	92	7.8	10.0	9.0	0.7	K6	200	11	1.5
JUN 03...	1000	15	87	8.0	10.5	9.0	0.7	K13	67	11	1.4
JUL 08...	0915	3.0	138	7.8	15.0	8.1	E0.9	K98	K370	18	2.9
AUG 19...	1000	0.47	202	--	19.0	7.3	0.6	K10	39	27	4.6
SEP 16...	0840	0.81	196	8.2	13.5	8.0	0.4	K16	80	25	4.4

DATE	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)
OCT 23...	75	6.9	3.3	1.8	<1	<0.01	<0.05	0.04	<0.20	0.02
NOV 20...	59	8.7	2.9	1.5	6	<0.01	<0.05	0.03	<0.20	0.01
DEC 11...	56	10	3.2	1.6	1	0.01	0.85	0.02	<0.20	0.02
JAN 08...	56	10	3.9	1.7	23	0.01	0.05	<0.01	<0.20	<0.01
FEB 19...	57	9.4	4.2	1.5	14	<0.01	<0.05	0.01	0.20	<0.01
MAR 25...	35	9.4	2.9	1.6	23	<0.01	0.07	0.02	<0.20	0.02
APR 15...	26	7.8	1.4	1.4	49	0.01	<0.05	0.01	0.20	0.02
MAY 13...	30	7.3	1.2	1.6	9	0.02	<0.05	0.03	<0.20	0.01
JUN 03...	32	6.6	1.2	1.5	16	0.01	0.04	0.03	<0.20	0.03
JUL 08...	57	7.1	3.2	1.7	14	<0.01	<0.05	0.02	<0.20	<0.01
AUG 19...	91	5.5	5.3	1.8	<1	<0.01	<0.05	<0.01	<0.20	<0.01
SEP 16...	86	7.2	5.0	2.0	16	<0.01	<0.05	0.01	<0.20	<0.01

E-Estimated.

K-Based on non-ideal colony counts.

07103747 MONUMENT CREEK AT PALMER LAKE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 23...	<1	<1	<1	<1	<1	2	<1	400	130
NOV 20...	<1	<1	<1	<1	<1	<1	<1	550	87
DEC 11...	<1	<1	<1	<1	<1	5	1	240	67
JAN 08...	<1	<1	<1	<1	<1	<1	<1	880	32
FEB 19...	<1	<1	<1	<1	<1	<1	<1	730	45
MAR 25...	<1	<1	<1	<1	<1	<1	<1	620	53
APR 15...	<1	<1	<1	<1	<1	<1	<1	2000	69
MAY 13...	<1	<1	<1	<1	<1	<1	1	680	43
JUN 03...	<1	<1	<1	<1	<1	6	3	1800	82
JUL 08...	<1	<1	<1	<1	<1	<1	<1	390	180
AUG 19...	<1	<1	<1	<1	<1	1	<1	540	230
SEP 16...	<1	<1	<1	<1	<1	<1	<1	630	270

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 23...	1	1	150	130	3	<1	<10	10
NOV 20...	<1	<1	70	51	<1	<1	<10	4
DEC 11...	5	1	50	39	<1	<1	<10	<3
JAN 08...	2	<1	80	38	2	<1	20	12
FEB 19...	<1	<1	80	44	<1	<1	<10	<3
MAR 25...	<1	<1	30	13	<1	<1	<10	6
APR 15...	2	<1	60	7	<1	<1	20	10
MAY 13...	<1	<1	60	16	<1	<1	10	4
JUN 03...	2	<1	100	33	<1	<1	10	<3
JUL 08...	<1	<1	50	41	<1	<1	<10	<3
AUG 19...	<1	<1	190	**	<1	<1	**	18
SEP 16...	2	<1	120	120	<1	<1	<10	<3

NOTE: ** Indicates analysis pending at time of publication, data available in district office.

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD, AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 39°01'52", long 104°50'52", in SW¹/4SW¹/4 sec.1, T.12 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank, at U.S. Air Force Academy, 50 ft upstream from Denver and Rio Grande Western Railroad bridge, 0.8 mi upstream from North Gate Boulevard, and 1.5 mi downstream from Beaver Creek.

DRAINAGE AREA.--81.7 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 6,640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 28 to Nov. 4, Nov. 23 to Feb. 19, and Sept. 23-30. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.5	4.0	6.7	6.0	5.9	28	35	28	6.3	3.0	6.8
2	2.0	2.0	6.0	6.7	6.0	5.0	28	35	26	9.0	2.6	11
3	2.0	3.0	8.0	6.7	6.0	5.3	24	35	25	13	2.1	10
4	2.6	4.5	8.0	6.6	6.0	9.4	21	35	26	14	2.0	7.2
5	5.4	4.6	7.0	6.6	6.0	12	23	35	28	11	1.9	3.2
6	4.9	4.6	6.5	6.6	6.0	15	24	29	27	3.4	2.1	2.3
7	4.6	4.9	6.0	6.5	6.0	13	24	22	26	3.4	1.7	1.8
8	4.0	4.6	5.5	6.5	6.0	16	23	24	22	2.5	1.7	1.7
9	2.4	5.0	5.0	6.4	6.0	17	31	26	15	2.4	1.5	1.4
10	2.1	5.2	5.0	6.3	6.0	15	46	26	12	2.4	2.4	1.4
11	2.3	4.8	5.0	6.2	6.0	14	56	25	11	6.8	2.3	1.3
12	2.4	4.2	5.0	6.1	6.0	16	61	25	10	9.7	2.5	1.1
13	2.5	3.3	5.2	6.0	5.8	16	67	25	10	6.7	5.1	1.7
14	2.5	3.2	6.0	5.4	5.5	16	74	24	12	13	4.1	1.7
15	2.5	3.5	6.5	5.0	5.2	15	75	24	12	14	3.2	1.9
16	2.1	3.9	6.6	5.0	5.0	15	86	23	9.9	14	3.0	2.0
17	2.0	4.7	6.7	5.2	4.7	14	95	23	11	9.4	2.7	1.7
18	2.1	3.8	6.9	5.5	4.9	15	84	22	13	2.3	2.4	1.7
19	1.9	3.9	7.0	5.8	5.1	15	69	21	13	1.9	4.7	1.6
20	1.9	5.5	7.1	5.8	5.3	15	56	17	14	2.4	5.7	1.9
21	1.8	3.6	7.2	5.8	4.7	14	45	11	15	2.9	7.7	1.8
22	1.7	3.4	7.2	5.8	4.7	14	45	12	14	3.6	9.8	1.7
23	1.7	4.0	7.2	5.8	5.3	14	46	11	14	4.0	10	1.7
24	1.8	6.0	7.2	5.8	4.8	14	40	11	11	3.3	28	1.7
25	1.8	6.0	7.2	5.9	5.0	17	35	11	5.4	2.4	28	1.8
26	1.5	5.2	7.2	5.9	4.7	16	35	14	6.4	2.5	20	1.8
27	1.6	5.0	7.2	6.0	4.8	17	35	21	7.2	2.3	15	1.9
28	1.7	4.8	7.0	6.0	5.1	23	36	22	5.3	2.2	11	1.9
29	1.7	5.0	7.0	6.0	6.2	20	37	22	4.7	3.7	5.7	1.9
30	1.6	3.2	6.8	6.0	---	20	36	21	4.5	3.1	5.0	1.9
31	1.5	---	6.7	6.0	---	25	---	22	---	2.9	5.0	---
TOTAL	72.7	126.9	200.9	186.6	158.8	458.6	1385	709	438.4	180.5	201.9	81.5
MEAN	2.35	4.23	6.48	6.02	5.48	14.8	46.2	22.9	14.6	5.82	6.51	2.72
MAX	5.4	6.0	8.0	6.7	6.2	25	95	35	28	14	28	11
MIN	1.5	1.5	4.0	5.0	4.7	5.0	21	11	4.5	1.9	1.5	1.1
AC-FT	144	252	398	370	315	910	2750	1410	870	358	400	162

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1992, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
MEAN	4.39	5.40	5.06	4.58	5.04	8.49	22.7	38.6	20.4	8.18	6.11	4.34
MAX	9.71	9.37	9.00	9.51	8.85	14.8	46.2	105	36.5	20.3	13.0	12.7
(WY)	1986	1986	1986	1986	1986	1992	1992	1985	1991	1985	1985	1985
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1985 - 1992

ANNUAL TOTAL	3172.1	4200.8	
ANNUAL MEAN	8.69	11.5	9.86
HIGHEST ANNUAL MEAN			17.9
LOWEST ANNUAL MEAN			3.82
HIGHEST DAILY MEAN	149	Jun 7	345
LOWEST DAILY MEAN	a 1.5	Feb 17	.58
ANNUAL SEVEN-DAY MINIMUM	1.6	Oct 26	.69
INSTANTANEOUS PEAK FLOW			372
INSTANTANEOUS PEAK STAGE			6.05
ANNUAL RUNOFF (AC-FT)	6290	8330	7140
10 PERCENT EXCEEDS	19	26	26
50 PERCENT EXCEEDS	5.0	6.0	5.7
90 PERCENT EXCEEDS	1.8	1.9	1.6

a-Also occurred Oct 26, 31, and Nov 1.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD, AT U.S. AIR FORCE ACADEMY, CO

Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07103800 WEST MONUMENT CREEK AT U.S. AIR FORCE ACADEMY, CO

07103980 COTTONWOOD CREEK AT WOODMEN ROAD NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°56'22", long 104°44'26", in NE¹/₄NE¹/₄ sec.11, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank, 100 ft downstream from Woodmen Road, 4.0 mi east of Interstate 25, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--10.8 mi².

PERIOD OF RECORD.--May 1992 to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 6,680 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68 ft³/s, Aug. 24, 1992, gage height, 2.00 ft; maximum gage height, 2.56 ft, June 26, 1992; minimum daily discharge, 0.18 ft³/s, Aug. 16-18, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period May to September, 68 ft³/s, Aug. 24, gage height, 2.00 ft; maximum gage height, 2.56 ft, June 26; minimum daily discharge, 0.18 ft³/s, Aug. 16-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	1.3	.38	.41	.55
2	---	---	---	---	---	---	---	---	.97	.48	.39	.43
3	---	---	---	---	---	---	---	---	1.1	.47	.46	.44
4	---	---	---	---	---	---	---	---	1.2	.41	.39	.49
5	---	---	---	---	---	---	---	---	1.0	.28	.39	.97
6	---	---	---	---	---	---	---	---	.70	.26	.37	.90
7	---	---	---	---	---	---	---	---	.67	.38	.33	.87
8	---	---	---	---	---	---	---	---	.62	.58	.29	.85
9	---	---	---	---	---	---	---	---	.63	.77	.25	.70
10	---	---	---	---	---	---	---	---	.76	.97	.41	.51
11	---	---	---	---	---	---	---	---	.69	.92	.39	.40
12	---	---	---	---	---	---	---	.38	.50	.90	1.8	.40
13	---	---	---	---	---	---	---	.78	.41	.78	.37	.38
14	---	---	---	---	---	---	---	.83	.36	.70	.25	.30
15	---	---	---	---	---	---	---	.68	.31	.64	.20	.29
16	---	---	---	---	---	---	---	.53	.27	.57	.18	.31
17	---	---	---	---	---	---	---	.43	.25	.73	.18	.35
18	---	---	---	---	---	---	---	.40	.20	.60	.25	.37
19	---	---	---	---	---	---	---	.39	.26	.56	.45	.42
20	---	---	---	---	---	---	---	.40	.34	.55	.21	.41
21	---	---	---	---	---	---	---	.41	.29	.53	.81	.38
22	---	---	---	---	---	---	---	.42	.29	.58	3.3	.38
23	---	---	---	---	---	---	---	.42	.31	.56	5.5	.36
24	---	---	---	---	---	---	---	.34	.34	.50	25	.37
25	---	---	---	---	---	---	---	.45	.53	.64	15	.39
26	---	---	---	---	---	---	---	1.1	1.5	.59	13	.38
27	---	---	---	---	---	---	---	1.0	.88	.54	8.1	.38
28	---	---	---	---	---	---	---	.89	.57	.46	3.9	.37
29	---	---	---	---	---	---	---	1.1	.43	.44	1.9	.37
30	---	---	---	---	---	---	---	.78	.34	.47	.90	.37
31	---	---	---	---	---	---	---	.83	---	.44	.80	---
TOTAL	---	---	---	---	---	---	---	---	18.02	17.68	86.18	14.09
MEAN	---	---	---	---	---	---	---	---	.60	.57	2.78	.47
MAX	---	---	---	---	---	---	---	---	1.5	.97	.25	.97
MIN	---	---	---	---	---	---	---	---	.20	.26	.18	.29
AC-FT	---	---	---	---	---	---	---	---	36	35	171	28

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

MEAN	---	---	---	---	---	---	---	---	.60	.57	2.78	.47
MAX	---	---	---	---	---	---	---	---	.60	.57	2.78	.47
(WY)	---	---	---	---	---	---	---	---	1992	1992	1992	1992
MIN	---	---	---	---	---	---	---	---	.60	.57	2.78	.47
(WY)	---	---	---	---	---	---	---	---	1992	1992	1992	1992

Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO

Water-Quality and Streamflow data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07104000 MONUMENT CREEK AT PIKEVIEW, CO

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07104905 MONUMENT CREEK AT BIJOU STREET, AT COLORADO SPRINGS, CO

07105000 BEAR CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°49'21", long 104°53'17", in NE¹/₄NE¹/₄ sec.21, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank, 30 ft east of 26th Street, 0.6 mi southwest of Bear Creek Nature Center, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--6.89 mi².

PERIOD OF RECORD.--May 1992 to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 6,520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10 ft³/s, May 28, 1992, gage height, 0.87 ft; maximum gage height, 1.25 ft, Aug. 24, 1992; minimum daily discharge, 0.02 ft³/s, Sept. 18, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period May to September, 10 ft³/s, May 28, gage height, 0.87 ft; maximum gage height, 1.25 ft, Aug. 24; minimum daily discharge, 0.02 ft³/s, Sept. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	2.5	.96	.34	1.1
2	---	---	---	---	---	---	---	---	1.7	1.3	.60	.60
3	---	---	---	---	---	---	---	---	1.9	1.7	1.0	.80
4	---	---	---	---	---	---	---	---	1.9	1.3	.83	.50
5	---	---	---	---	---	---	---	---	1.8	.96	.59	.57
6	---	---	---	---	---	---	---	---	1.9	.78	.24	.57
7	---	---	---	---	---	---	---	2.4	1.5	.82	.38	.31
8	---	---	---	---	---	---	---	2.5	2.3	.80	.76	.24
9	---	---	---	---	---	---	---	2.1	2.1	.61	1.1	.17
10	---	---	---	---	---	---	---	3.2	1.5	.62	1.2	.03
11	---	---	---	---	---	---	---	2.1	2.0	.90	1.5	.38
12	---	---	---	---	---	---	---	2.8	.95	.74	.93	.06
13	---	---	---	---	---	---	---	3.6	1.5	.84	.90	.22
14	---	---	---	---	---	---	---	2.6	1.2	.84	.91	.42
15	---	---	---	---	---	---	---	2.3	1.7	.83	.70	.35
16	---	---	---	---	---	---	---	1.9	.73	.64	.54	.13
17	---	---	---	---	---	---	---	2.1	.80	1.8	1.0	.47
18	---	---	---	---	---	---	---	1.8	1.2	1.1	.85	.02
19	---	---	---	---	---	---	---	1.8	1.3	.44	.50	.36
20	---	---	---	---	---	---	---	1.6	1.3	1.8	.12	.22
21	---	---	---	---	---	---	---	1.5	1.2	.42	.20	.04
22	---	---	---	---	---	---	---	1.8	.93	.72	.45	.15
23	---	---	---	---	---	---	---	1.2	.94	.37	1.1	.13
24	---	---	---	---	---	---	---	2.0	1.2	.73	5.4	.05
25	---	---	---	---	---	---	---	1.3	1.0	.77	4.0	.05
26	---	---	---	---	---	---	---	2.4	1.4	.76	1.7	.06
27	---	---	---	---	---	---	---	4.8	2.1	.66	1.2	.29
28	---	---	---	---	---	---	---	4.9	1.2	.41	1.1	.19
29	---	---	---	---	---	---	---	2.9	.94	.10	.62	.30
30	---	---	---	---	---	---	---	2.9	1.7	.09	.59	.09
31	---	---	---	---	---	---	---	2.3	---	.26	.34	---
TOTAL	---	---	---	---	---	---	---	---	44.39	25.07	31.69	8.87
MEAN	---	---	---	---	---	---	---	---	1.48	.81	1.02	.30
MAX	---	---	---	---	---	---	---	---	2.5	1.8	5.4	1.1
MIN	---	---	---	---	---	---	---	---	.73	.09	.12	.02
AC-FT	---	---	---	---	---	---	---	---	88	50	63	18

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

MEAN	---	---	---	---	---	---	---	---	1.48	.81	1.02	.30
MAX	---	---	---	---	---	---	---	---	1.48	.81	1.02	.30
(WY)	---	---	---	---	---	---	---	---	1992	1992	1992	1992
MIN	---	---	---	---	---	---	---	---	1.48	.81	1.02	.30
(WY)	---	---	---	---	---	---	---	---	1992	1992	1992	1992

07105490 CHEYENNE CREEK AT EVANS AVENUE AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°47'26", Long 104°51'49", SW¹/4NW¹/4 sec.35, T.14 S., R.67W., El Paso County, Hydrologic Unit 11020003, on right bank 23 ft upstream from Evans Avenue, 30 ft downstream from the confluence of North and South Cheyenne Creeks, and 3.1 mi upstream from mouth.

DRAINAGE AREA.--10.7 mi².

PERIOD OF RECORD.--April to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 6,280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41 ft³/s, May 13, 1992, gage height, 1.05 ft, from rating curve extended above 36 ft³/s; minimum daily, 0.52 ft³/s, Sept. 30, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April to September, 41 ft³/s at 0715 May 13, gage height, 1.05 ft, from rating curve extended above 36 ft³/s; minimum daily, 0.52 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	21	28	4.5	1.9	4.9
2	---	---	---	---	---	---	---	19	23	7.2	.78	4.6
3	---	---	---	---	---	---	---	25	24	7.7	2.9	4.2
4	---	---	---	---	---	---	---	25	23	5.4	5.4	3.8
5	---	---	---	---	---	---	---	19	16	2.3	3.7	3.6
6	---	---	---	---	---	---	---	23	18	4.3	2.3	1.7
7	---	---	---	---	---	---	---	23	24	1.1	2.7	.88
8	---	---	---	---	---	---	---	22	15	1.5	1.4	.89
9	---	---	---	---	---	---	---	19	17	3.1	.78	.82
10	---	---	---	---	---	---	---	22	19	1.1	3.3	.86
11	---	---	---	---	---	---	---	20	14	1.0	3.9	.86
12	---	---	---	---	---	---	---	21	11	.95	1.5	.75
13	---	---	---	---	---	---	---	27	12	.75	3.9	.89
14	---	---	---	---	---	---	---	22	6.9	.90	6.9	3.0
15	---	---	---	---	---	---	---	24	10	2.8	3.7	4.7
16	---	---	---	---	---	---	---	18	8.3	3.4	1.4	1.4
17	---	---	---	---	---	---	---	15	5.8	3.1	1.2	.80
18	---	---	---	---	---	---	---	18	3.3	4.3	2.9	.72
19	---	---	---	---	---	---	---	14	4.8	2.6	2.5	2.3
20	---	---	---	---	---	---	---	14	9.8	2.0	1.9	3.0
21	---	---	---	---	---	---	---	15	4.5	3.7	3.3	.77
22	---	---	---	---	---	---	---	21	3.9	3.3	7.4	1.2
23	---	---	---	---	---	---	---	17	21	1.2	5.0	.88
24	---	---	---	---	---	---	---	17	19	3.5	1.1	.84
25	---	---	---	---	---	---	---	20	17	3.9	2.3	.86
26	---	---	---	---	---	---	---	21	18	5.2	3.3	.71
27	---	---	---	---	---	---	---	15	23	1.5	12	.72
28	---	---	---	---	---	---	---	15	24	1.2	6.6	.71
29	---	---	---	---	---	---	---	22	17	1.1	5.9	.68
30	---	---	---	---	---	---	---	21	20	7.6	1.3	.52
31	---	---	---	---	---	---	---	24	---	1.6	5.5	---
TOTAL	---	---	---	---	---	---	---	630	368.2	81.60	163.66	52.56
MEAN	---	---	---	---	---	---	---	20.3	12.3	2.63	5.28	1.75
MAX	---	---	---	---	---	---	---	27	28	7.7	22	4.9
MIN	---	---	---	---	---	---	---	14	3.3	.75	.78	.52
AC-FT	---	---	---	---	---	---	---	1250	730	162	325	104

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

MEAN	---	---	---	---	---	---	---	20.3	12.3	2.63	5.28	1.75
MAX	---	---	---	---	---	---	---	20.3	12.3	2.63	5.28	1.75
(WY)	---	---	---	---	---	---	---	1992	1992	1992	1992	1992
MIN	---	---	---	---	---	---	---	20.3	12.3	2.63	5.28	1.75
(WY)	---	---	---	---	---	---	---	1992	1992	1992	1992	1992

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'59", long 104°49'20", in NE¹/₄SW¹/₄ sec.19, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 31 ft upstream from bridge on Nevada Ave. in Colorado Springs, 100 ft downstream from mouth of Cheyenne Creek, and 1.3 mi downstream from Monument Creek.

DRAINAGE AREA.--392 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1924, January 1976 to current year. Monthly discharge only for some periods, published in WSP 1311. Statistical summary computed for 1976 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,900 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1972, nonrecording gage at same site at different datum.

REMARKS.--Estimated daily discharges: Aug. 12 and 13. Records good except for estimated daily discharges, which are fair, and those above 400 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation and municipal use, return flow from irrigated areas and discharges from sewage treatment plants.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	39	34	18	31	37	74	122	129	54	29	54
2	31	35	36	17	31	36	72	126	98	54	28	51
3	30	37	35	19	30	40	71	128	94	57	39	49
4	31	53	42	21	30	241	69	124	86	55	50	48
5	35	56	41	23	28	86	71	110	95	52	29	44
6	38	47	40	21	31	60	72	106	92	45	25	41
7	40	55	38	22	31	54	74	81	98	34	23	37
8	39	44	37	18	30	193	79	74	92	39	19	37
9	32	41	36	18	31	97	82	81	92	36	19	32
10	28	53	37	20	31	79	97	104	80	30	82	29
11	26	38	40	22	31	69	116	82	66	32	40	30
12	27	37	58	20	33	62	131	97	66	37	120	30
13	27	36	37	19	34	62	136	100	62	38	60	29
14	28	33	31	21	35	61	151	67	59	36	37	54
15	31	38	33	17	34	64	205	70	66	40	31	46
16	29	65	33	24	33	61	228	66	59	43	32	31
17	28	88	28	23	32	62	200	64	54	60	44	31
18	28	72	27	21	34	65	198	64	52	42	37	29
19	30	82	31	21	34	66	179	54	89	34	41	63
20	30	54	25	24	35	66	156	64	110	37	28	53
21	31	57	23	26	34	75	140	61	88	36	68	35
22	31	38	23	24	34	81	137	44	67	41	67	26
23	30	29	23	26	38	74	137	48	77	53	34	25
24	35	33	22	29	35	72	131	44	94	32	508	25
25	35	38	23	28	35	72	121	49	128	96	155	23
26	27	41	26	29	35	69	122	94	221	63	131	24
27	27	34	22	28	36	81	122	181	189	35	93	24
28	25	33	22	29	35	86	119	105	125	25	82	23
29	25	42	18	30	36	77	123	77	69	41	71	24
30	29	32	16	29	---	72	124	89	61	34	65	22
31	39	---	16	30	---	69	---	96	---	29	59	---
TOTAL	956	1380	953	717	957	2389	3737	2672	2758	1340	2146	1069
MEAN	30.8	46.0	30.7	23.1	33.0	77.1	125	86.2	91.9	43.2	69.2	35.6
MAX	40	88	58	30	38	241	228	181	221	96	508	63
MIN	25	29	16	17	28	36	69	44	52	25	19	22
AC-FT	1900	2740	1890	1420	1900	4740	7410	5300	5470	2660	4260	2120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	MEAN	41.7	35.5	28.9	26.9	26.0	38.6	72.2	162	96.1	65.6	76.7	38.1
	MAX	212	143	81.3	61.6	56.6	83.6	166	767	350	227	167	76.0
	(WY)	1985	1985	1985	1985	1985	1985	1985	1980	1983	1983	1983	1985
	MIN	10.6	11.4	11.8	5.12	6.27	11.4	14.8	23.5	16.3	12.9	22.1	7.98
	(WY)	1978	1979	1979	1979	1979	1976	1978	1976	1976	1976	1978	1978

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1976 - 1992

ANNUAL TOTAL	19777	21074	
ANNUAL MEAN	54.2	57.6	61.3
HIGHEST ANNUAL MEAN			141
LOWEST ANNUAL MEAN			23.2
HIGHEST DAILY MEAN	993	508	1810
LOWEST DAILY MEAN	^a 16	^b 16	2.0
ANNUAL SEVEN-DAY MINIMUM	19	18	3.3
INSTANTANEOUS PEAK FLOW		^c 1940	^d 6000
INSTANTANEOUS PEAK STAGE		5.84	7.15
ANNUAL RUNOFF (AC-FT)	39230	41800	44390
10 PERCENT EXCEEDS	90	112	126
50 PERCENT EXCEEDS	37	39	31
90 PERCENT EXCEEDS	23	24	13

a-Also occurred Dec 30 and 31.

b-Also occurred Dec 31.

c-From rating curve extended on basis of slope-area measurement of peak flow.

d-From rating curve extended above 2400 ft³/s.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'11", long 104°47'43", in NE¹/4SE¹/4 sec.29, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank at upstream side of bridge on Janitell Road below Colorado Springs.

DRAINAGE AREA.--413 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,840 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 10, 1990, at site 500 ft upstream, at datum 2.00 ft, higher.

REMARKS.--No estimated daily discharges. Records good except those above 500 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation and municipal use, return flow from irrigated areas, and flows from sewage treatment plants.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	80	91	78	99	91	117	138	134	77	67	91
2	92	86	93	74	99	93	118	133	112	94	67	74
3	88	88	95	80	97	95	119	143	119	110	77	61
4	85	106	103	89	97	231	118	142	122	108	77	53
5	85	117	103	96	87	128	116	128	131	110	60	46
6	90	110	85	98	100	107	121	118	131	108	69	45
7	89	123	83	101	98	105	123	111	132	100	60	45
8	69	114	80	97	98	222	125	108	131	88	56	45
9	50	118	64	101	99	157	128	110	136	78	59	38
10	51	138	64	103	99	138	128	124	134	71	112	45
11	54	123	69	109	97	133	134	94	136	84	61	44
12	55	118	90	105	99	129	136	104	142	109	158	47
13	58	112	54	95	99	132	140	128	140	116	101	46
14	55	108	53	92	98	135	145	106	135	94	68	102
15	56	105	61	83	97	140	182	103	135	86	62	100
16	53	117	59	92	94	137	194	95	122	95	61	101
17	55	134	53	88	97	135	197	93	108	110	81	75
18	52	116	50	84	95	134	196	86	97	86	67	47
19	57	120	63	79	91	132	189	77	110	68	65	87
20	56	104	51	85	96	128	178	88	114	70	62	85
21	58	113	51	88	95	135	171	89	106	70	94	54
22	51	97	57	83	94	137	169	88	100	65	113	41
23	52	90	51	82	96	124	172	89	103	86	87	48
24	50	88	49	90	91	123	168	88	112	67	796	53
25	50	95	46	90	90	124	165	90	277	122	235	56
26	46	94	58	93	89	122	169	118	188	98	226	57
27	54	91	52	90	90	126	154	155	172	84	176	54
28	48	88	62	89	92	126	144	110	165	67	144	53
29	46	96	76	93	93	122	140	91	97	82	135	50
30	53	88	76	93	---	118	141	99	83	74	127	49
31	61	---	79	95	---	114	---	111	---	68	115	---
TOTAL	1913	3177	2121	2815	2766	4073	4497	3357	3924	2745	3738	1792
MEAN	61.7	106	68.4	90.8	95.4	131	150	108	131	88.5	121	59.7
MAX	94	138	103	109	100	231	197	155	277	122	796	102
MIN	46	80	46	74	87	91	116	77	83	65	56	38
AC-FT	3790	6300	4210	5580	5490	8080	8920	6660	7780	5440	7410	3550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	1990	1991	1992	1990	1991	1992	1990	1991	1992	1990	1991	1992
MEAN	66.7	77.8	56.6	69.9	76.1	97.8	117	120	114	110	112	70.6
MAX	71.7	106	68.4	90.8	95.4	131	150	163	142	145	139	90.1
(WY)	1991	1992	1992	1992	1992	1992	1992	1990	1991	1990	1991	1991
MIN	61.7	48.6	39.5	46.2	56.4	76.4	96.6	87.3	69.4	88.5	77.4	59.7
(WY)	1992	1990	1990	1990	1990	1991	1991	1991	1990	1992	1990	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1990 - 1992
ANNUAL TOTAL	33864	36918	
ANNUAL MEAN	92.8	101	95.9
HIGHEST ANNUAL MEAN			101
LOWEST ANNUAL MEAN			90.9
HIGHEST DAILY MEAN	792 Jun 6	796 Aug 24	796 Aug 24 1992
LOWEST DAILY MEAN	a 46 Oct 26	38 Sep 9	32 Nov 21 1989
ANNUAL SEVEN-DAY MINIMUM	49 Oct 23	44 Sep 5	35 Nov 21 1989
INSTANTANEOUS PEAK FLOW		b 2180 Jun 25	b 5480 May 29 1990
INSTANTANEOUS PEAK STAGE		c 6.83 Jun 25	d 9.02 May 29 1990
ANNUAL RUNOFF (AC-FT)	67170	73230	69450
10 PERCENT EXCEEDS	130	140	136
50 PERCENT EXCEEDS	79	95	79
90 PERCENT EXCEEDS	56	53	47

a-Also occurred Oct 29, and Dec 25.

b-From rating curve extended above 2240 ft³/s.

c-From floodmarks.

d-From floodmarks, at datum 2.00 ft higher.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD, BELOW COLORADO SPRINGS, CO

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07105533 FOUNTAIN CREEK AT CIRCLE DRIVE BELOW COLORADO SPRINGS, CO

07105800 FOUNTAIN CREEK AT SECURITY, CO

LOCATION.--Lat 38°43'46", long 104°44'00", in NE¹/4SW¹/4 sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank on upstream side of Carson Road bridge, 0.9 mi southwest of South Security School, 3.5 mi northeast of Fountain, and 5.5 mi upstream from Jimmy Camp Creek.

DRAINAGE AREA.--495 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WDR CO-85-1: 1984 (M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,640 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 26, 1966, at site 1,040 ft upstream at datum 6.00 ft higher. Oct. 26, 1966, to July 18, 1972, at site 980 ft upstream at datum 6.00 ft higher, July 19, 1972, to Feb. 20 1980, at site 980 ft downstream at datum 6.00 ft lower. Feb. 21, 1980 to June 30, 1986 at present site at datum 3.00 ft lower.

REMARKS.--Estimated daily discharges: Oct. 10, 24, 26, 27, Dec. 14, 15, 18, June 25, 26, July 9-11, 15, 19-22, 28, Aug. 1, 3, 5, 6, 8, 9, 15, 16, 20, 21, Sept. 5-14, 18, 19, and Sept. 23. Records good except for June 25, 26, and daily discharges above 500 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 5,100 acres and municipal use, return flow from irrigated areas and flows from sewage treatment plants.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	103	99	94	120	130	136	134	131	136	77	118
2	95	106	100	90	126	141	149	128	115	136	79	100
3	89	103	102	90	122	143	164	138	113	156	90	78
4	81	122	110	91	118	427	163	150	106	151	111	64
5	80	128	118	93	110	181	160	137	111	136	67	56
6	82	123	104	96	118	143	160	124	114	136	79	52
7	85	127	85	100	119	103	158	119	123	116	74	47
8	72	112	90	87	119	361	150	104	122	95	69	50
9	44	108	64	86	121	146	161	94	148	65	72	44
10	47	126	63	90	122	140	185	110	147	51	139	52
11	57	105	62	97	116	135	180	102	128	66	102	44
12	62	109	107	87	118	142	174	92	111	108	185	47
13	66	108	71	76	118	146	180	164	99	113	131	48
14	68	107	47	89	122	146	198	132	85	90	81	101
15	73	115	59	89	115	158	236	121	88	65	66	117
16	66	129	62	96	114	158	290	99	85	85	50	96
17	65	156	57	103	114	154	229	90	77	129	103	77
18	62	148	52	95	110	151	207	87	74	89	67	36
19	67	153	68	88	109	156	203	79	93	65	79	71
20	65	121	63	91	114	150	193	78	113	82	57	101
21	72	123	57	98	113	153	190	86	125	85	98	66
22	58	111	61	99	108	167	184	80	86	76	140	56
23	55	98	55	99	110	148	184	76	71	115	80	62
24	61	100	59	112	103	140	181	72	99	84	824	78
25	63	114	52	113	100	135	171	73	246	144	217	80
26	49	116	65	118	102	135	169	92	378	118	212	80
27	57	113	78	119	110	136	157	193	244	87	164	78
28	66	110	96	115	117	153	140	134	227	66	127	79
29	53	113	95	120	125	152	137	82	171	88	133	75
30	65	104	92	138	---	146	133	73	159	86	132	70
31	80	---	95	120	---	133	---	97	---	81	130	---
TOTAL	2115	3511	2388	3079	3333	5009	5322	3340	3989	3100	4035	2123
MEAN	68.2	117	77.0	99.3	115	162	177	108	133	100	130	70.8
MAX	110	156	118	138	126	427	290	193	378	156	824	118
MIN	44	98	47	76	100	103	133	72	71	51	50	36
AC-FT	4200	6960	4740	6110	6610	9940	10560	6620	7910	6150	8000	4210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	MEAN	66.0	57.3	49.2	55.5	62.0	73.5	92.2	162	145	98.1	107	67.2
MAX	317	188	133	115	115	162	250	795	487	317	234	170	
(WY)	1985	1985	1986	1985	1992	1992	1985	1980	1965	1983	1983	1982	
MIN	12.6	15.1	17.8	11.9	14.1	21.3	23.7	24.7	17.8	30.1	23.5	13.1	
(WY)	1965	1965	1976	1976	1972	1965	1978	1966	1968	1972	1974	1968	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	38760		41344									
ANNUAL MEAN	106		113							86.3		
HIGHEST ANNUAL MEAN										203		1985
LOWEST ANNUAL MEAN										31.5		1968
HIGHEST DAILY MEAN	1380	Jun 6	824	Aug 24	5650	Jun 17	1965					
LOWEST DAILY MEAN	44	Oct 9	36	Sep 18	1.9	Mar 1	1965					
ANNUAL SEVEN-DAY MINIMUM	58	Oct 23	47	Sep 7	4.2	Feb 25	1965					
INSTANTANEOUS PEAK FLOW			^a 3490	Jun 26	^b 25000	Jul 24	1965					
INSTANTANEOUS PEAK STAGE			5.15	Jun 26	^c 11.30	Jul 24	1965					
ANNUAL RUNOFF (AC-FT)	76880		82010		62560							
10 PERCENT EXCEEDS	144		160		153							
50 PERCENT EXCEEDS	90		105		61							
90 PERCENT EXCEEDS	63		62		21							

a-From rating curve extended above 2600 ft³/s.

b-From rating curve extended above 2900 ft³/s, on basis of slope-area measurement of peak flow.

c-From floodmarks, site and datum then in use.

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 current year.

WATER TEMPERATURE: October 1990 to current year.

pH: October 1990 to current year.

DISSOLVED OXYGEN: October 1990 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Records for daily water temperature are good. Records for daily specific conductance, pH, and dissolved oxygen are fair. Daily data that are not published are either missing or of unacceptable quality. Daily maximum and minimum specific conductance and mean water temperature, pH and dissolved oxygen data available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,270 microsiemens, Dec. 12, 1991; minimum, 163 microsiemens, Aug. 3, 1991.

pH: Maximum, 8.4 units, on several days; minimum 6.9 units, Nov. 7, 1990.

WATER TEMPERATURE: Maximum, 29.8°C, July 17, 1991; minimum, 0.0°C, on many days during winter months.

DISSOLVED OXYGEN: Maximum, 10.6 mg/L, Jan. 8, 1992; minimum, 3.5 mg/L, Aug. 9, 1992.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,270 microsiemens, Dec. 12; minimum, 194 microsiemens, Aug. 10.

pH: Maximum, 8.4 units, Oct. 29-31; minimum, 7.3 units, Oct. 7 and June 25.

WATER TEMPERATURE: Maximum, 27.9°C, Aug. 9; minimum, 0.0°C, on many days during winter months.

DISSOLVED OXYGEN: Maximum, 10.6 mg/L, Jan. 8; minimum, 3.5 mg/L, Aug. 9.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	749	850	---	---	776	776	708	531	522	---	843	---
2	808	---	---	810	750	784	704	541	574	---	832	---
3	818	---	774	810	749	778	689	535	570	---	823	---
4	840	---	850	818	745	---	694	544	613	---	593	---
5	838	---	806	769	773	---	684	553	615	---	676	---
6	849	---	809	774	806	732	732	571	606	---	684	---
7	809	---	815	761	764	723	718	582	546	---	659	---
8	794	---	768	787	760	---	704	649	576	---	661	---
9	---	---	761	806	732	---	688	642	594	---	685	---
10	---	---	759	808	759	---	609	---	640	857	513	---
11	900	---	748	815	795	---	545	608	651	853	771	849
12	872	---	763	783	770	772	531	---	705	790	723	842
13	868	792	---	786	748	794	512	484	697	775	---	800
14	840	801	---	806	783	808	477	637	733	791	---	726
15	808	785	---	827	784	778	451	626	710	821	---	---
16	819	746	---	828	757	793	459	---	714	783	---	---
17	804	684	---	802	797	774	524	---	725	646	---	---
18	832	718	---	818	805	771	466	---	738	620	---	851
19	852	772	872	839	782	773	463	---	663	784	750	779
20	847	800	805	840	740	767	492	---	---	840	---	---
21	762	777	798	849	768	775	524	685	---	843	768	---
22	826	784	783	846	775	776	544	607	---	837	458	---
23	784	824	830	861	789	787	542	598	---	714	534	---
24	888	814	---	833	796	780	546	608	---	796	371	877
25	831	862	---	822	792	780	548	638	---	622	---	927
26	861	841	796	793	811	778	546	602	---	---	---	895
27	851	---	---	759	812	812	550	301	---	---	---	898
28	856	---	---	698	805	786	565	539	---	---	---	---
29	870	---	---	762	809	706	553	602	---	---	---	861
30	860	---	---	784	---	716	543	577	719	---	---	848
31	904	---	---	811	---	723	---	577	---	---	---	---
MEAN	---	---	---	---	777	---	577	---	---	---	---	---

PH (STANDARD UNITS), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.8	7.6	8.3	8.1	---	---	8.2	8.2	8.1	8.1	8.1	7.9
2	7.9	7.7	8.3	8.1	---	---	8.2	8.2	8.1	8.1	8.0	7.8
3	7.9	7.6	8.3	8.1	8.2	8.0	8.2	8.2	8.2	8.1	8.0	7.9
4	7.9	7.7	8.2	8.0	8.2	8.0	8.2	8.2	8.2	8.2	8.1	7.8
5	7.9	7.5	8.2	7.9	8.1	8.0	8.2	8.2	8.3	8.2	8.1	7.8
6	7.8	7.6	8.1	7.9	8.1	8.0	8.2	8.1	8.3	8.1	8.1	8.0
7	7.6	7.3	8.1	7.9	8.1	8.0	8.2	8.2	8.1	8.1	8.2	8.0
8	7.6	7.4	8.1	7.9	8.1	8.0	8.2	8.1	8.1	8.0	8.2	7.9
9	7.9	7.4	8.0	7.9	8.1	8.0	8.2	8.1	8.0	8.0	---	---
10	8.0	7.6	7.9	7.8	8.2	8.1	8.2	8.1	8.0	8.0	8.1	8.0
11	8.0	7.8	8.0	7.9	8.2	8.1	8.2	8.1	8.0	7.9	8.1	8.0
12	8.1	7.8	8.0	7.8	8.1	8.0	8.2	8.1	8.0	7.8	8.2	8.1
13	8.0	7.8	8.2	8.0	8.2	8.1	8.2	8.1	8.0	7.8	8.2	8.0
14	8.1	7.8	8.2	7.9	8.2	8.1	8.2	7.9	---	---	8.1	8.0
15	8.0	7.8	8.0	7.9	8.2	8.1	8.0	7.9	---	---	8.1	8.0
16	8.0	7.8	8.0	7.8	8.2	8.1	8.0	7.9	---	---	8.1	7.9
17	8.0	7.7	8.0	7.7	8.2	8.1	8.0	7.9	---	---	8.0	7.9
18	8.2	7.7	7.9	7.8	8.2	8.1	8.0	7.9	---	---	8.0	7.9
19	8.2	7.9	7.9	7.7	8.2	8.1	8.0	7.9	---	---	8.0	7.9
20	8.2	7.9	8.0	7.8	8.2	8.1	7.9	7.9	---	---	8.0	7.9
21	8.1	7.9	7.9	7.8	8.2	8.1	7.9	7.9	---	---	8.1	7.9
22	8.1	7.9	8.0	7.8	8.2	8.2	8.0	7.9	---	---	8.0	7.9
23	8.1	7.9	8.1	7.9	8.2	8.1	7.9	7.9	---	---	8.0	7.9
24	8.1	7.7	8.1	7.9	8.2	8.1	8.0	7.9	---	---	8.0	7.9
25	8.2	7.9	8.0	7.8	8.2	8.1	7.9	7.9	---	---	8.1	8.0
26	8.3	8.0	8.0	7.8	8.2	8.2	7.9	7.9	---	---	8.1	7.9
27	8.2	8.0	8.0	7.9	8.2	8.2	8.0	7.9	8.2	8.0	8.1	7.9
28	8.3	8.0	---	---	8.2	8.2	8.0	7.9	8.2	7.9	---	---
29	8.4	8.2	---	---	8.2	8.2	8.0	8.0	8.1	7.9	---	---
30	8.4	8.2	---	---	8.2	8.2	8.0	8.0	---	---	8.2	8.0
31	8.4	8.2	---	---	8.2	8.2	8.1	8.0	---	---	8.1	7.9
MONTH	8.4	7.3	---	---	---	---	8.2	7.9	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.2	8.0	7.9	7.8	7.8	7.6	---	---	7.9	7.8	7.9	7.5
2	8.1	7.9	7.9	7.8	7.7	7.6	---	---	7.9	7.8	8.0	7.6
3	8.0	7.9	7.9	7.8	7.8	7.4	---	---	7.9	7.7	8.0	7.6
4	7.9	7.9	8.1	7.9	7.7	7.6	---	---	7.9	7.7	8.0	7.9
5	7.9	7.9	8.1	8.0	7.7	7.6	---	---	8.3	7.8	8.0	7.8
6	7.9	7.8	8.0	7.8	7.6	7.6	---	---	7.9	7.8	8.0	7.9
7	7.9	7.8	8.0	7.8	7.6	7.6	---	---	7.9	7.7	8.1	7.9
8	7.9	7.8	8.0	7.7	7.6	7.5	---	---	7.9	7.7	8.0	7.8
9	7.9	7.8	8.0	7.8	7.6	7.4	---	---	7.9	7.7	8.0	7.8
10	7.9	7.8	7.9	7.6	7.6	7.4	7.9	---	7.8	7.4	8.1	7.7
11	7.9	7.8	7.9	7.6	7.6	7.5	8.1	7.9	7.9	7.5	8.0	7.9
12	7.9	7.8	7.9	7.6	7.6	7.5	8.0	7.9	8.1	7.7	8.2	7.9
13	7.9	7.8	7.8	7.6	7.7	7.6	8.0	7.9	8.0	7.4	8.2	7.9
14	7.8	7.7	8.0	7.8	7.7	7.6	8.0	7.9	7.8	7.4	8.2	7.5
15	7.9	7.4	8.2	7.8	7.8	7.6	8.1	7.9	7.7	7.6	7.9	7.5
16	8.0	7.8	---	---	7.8	7.6	8.0	7.9	7.7	7.6	8.0	7.4
17	8.1	7.8	---	---	7.8	7.7	7.9	7.7	---	---	8.0	7.7
18	7.9	7.8	---	---	7.8	7.6	7.9	7.8	7.9	---	8.2	8.0
19	8.0	7.7	---	---	7.9	7.4	7.9	7.8	7.9	---	8.1	7.7
20	8.1	7.8	---	---	7.7	7.5	7.9	7.8	---	---	8.0	7.7
21	8.1	7.8	7.9	7.7	7.8	7.6	8.0	7.9	---	---	8.0	7.9
22	8.1	7.9	7.9	7.7	7.8	7.5	8.0	7.8	---	---	8.0	7.9
23	8.1	7.9	7.9	7.7	---	---	7.9	7.9	---	---	8.1	7.9
24	8.0	7.9	8.0	7.6	7.8	7.5	7.9	7.8	---	---	8.0	7.9
25	8.0	8.0	7.8	7.5	8.1	7.3	7.9	7.7	8.0	---	8.0	7.9
26	8.0	7.9	---	---	8.2	7.6	---	---	8.1	7.9	8.0	7.9
27	---	---	7.9	7.7	7.9	7.5	---	---	---	---	---	---
28	---	---	8.0	7.8	8.1	---	---	---	---	---	---	---
29	---	---	8.0	7.8	7.9	7.6	---	---	---	---	---	---
30	7.9	7.8	7.9	7.8	8.1	7.7	---	---	---	---	---	---
31	---	---	7.9	7.6	---	---	7.9	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

07105800 FOUNTAIN CREEK AT SECURITY, CO--continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.4	11.4	6.5	2.2	---	---	7.0	2.7	10.1	2.6	12.3	4.4
2	21.5	12.2	6.2	1.1	7.6	---	8.6	.6	9.1	3.5	14.0	5.5
3	21.4	11.6	9.2	.0	7.4	.2	7.9	1.2	5.9	3.4	10.1	5.3
4	12.8	10.3	11.1	2.4	8.6	1.5	8.2	2.3	8.7	2.5	8.0	3.6
5	17.2	7.6	11.6	4.9	7.7	2.5	7.0	1.7	7.1	1.2	11.7	4.2
6	17.5	7.8	12.2	5.3	9.8	2.5	8.6	3.1	9.8	1.5	14.1	5.1
7	19.3	8.7	10.8	6.1	9.4	.3	6.5	2.8	9.6	1.7	12.6	5.1
8	19.3	10.6	12.4	4.9	8.6	3.8	7.5	1.5	9.3	1.7	12.7	2.5
9	19.3	---	13.9	7.2	7.8	---	7.6	1.0	9.0	2.4	8.1	1.6
10	20.6	---	11.0	8.3	6.9	---	8.9	1.4	9.7	2.6	12.0	1.4
11	20.7	9.0	11.5	8.1	4.4	.6	8.4	1.7	10.8	4.8	12.7	2.9
12	20.7	9.1	13.0	5.7	6.9	1.3	5.4	2.1	11.7	5.3	12.9	4.3
13	18.7	10.4	13.1	5.2	6.0	---	6.9	.4	9.0	3.5	14.7	4.8
14	17.5	10.2	11.5	5.3	5.8	---	7.0	.6	11.2	4.2	14.2	5.5
15	18.3	9.3	8.4	6.2	6.5	---	5.0	.0	10.6	2.5	13.5	6.0
16	19.8	8.1	6.7	3.9	8.0	---	8.6	.9	6.9	2.7	14.5	5.5
17	19.7	7.7	9.0	3.3	6.2	---	5.8	1.8	9.9	2.8	14.0	5.9
18	16.9	7.7	8.2	3.2	5.3	---	6.5	1.0	10.7	1.5	10.7	6.8
19	16.5	7.6	8.0	3.3	7.8	2.9	8.1	.1	11.2	1.4	10.7	5.9
20	15.8	8.1	10.3	1.1	5.9	3.3	8.4	.8	11.9	3.2	13.9	4.3
21	17.1	8.4	10.8	5.0	8.0	3.0	9.2	1.6	13.2	5.5	12.7	4.9
22	17.8	8.4	7.2	4.1	4.8	3.4	7.6	.8	10.9	4.2	10.0	3.5
23	16.0	8.3	7.5	1.3	6.7	1.8	8.5	.5	9.9	4.5	11.9	3.8
24	14.5	9.2	8.6	.3	6.3	.4	9.1	2.1	11.6	2.7	12.5	5.4
25	15.0	6.4	9.0	3.1	7.3	.3	7.7	1.9	10.1	5.1	15.4	5.6
26	14.6	6.0	10.4	4.1	6.3	.5	8.8	2.4	10.8	3.4	14.9	6.3
27	15.3	7.0	10.0	---	5.6	.2	8.9	2.1	13.4	6.1	12.9	6.4
28	9.9	2.6	---	---	6.3	1.9	9.9	1.6	14.0	4.4	9.9	7.7
29	6.2	2.5	---	---	7.8	1.5	9.9	2.6	14.0	4.4	14.3	6.3
30	5.1	.2	---	---	7.3	1.4	10.2	2.2	---	---	15.7	5.5
31	6.8	.6	---	---	6.0	3.1	11.0	2.7	---	---	9.9	6.5
MONTH	21.5	---	---	---	---	---	11.0	.0	14.0	1.2	15.7	1.4
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.9	4.7	21.1	10.3	14.4	9.1	25.0	15.4	26.7	14.7	21.0	13.6
2	14.2	5.4	18.0	10.1	21.2	9.6	---	---	27.5	15.0	20.7	12.2
3	17.4	5.8	18.6	9.6	19.3	11.1	---	---	23.7	15.4	21.0	11.4
4	16.2	7.2	18.2	10.1	20.4	11.5	---	---	25.1	15.7	21.3	12.8
5	16.1	7.1	18.7	9.6	20.0	13.3	25.3	---	26.3	15.4	21.9	11.0
6	16.5	7.5	19.9	10.3	18.4	12.7	---	---	22.0	16.5	22.3	11.0
7	15.6	7.7	18.5	10.2	18.1	12.3	---	---	27.2	15.0	20.3	11.1
8	16.5	6.8	19.7	11.4	19.6	12.0	---	---	27.7	16.7	21.2	11.4
9	17.6	7.9	20.5	10.8	17.7	13.3	---	---	27.9	16.1	21.6	11.4
10	17.4	8.3	14.1	10.9	22.9	11.5	24.3	---	20.7	17.7	21.9	11.6
11	15.5	8.4	21.1	8.2	19.9	12.8	26.8	16.2	23.9	15.4	23.6	11.4
12	11.4	8.5	18.9	10.9	21.4	12.7	21.8	15.9	21.3	13.7	24.0	13.5
13	17.9	7.2	20.6	10.6	24.2	15.1	21.8	15.1	23.2	15.8	21.2	13.7
14	16.0	9.5	20.7	10.9	23.8	14.7	26.0	14.5	25.8	14.8	22.5	13.1
15	15.7	9.3	22.7	11.4	23.5	15.1	23.3	14.8	26.8	15.2	---	---
16	11.0	9.0	20.6	11.5	22.3	13.9	18.9	14.4	23.5	16.0	---	---
17	15.5	8.0	21.8	11.1	23.6	12.0	21.7	14.3	23.8	16.0	24.8	---
18	11.4	8.0	22.6	11.0	23.8	13.4	24.7	13.7	25.5	14.3	19.8	11.7
19	10.4	5.9	24.0	10.8	22.9	14.7	26.8	13.9	26.7	16.1	22.1	11.8
20	12.4	5.7	23.8	10.1	19.9	15.4	21.5	15.3	27.1	15.7	18.7	11.5
21	16.3	5.8	24.4	10.8	19.7	14.0	25.2	15.6	24.9	16.4	20.3	11.3
22	12.7	7.7	---	---	23.1	13.1	24.1	14.6	24.9	16.9	21.3	10.9
23	16.6	7.2	---	---	24.2	15.0	25.2	16.3	21.3	17.1	22.6	11.4
24	16.1	7.5	---	---	24.1	15.3	26.4	15.9	18.3	14.0	22.6	11.8
25	16.6	7.5	---	---	22.1	9.1	20.8	16.9	17.2	13.3	20.1	12.7
26	17.1	7.6	---	---	23.0	9.6	21.8	17.0	18.3	11.5	19.4	10.1
27	18.0	8.4	12.8	8.4	18.6	11.1	26.5	15.7	21.2	11.0	20.5	10.0
28	20.7	9.4	13.1	7.6	21.4	14.2	24.9	15.3	21.8	11.8	18.9	10.7
29	21.1	10.0	19.3	9.5	24.2	14.3	23.6	15.1	21.5	13.1	21.2	10.1
30	21.9	10.8	17.9	10.5	25.4	15.8	25.1	15.0	19.0	14.3	21.4	11.0
31	---	---	17.0	10.0	---	---	24.1	15.7	19.5	13.6	---	---
MONTH	21.9	4.7	---	---	25.4	9.1	---	---	27.9	11.0	---	---

07105800 FOUNTAIN CREEK AT SECURITY, CO--continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	9.5	7.7	---	---	9.3	8.1	9.6	7.5	8.6	6.6
2	---	---	9.9	8.0	9.4	7.3	10.2	7.7	9.2	7.7	8.2	6.4
3	6.7	4.8	9.7	6.5	9.9	7.4	10.0	7.9	9.5	8.3	8.2	6.8
4	6.4	4.8	8.7	---	9.3	7.3	9.6	7.9	9.7	7.9	10.1	6.8
5	5.8	4.4	8.2	6.7	9.0	7.3	10.3	8.4	9.9	8.1	9.6	7.2
6	6.0	4.3	8.3	6.5	8.9	6.7	9.5	7.7	9.9	7.6	9.5	7.8
7	---	---	8.5	5.9	8.7	6.8	9.3	8.3	9.8	7.7	---	---
8	---	---	9.1	6.7	8.6	7.3	10.6	7.9	10.0	7.9	---	---
9	6.0	4.8	8.2	6.1	8.9	7.2	10.2	8.1	9.6	7.9	---	---
10	6.4	4.6	7.9	5.2	8.9	7.4	9.8	7.6	9.6	7.8	---	---
11	6.0	4.5	---	---	9.0	8.3	10.1	7.4	9.2	7.8	9.6	7.4
12	---	---	---	---	9.5	7.1	9.5	8.3	9.1	7.2	9.5	7.3
13	---	---	7.9	5.7	9.8	7.8	10.1	7.9	9.2	7.7	8.8	6.6
14	---	---	7.8	6.0	9.6	8.0	9.7	8.0	9.1	7.5	8.5	6.4
15	---	---	9.2	6.6	9.7	7.7	10.2	8.4	9.6	7.6	---	---
16	---	---	8.3	7.1	9.8	7.4	9.5	7.5	9.6	8.2	---	---
17	---	---	8.6	6.4	8.9	7.8	9.5	8.2	9.7	7.7	---	---
18	---	---	8.8	7.2	9.0	8.2	9.7	8.2	10.1	7.7	---	---
19	7.5	5.2	10.1	7.7	9.0	7.4	9.8	7.6	10.3	7.6	8.5	7.3
20	7.4	5.7	10.4	6.9	8.8	8.2	9.8	7.6	9.6	7.5	8.6	6.5
21	---	---	---	---	8.9	7.6	9.2	7.3	9.1	7.3	8.4	6.4
22	---	---	---	---	8.8	8.2	9.8	7.9	9.4	7.5	8.5	6.8
23	---	---	---	---	9.6	8.1	9.8	7.5	9.6	7.8	8.0	6.0
24	---	---	---	---	9.8	8.1	9.4	7.3	10.1	7.5	7.6	6.0
25	8.3	6.1	---	---	10.0	7.9	9.8	8.0	9.1	7.7	8.6	6.6
26	8.2	5.7	---	---	10.2	8.5	9.5	7.8	9.5	7.5	8.3	6.9
27	8.2	5.5	---	---	10.2	8.4	9.9	8.0	8.9	6.8	8.0	6.7
28	8.5	6.0	---	---	9.8	8.2	10.0	7.8	8.6	6.6	8.8	5.5
29	8.6	5.4	---	---	9.4	7.6	9.8	7.7	8.6	6.4	8.7	5.5
30	9.5	6.9	---	---	9.8	7.9	9.9	7.7	---	---	---	---
31	10.1	7.6	---	---	9.2	8.2	9.7	7.5	---	---	---	---
MONTH	---	---	---	---	---	---	10.6	7.3	10.3	6.4	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	7.6	5.4	7.9	5.8	---	---	6.5	4.5	6.7	---
2	---	---	8.1	6.0	7.0	5.4	---	---	6.7	4.6	---	---
3	8.9	6.2	7.9	5.7	7.4	5.2	---	---	6.2	4.4	6.9	5.0
4	8.4	6.3	7.4	5.6	7.4	5.3	---	---	5.8	4.1	6.6	5.3
5	8.3	6.4	7.6	5.4	6.7	5.3	---	---	5.8	4.3	6.8	5.2
6	8.3	6.2	7.5	5.3	6.7	5.5	---	---	5.7	4.4	6.8	5.3
7	8.3	6.5	7.4	5.1	6.7	5.1	---	---	5.9	4.1	7.0	5.6
8	8.5	6.1	7.9	5.0	6.5	4.8	---	---	5.5	3.7	7.2	4.9
9	8.2	6.0	6.9	5.1	---	---	---	---	5.7	3.5	7.1	4.5
10	8.0	6.0	7.9	6.1	7.1	4.9	6.5	5.0	5.2	3.9	7.3	4.9
11	7.8	6.2	7.8	5.1	7.1	5.6	6.4	4.4	6.4	---	6.9	5.1
12	7.8	6.7	7.6	6.4	6.9	4.4	---	---	8.2	5.6	6.6	4.8
13	8.0	4.5	8.3	4.8	5.4	4.0	---	---	7.2	5.9	7.1	4.5
14	7.9	6.3	7.9	5.2	5.4	4.6	---	---	---	---	7.0	---
15	8.0	6.3	7.0	4.7	5.4	4.6	---	---	---	---	---	---
16	8.6	7.9	---	---	5.7	4.9	6.6	5.4	---	---	---	---
17	8.8	6.8	---	---	6.0	4.8	6.2	4.6	---	---	6.2	---
18	8.5	7.6	---	---	5.8	4.4	6.4	4.4	6.3	---	6.8	5.6
19	9.3	7.9	---	---	6.0	4.1	6.5	4.0	6.6	4.4	6.8	5.2
20	9.3	7.4	---	---	6.8	4.9	5.8	4.5	5.7	4.4	6.8	5.0
21	9.1	6.5	---	4.8	7.4	5.5	5.8	4.0	6.2	4.3	7.0	5.1
22	8.5	7.2	6.2	4.9	6.2	4.2	5.8	4.2	6.0	---	7.3	5.6
23	8.6	6.4	6.5	5.4	---	---	5.6	4.0	---	---	6.9	5.0
24	8.7	6.5	6.4	4.1	5.9	4.7	5.3	3.6	---	---	6.5	4.6
25	8.7	6.4	5.7	3.9	---	---	5.4	4.2	---	---	5.9	3.6
26	8.7	6.3	6.1	3.7	8.8	---	---	---	8.0	6.3	6.2	4.4
27	8.5	6.1	8.0	6.1	6.8	6.2	---	---	7.7	5.8	6.3	4.7
28	8.2	5.7	8.1	6.3	8.2	5.7	---	---	7.8	6.0	---	---
29	8.1	5.8	7.1	5.1	8.8	5.4	---	---	7.9	---	---	---
30	8.1	5.4	6.9	5.5	8.6	5.3	---	---	6.8	---	---	---
31	---	---	7.3	5.9	---	---	---	---	6.6	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN
07105820 CLOVER DITCH DRAIN NEAR WIDEFIELD

07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO

LOCATION.--Lat 38°41'04", long 104°41'17", in NW¹/4SE¹/4 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. Prior to Aug. 14, 1991, at site 110 ft upstream.

DRAINAGE AREA.--65.6 mi².

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,530 ft above National Geodetic Vertical Datum of 1929, from topographic map. January 1976 to Sept. 3, 1986 at datum 4.0 ft, higher. Prior to Aug. 14, 1991, at site 110 ft upstream, at same datum.

REMARKS.--Estimated daily discharges: Dec. 1-3, 12, 13, 26, 31, Jan. 6, 7, 12, 13, 15, 19, 23, Mar. 2-5, Apr. 10-14, and May 8-12. Records fair except for estimated daily discharges, and those above 50 ft³/s, which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	3.7	2.0	1.5	2.8	2.2	1.8	1.6	6.0	.83	2.0	.97
2	.77	2.9	2.2	1.2	2.7	2.0	1.8	1.7	5.4	1.1	1.6	.89
3	.75	2.9	2.0	1.3	2.9	2.0	1.8	1.6	3.4	.87	1.8	1.0
4	.81	2.8	1.9	1.2	2.3	3.0	1.8	1.7	2.1	.94	2.6	1.0
5	9.2	3.5	1.9	1.2	1.6	2.5	1.8	1.7	1.7	.99	2.2	.91
6	9.9	3.7	1.9	1.2	1.5	2.4	1.8	1.6	1.5	1.3	1.8	.84
7	.86	3.4	2.0	1.2	1.4	2.3	3.4	1.6	1.4	1.7	1.5	.77
8	.98	3.0	2.0	1.2	1.5	2.8	2.1	1.6	1.3	2.6	1.3	.86
9	1.1	2.9	1.9	1.1	1.5	2.4	1.9	1.6	2.2	1.6	1.7	.88
10	1.0	2.9	2.0	.95	1.5	2.0	2.0	1.5	2.4	1.7	2.8	.95
11	.92	2.9	2.1	1.3	1.6	2.0	1.8	1.5	2.1	1.6	2.3	.89
12	.89	2.8	2.1	1.6	1.7	2.1	1.6	1.6	1.9	2.3	2.3	.90
13	.89	2.9	2.1	1.7	1.5	2.0	1.5	1.8	1.8	1.7	2.3	.95
14	1.0	3.0	2.0	1.8	1.5	1.9	2.0	2.1	1.6	1.2	2.4	1.0
15	1.6	2.9	2.0	1.9	1.5	1.9	2.1	2.0	1.3	1.2	2.0	.94
16	2.5	3.3	2.0	1.9	1.5	2.0	2.3	1.9	1.2	1.1	1.8	.95
17	2.3	3.4	2.1	1.7	1.6	2.0	1.9	1.8	1.3	1.1	1.6	.93
18	2.5	3.4	2.1	1.8	1.5	2.0	1.7	1.8	1.4	1.1	2.4	.85
19	3.2	3.4	2.1	1.8	1.6	2.1	1.5	1.8	1.8	1.1	.76	.95
20	3.4	2.8	1.9	1.7	1.6	1.9	1.5	2.1	1.2	1.2	2.2	1.0
21	3.3	2.9	1.7	1.7	1.7	1.9	1.3	2.1	1.3	1.1	2.4	.82
22	2.7	2.8	1.8	1.7	1.7	2.1	1.0	1.9	1.1	.80	1.2	.77
23	2.6	2.4	1.5	1.8	1.8	2.1	1.4	1.8	.94	.73	.71	1.2
24	2.5	2.2	1.4	1.9	1.8	2.0	1.4	1.9	.87	.72	3.7	1.2
25	3.6	2.3	1.5	2.2	1.9	2.0	1.4	2.0	.82	.93	2.7	1.4
26	3.9	2.2	1.6	2.4	1.9	2.5	1.5	2.1	.99	1.3	3.1	2.1
27	4.1	2.1	1.7	2.4	2.0	1.9	1.4	2.6	1.1	1.5	2.4	1.9
28	4.8	2.3	1.6	2.8	2.1	2.0	1.4	2.7	1.2	2.0	1.3	1.7
29	5.1	2.1	1.4	3.0	2.0	1.8	1.5	3.0	1.3	2.4	1.0	1.6
30	4.7	1.9	1.5	3.1	---	1.7	1.6	3.7	.99	2.2	.96	1.5
31	4.0	---	1.6	2.8	---	1.8	---	4.4	---	2.1	1.0	---
TOTAL	86.77	85.7	57.6	55.05	52.2	65.3	52.0	62.8	53.61	43.01	59.83	32.62
MEAN	2.80	2.86	1.86	1.78	1.80	2.11	1.73	2.03	1.79	1.39	1.93	1.09
MAX	9.9	3.7	2.2	3.1	2.9	3.0	3.4	4.4	6.0	2.6	3.7	2.1
MIN	.75	1.9	1.4	.95	1.4	1.7	1.0	1.5	.82	.72	.71	.77
AC-FT	172	170	114	109	104	130	103	125	106	85	119	65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	2.06	2.35	1.71	1.72	1.66	1.84	1.62	2.07	2.04	3.31	4.91	1.64					
MAX	3.55	6.49	2.35	2.74	2.39	3.54	2.55	4.77	5.15	27.9	13.4	3.46					
(WY)	1985	1982	1982	1986	1977	1980	1977	1980	1982	1985	1984	1982					
MIN	1.20	1.58	.87	1.01	.79	1.05	.56	.91	.98	.96	.88	.68					
(WY)	1979	1984	1988	1988	1990	1990	1990	1986	1989	1989	1990	1990					

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1976 - 1992
ANNUAL TOTAL	671.08	706.49	
ANNUAL MEAN	1.84	1.93	2.23
HIGHEST ANNUAL MEAN			4.03
LOWEST ANNUAL MEAN			1.20
HIGHEST DAILY MEAN	19 Aug 4	9.9 Oct 6	700 Jul 28 1985
LOWEST DAILY MEAN	.38 Jun 18	.71 Aug 23	a .00 Apr 12 1990
ANNUAL SEVEN-DAY MINIMUM	.50 Jun 15	.87 Sep 6	.07 Apr 10 1990
INSTANTANEOUS PEAK FLOW		34 Jul 8	b 3600 Jul 28 1985
INSTANTANEOUS PEAK STAGE		5.94 Jul 8	c 6.25 Jul 28 1985
ANNUAL RUNOFF (AC-FT)	1330	1400	1610
10 PERCENT EXCEEDS	3.4	2.9	2.8
50 PERCENT EXCEEDS	1.4	1.8	1.7
90 PERCENT EXCEEDS	.73	.95	.89

a-From rating curve extended above 1300 ft³/s, on basis of slope-area measurement of peak flow.

b-From floodmark.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK, BELOW FOUNTAIN, CO

07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO

LOCATION.--Lat 38°42'27", long 104°50'46", in NW¹/₄NW¹/₄ 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 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to current year. Water-quality data available, May to September 1978.

REVISED RECORDS.--WDR CO-85-1: 1982.

GAGE.--Water-stage recorder. Elevation of gage is 6,390 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 30 to Dec. 2, 14, 27, 28, 30, Jan. 1-3, 8-11, 13, and Jan. 22, 23. Records fair except for estimated daily discharges, and those above 40 ft³/s, which are poor. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.7	.84	.55	.43	.56	3.1	5.0	3.9	.96	.43	3.8
2	1.3	1.8	.80	.55	.45	.56	3.1	4.8	3.6	.94	.36	3.0
3	1.1	1.6	.78	.55	.45	.59	3.1	4.3	3.4	.91	.67	2.3
4	1.2	1.6	.76	.55	.45	1.6	3.2	3.9	3.1	.84	.89	1.8
5	1.2	1.6	.76	.49	.55	1.4	3.6	3.9	2.8	.71	.62	1.6
6	1.2	1.7	.76	.49	.50	1.2	4.3	5.2	2.9	.66	.51	1.4
7	1.0	1.6	.79	.49	.57	1.2	4.9	3.5	3.3	.62	.44	1.2
8	.89	1.4	.82	.50	.51	1.3	5.6	2.9	2.7	.92	.41	1.2
9	.85	1.4	.82	.50	.48	1.4	5.8	2.7	3.5	.79	.38	.95
10	.80	1.7	.82	.50	.45	1.4	6.4	5.7	3.1	.61	.41	.84
11	.75	1.6	.79	.50	.44	1.5	7.4	3.4	2.8	.57	.42	.72
12	.73	1.4	.78	.50	.45	1.5	8.0	3.0	2.9	.53	.88	.60
13	.72	1.2	.76	.50	.45	1.5	9.0	3.7	2.7	.54	.79	.52
14	.66	1.0	.75	.56	.46	1.9	11	2.9	2.3	.55	.60	.51
15	.62	1.0	.75	.53	.49	2.7	16	2.9	2.0	.50	.45	.57
16	.61	1.0	.70	.48	.49	3.6	22	2.5	1.9	.57	.40	.42
17	.58	1.1	.66	.42	.48	3.8	23	2.3	1.8	.62	.56	.40
18	.55	1.3	.66	.41	.58	3.9	22	2.1	1.7	.56	.67	.37
19	.55	1.2	.66	.46	.62	3.6	19	2.0	1.7	.50	.50	.40
20	.53	1.2	.64	.40	.49	3.1	16	1.8	1.8	.55	.37	.49
21	.49	1.3	.61	.39	.46	3.1	14	1.7	2.8	.55	6.7	.48
22	.45	1.4	.63	.40	.44	3.0	12	1.7	2.1	.46	9.6	.39
23	.54	.96	.68	.40	.48	3.0	10	1.8	1.7	.44	4.1	.32
24	1.1	1.1	.73	.37	.50	3.0	9.1	1.7	1.6	.40	28	.28
25	1.3	1.0	.73	.38	.49	2.9	7.6	1.7	1.9	.60	25	.28
26	1.3	.94	.65	.37	.47	2.8	6.8	2.4	1.7	.73	19	.29
27	1.3	.91	.65	.37	.50	2.9	6.2	4.8	1.8	.57	19	.30
28	1.5	.91	.65	.43	.52	3.7	5.9	5.1	1.5	.46	16	.29
29	1.4	.87	.62	.43	.54	3.8	5.7	4.1	1.3	.42	11	.28
30	1.4	.86	.60	.41	---	3.1	5.4	3.5	1.1	.41	7.4	.27
31	1.9	---	.57	.41	---	3.2	---	3.6	---	.45	5.4	---
TOTAL	29.92	38.35	22.22	14.29	14.19	72.81	279.2	100.6	71.4	18.94	161.96	26.27
MEAN	.97	1.28	.72	.46	.49	2.35	9.31	3.25	2.38	.61	5.22	.88
MAX	1.9	1.8	.84	.56	.62	3.9	23	5.7	3.9	.96	.28	3.8
MIN	.45	.86	.57	.37	.43	.56	3.1	1.7	1.1	.40	.36	.27
AC-FT	59	76	44	28	28	144	554	200	142	38	321	52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1992, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	2.02	1.25	.54	.50	.51	1.05	4.45	8.48	3.68	2.09	3.22	1.45			
MAX	20.7	10.7	2.25	1.42	1.33	2.43	12.3	39.0	8.74	7.23	14.8	7.75			
(WY)	1985	1985	1985	1985	1985	1987	1985	1980	1983	1985	1982	1982			
MIN	.000	.028	.051	.073	.12	.29	.34	.56	.32	.010	.000	.000			
(WY)	1979	1979	1979	1979	1979	1981	1981	1981	1988	1978	1978	1978			

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1978 - 1992
ANNUAL TOTAL	679.69	850.15	
ANNUAL MEAN	1.86	2.32	2.50
HIGHEST ANNUAL MEAN			7.70
LOWEST ANNUAL MEAN			.36
HIGHEST DAILY MEAN	47 Sep 4	28 Aug 24	113 Oct 4 1984
LOWEST DAILY MEAN	.10 Jul 17	.27 Sep 30	a .00 Jul 6 1978
ANNUAL SEVEN-DAY MINIMUM	.25 Jul 12	.28 Sep 24	b .00 Jul 6 1978
INSTANTANEOUS PEAK FLOW		50 Aug 24	b 276 Jul 28 1982
INSTANTANEOUS PEAK STAGE		2.60 Aug 24	4.73 Jul 28 1982
ANNUAL RUNOFF (AC-FT)	1350	1690	1810
10 PERCENT EXCEEDS	4.3	5.0	5.9
50 PERCENT EXCEEDS	.79	.91	.67
90 PERCENT EXCEEDS	.34	.43	.12

a-No flow many days in most years.

b-From rating curve extended above 60 ft³/s.

07105950 ROCK CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°41'49", long 104°49'39", in SW¹/4SW¹/4 sec.31, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank at Fort Carson Girl Scout Camp, 0.2 mi downstream from bridge on State Highway 115 and 2.9 mi southwest of Fort Carson.

DRAINAGE AREA.--7.79 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to current year. Water quality data available, May 1978 to September 1981.

GAGE.--Water-stage recorder. Elevation of gage is 6,150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: June 21-24. Records fair except for discharges above 30 ft³/s, which are poor. Some diversions upstream from station for irrigation and other uses, amounts unknown. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.00	.00	.00	.00	.00	2.0	1.3	.05	.00	.00	.89
2	.07	.00	.00	.00	.00	.00	2.1	1.2	.05	.00	.00	.70
3	.05	.00	.00	.00	.00	.00	1.9	.99	.05	.00	.00	.54
4	.04	.00	.00	.00	.00	.00	2.0	.72	.04	.00	.00	.44
5	.02	.00	.00	.00	.00	.00	2.4	.60	.04	.00	.00	.37
6	.00	.00	.00	.00	.00	.00	3.4	.63	.05	.00	.00	.35
7	.00	.00	.00	.00	.00	.00	4.6	.48	.05	.00	.00	.33
8	.00	.00	.00	.00	.00	.00	5.6	.42	.06	.00	.00	.31
9	.00	.00	.00	.00	.00	.00	5.9	.39	.06	.00	.00	.25
10	.00	.00	.00	.00	.00	.00	5.4	.39	.06	.00	.00	.20
11	.00	.00	.00	.00	.00	.00	5.6	.34	.04	.00	.00	.16
12	.00	.00	.00	.00	.00	.00	6.3	.31	.03	.00	.00	.13
13	.00	.00	.00	.00	.00	.00	6.7	.29	.03	.00	.00	.10
14	.00	.00	.00	.00	.00	.00	7.6	.26	.02	.00	.00	.07
15	.00	.00	.00	.00	.00	.00	11	.22	.02	.00	.00	.06
16	.00	.00	.00	.00	.00	.00	19	.22	.01	.00	.00	.05
17	.00	.00	.00	.00	.00	.00	22	.21	.00	.00	.00	.04
18	.00	.00	.00	.00	.00	.39	22	.18	.00	.00	.00	.04
19	.00	.00	.00	.00	.00	.99	18	.15	.00	.00	.00	.04
20	.00	.00	.00	.00	.00	1.1	14	.12	.00	.00	.00	.03
21	.00	.00	.00	.00	.00	1.3	11	.10	.00	.00	.00	.03
22	.00	.00	.00	.00	.00	1.4	8.5	.09	.00	.00	.60	.03
23	.00	.00	.00	.00	.00	1.3	5.9	.08	.00	.00	.00	.02
24	.00	.00	.00	.00	.00	1.4	4.8	.07	.00	.00	8.7	.02
25	.00	.00	.00	.00	.00	1.4	4.1	.06	.00	.00	12	.02
26	.00	.00	.00	.00	.00	1.3	3.5	.06	.00	.00	7.8	.01
27	.00	.00	.00	.00	.00	1.4	3.4	.07	.00	.00	8.4	.00
28	.00	.00	.00	.00	.00	2.0	2.8	.07	.00	.00	5.4	.00
29	.00	.00	.00	.00	.00	2.1	1.9	.06	.00	.00	2.2	.00
30	.00	.00	.00	.00	---	1.9	1.6	.05	.00	.00	1.5	.00
31	.00	---	.00	.00	---	2.0	---	.05	---	.00	1.2	---
TOTAL	0.27	0.00	0.00	0.00	0.00	19.98	215.0	10.18	0.66	0.00	47.80	5.23
MEAN	.009	.000	.000	.000	.000	.64	7.17	.33	.022	.000	1.54	.17
MAX	.09	.00	.00	.00	.00	2.1	22	1.3	.06	.00	12	.89
MIN	.00	.00	.00	.00	.00	.00	1.6	.05	.00	.00	.00	.00
AC-FT	.5	.00	.00	.00	.00	.40	426	20	1.3	.00	95	10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
MEAN	1.43	.72	.12	.069	.052	.19	3.00	7.23	2.80	1.31	1.92	.80
MAX	18.6	9.66	1.43	.81	.67	1.28	10.0	42.8	10.7	6.57	15.4	6.75
(WY)	1985	1985	1985	1985	1985	1985	1985	1980	1982	1982	1982	1982
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1979	1979	1979	1979	1979	1979	1981	1989	1989	1988	1979	1980

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1979 - 1992

	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1979 - 1992
ANNUAL TOTAL	149.01	299.12	
ANNUAL MEAN	.41	.82	1.65
HIGHEST ANNUAL MEAN			6.24
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	27 Sep 4	22 Apr 17	122 May 8 1980
LOWEST DAILY MEAN	a .00 Jan 1	a .00 Oct 6	a .00 Oct 1 1978
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 6	.00 Oct 1 1978
INSTANTANEOUS PEAK FLOW		b 23 Apr 17	c 353 Jul 28 1982
INSTANTANEOUS PEAK STAGE		3.94 Apr 17	d 6.09 Jul 28 1982
ANNUAL RUNOFF (AC-FT)	296	593	1190
10 PERCENT EXCEEDS	.69	1.9	4.2
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

a-No flow most of time.

b-Also occurred Aug 24.

c-From rating curve extended above 50 ft³/s.

d-From floodmark.

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO

LOCATION (REVISED).--Lat 38°36'06", long 104°40'11", in SW¹/₄NE¹/₄ sec.4, T.17 S., R.65 W., El Paso County, Hydrologic Unit 11020003, at left upstream end of Old Pueblo Road bridge, 100 ft downstream from Denver & Rio Grande Railroad bridge, 0.90 mi downstream from Little Fountain Creek, and 5.6 mi south of Fountain.

DRAINAGE AREA.--681 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1938 to March 1, 1940 (monthly records only), March 2, 1940 to September 1954; July 2, 1985 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,355 ft above National Geodetic Vertical Datum of 1929, from topographic map. Sept. 18, 1938 to Mar. 1, 1940, nonrecording gage, and Mar. 2, 1940 to Sept. 30, 1954, recording gage, both at different datum and at site 200 ft downstream. July 2, 1985 to Sept. 2, 1987, recording gage at site 500 ft downstream, at different datum. Sept. 3, 1987 to Mar. 13, 1990, recording gage at site 1,100 ft upstream at different datums.

REMARKS.--Estimated daily discharges: Dec. 21-26, and Jan. 14-16. Records good except those above about 4,000 ft³/s, and estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, municipal use, and 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, but was probably exceeded by the flood of June 1965.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	80	102	101	117	118	161	86	226	122	24	146
2	61	82	107	93	119	121	167	78	191	113	25	112
3	64	86	101	98	113	118	175	87	175	123	31	79
4	65	106	103	102	109	506	177	107	166	106	52	75
5	60	134	114	105	101	257	172	82	155	92	25	72
6	67	127	105	103	107	231	176	74	155	77	30	64
7	67	134	91	103	107	216	168	72	159	65	30	58
8	54	129	101	92	107	480	189	67	141	55	24	57
9	36	124	81	95	110	263	191	66	179	44	39	51
10	38	147	82	97	112	168	200	95	139	42	111	50
11	39	131	78	101	109	202	226	98	131	37	91	55
12	36	130	100	106	116	178	244	64	126	49	149	50
13	40	128	89	94	122	183	226	146	124	58	189	49
14	42	132	76	93	124	189	216	87	108	48	48	69
15	37	141	82	93	120	187	246	94	110	27	56	161
16	26	170	82	94	120	186	515	79	111	33	45	95
17	26	221	79	106	121	180	320	66	104	50	55	74
18	36	184	74	101	116	181	262	82	103	36	42	48
19	34	187	77	98	113	177	241	60	115	18	43	40
20	33	147	83	104	118	175	186	53	211	25	31	117
21	45	159	76	108	114	169	153	65	233	33	38	52
22	57	128	78	112	116	190	146	86	145	31	165	44
23	59	105	78	105	123	166	140	93	135	35	82	40
24	72	108	79	118	127	157	128	94	173	38	1100	39
25	74	124	77	113	134	156	114	89	311	86	448	35
26	65	122	80	118	131	149	113	101	435	75	347	44
27	68	117	91	113	131	149	99	305	394	32	277	34
28	75	111	103	109	128	170	77	218	258	28	181	33
29	57	116	99	118	128	150	77	125	198	30	174	39
30	53	108	97	116	---	147	78	114	125	41	157	49
31	60	---	101	118	---	150	---	135	---	30	154	---
TOTAL	1627	3918	2766	3227	3413	6069	5583	3068	5336	1679	4263	1931
MEAN	52.5	131	89.2	104	118	196	186	99.0	178	54.2	138	64.4
MAX	81	221	114	118	134	506	515	305	435	123	1100	161
MIN	26	80	74	92	101	118	77	53	103	18	24	33
AC-FT	3230	7770	5490	6400	6770	12040	11070	6090	10580	3330	8460	3830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1992, BY WATER YEAR (WY)

	MEAN	41.6	58.7	48.2	49.1	54.3	63.2	88.6	150	101	76.6	103	39.0
MAX	117	137	155	117	139	199	590	736	329	306	476	146	
(WY)	1986	1986	1986	1988	1988	1987	1942	1947	1942	1947	1945	1985	
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1939 - 1992	
ANNUAL TOTAL	39361		42880			
ANNUAL MEAN	108		117		72.2	
HIGHEST ANNUAL MEAN					189	
LOWEST ANNUAL MEAN					10.3	
HIGHEST DAILY MEAN	1260		1100		2660	
LOWEST DAILY MEAN	26		18		.00	
ANNUAL SEVEN-DAY MINIMUM	33		30		.27	
INSTANTANEOUS PEAK FLOW			2850		C22100	
INSTANTANEOUS PEAK STAGE			7.34		d9.19	
ANNUAL RUNOFF (AC-FT)	78070		85050		52330	
10 PERCENT EXCEEDS	147		189		150	
50 PERCENT EXCEEDS	93		105		34	
90 PERCENT EXCEEDS	51		39		5.5	

a-Also occurred Oct 17.

b-Also occurred Sep 30, 1939.

c-From rating curve extended above 3000 ft³/s, on basis of slope-area measurement of peak flow.

d-At different datum.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO

07106300 FOUNTAIN CREEK NEAR PINON, CO

LOCATION.--Lat 38°26'50", long 104°35'28", in NE¹/4NE¹/4 sec.31, T.18 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, near left bank on downstream side of county road bridge, 1.2 mi northeast of Pinon, and 3.2 mi upstream from Steele Hollow Creek.

DRAINAGE AREA.--849 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CO-80-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,005 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 23, 1976, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good except for discharges above about 1,000 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions municipal use, diversions upstream from station for irrigation of about 10,000 acres and municipal use, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	102	114	106	112	130	158	66	227	120	27	102
2	47	118	113	103	115	132	152	60	192	103	26	76
3	40	115	122	107	112	129	155	64	126	121	30	54
4	44	141	126	112	111	474	151	93	177	107	59	50
5	58	159	142	113	114	316	152	79	146	96	33	37
6	54	147	133	111	112	246	153	69	145	79	16	30
7	59	137	114	109	114	276	150	61	154	68	16	26
8	46	146	126	96	114	409	155	47	143	58	11	31
9	34	145	111	93	121	459	161	48	166	46	11	26
10	23	161	109	98	122	218	167	58	145	30	24	12
11	19	151	116	102	123	215	176	107	134	18	88	15
12	9.6	152	127	104	123	196	195	46	127	16	37	11
13	9.3	152	125	93	124	194	182	106	129	30	225	9.3
14	16	159	94	90	126	194	166	56	109	33	71	7.3
15	18	170	95	87	124	188	187	53	87	20	41	81
16	18	190	105	89	122	187	419	45	81	19	31	63
17	22	231	99	98	124	179	376	34	70	33	31	53
18	26	222	87	94	120	181	294	31	68	36	33	37
19	35	197	90	88	117	185	286	22	66	25	43	15
20	40	171	95	92	124	169	230	17	153	19	28	85
21	50	155	82	101	127	156	177	25	193	24	20	61
22	55	149	83	102	127	177	161	30	157	14	97	38
23	48	124	83	89	132	165	153	41	101	16	38	26
24	53	123	81	103	128	151	133	49	118	21	664	21
25	59	134	80	105	128	149	114	48	152	17	542	19
26	60	134	80	111	126	147	112	47	273	109	244	25
27	60	148	91	111	128	147	105	189	467	47	273	26
28	72	124	112	105	131	168	67	267	165	20	135	24
29	82	130	114	109	130	160	66	139	271	12	115	32
30	80	118	106	108	---	162	65	101	130	25	103	31
31	97	---	107	111	---	162	---	96	---	27	105	---
TOTAL	1402.9	4505	3262	3140	3531	6421	5218	2194	4672	1409	3217	1123.6
MEAN	45.3	150	105	101	122	207	174	70.8	156	45.5	104	37.5
MAX	97	231	142	113	132	474	419	267	467	121	664	102
MIN	9.3	102	80	87	111	129	65	17	66	12	11	7.3
AC-FT	2780	8940	6470	6230	7000	12740	10350	4350	9270	2790	6380	2230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1992, BY WATER YEAR (WY)

	MEAN	60.7	76.4	75.6	84.5	90.5	98.6	103	221	121	79.2	121	50.4
MAX	457	289	155	158	141	207	299	1349	385	365	385	205	
(WY)	1985	1985	1985	1985	1985	1992	1985	1980	1983	1985	1982	1982	
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1973 - 1992

ANNUAL TOTAL	35715.3	40095.5	96.4	
ANNUAL MEAN	97.9	110	261	1985
HIGHEST ANNUAL MEAN			29.4	1978
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	1200	Jun 6	4140	May 8 1980
LOWEST DAILY MEAN	5.6	Jul 16	a.00	Jul 6 1973
ANNUAL SEVEN-DAY MINIMUM	16	Oct 11	.00	Aug 18 1973
INSTANTANEOUS PEAK FLOW		1950	b.10200	May 8 1980
INSTANTANEOUS PEAK STAGE		3.72	7.05	May 8 1980
ANNUAL RUNOFF (AC-FT)	70840	79530	69840	
10 PERCENT EXCEEDS	152	187	192	
50 PERCENT EXCEEDS	92	105	64	
90 PERCENT EXCEEDS	25	24	.30	

a-No flow at times most years.

b-From rating curve extended above 7300 ft³/s.

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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
DEC 13...	1215	123	1180	8.2	3.0	10.7	--	K250	360	79	24
MAR 27...	1230	153	1010	8.2	12.0	8.3	6.9	K40	K47	81	24
JUN 05...	1225	160	875	8.2	21.0	7.0	5.2	320	330	70	21
SEP 18...	1110	39	1210	8.3	16.5	7.7	2.0	970	220	97	29

DATE	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)
DEC 13...	161	270	96	1.5	445	0.06	4.3	1.0	2.2	1.0
MAR 27...	146	270	50	1.9	98	0.11	6.1	0.21	1.0	1.6
JUN 05...	140	240	40	1.9	244	0.05	4.9	0.03	1.1	1.3
SEP 18...	201	330	51	1.8	70	0.02	3.4	<0.01	0.40	0.91

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
DEC 13...	<1	<1	10	<1	<1	14	2	12000	24
MAR 27...	<1	<1	3	<1	<1	9	2	5000	11
JUN 05...	<1	<1	3	<1	<1	10	2	6100	8
SEP 18...	<1	<1	3	<1	<1	4	2	2000	<3

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 13...	23	<1	340	23	11	4	90	18
MAR 27...	7	<1	170	8	7	2	50	16
JUN 05...	13	<1	240	5	6	2	60	5
SEP 18...	11	<1	90	14	5	3	30	6

K-Based on non-ideal colony counts.

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY RECORDS

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
OCT 1991					MAY 1992				
08...	0900	47	1140	9.5	14...	1315	62	1000	24.5
10...	1145	24	1240	17.0	18...	1600	32	--	27.5
25...	1305	65	1200	12.5	29...	0925	163	882	10.0
NOV					JUN				
07...	1520	136	1070	10.0	02...	1220	199	--	18.0
21...	1135	179	1030	6.0	09...	1050	174	890	15.5
26...	1035	148	1070	4.5	15...	1040	101	1020	18.0
DEC					23...	1445	94	930	28.5
12...	1210	149	1090	4.5	30...	1220	151	863	24.5
23...	1425	93	1170	4.5	JUL				
JAN 1992					09...	1005	53	1070	19.0
03...	1155	121	1100	1.5	15...	0910	25	1190	18.5
21...	1330	111	--	5.5	29...	1425	13	1230	26.0
FEB					AUG				
24...	1500	122	1070	10.0	12...	1530	35	1150	24.0
MAR					18...	1440	32	1190	28.5
05...	1630	229	873	11.0	25...	1430	373	668	18.0
10...	1230	204	970	6.5	28...	0955	169	981	15.0
APR					31...	1000	133	1030	18.0
13...	1315	192	--	16.0	SEP				
16...	1345	380	545	15.0	04...	1550	52	1160	21.0
28...	1250	74	965	20.0	09...	1200	35	1200	20.5
MAY					16...	1030	75	1080	17.0
06...	1455	64	1000	24.5	22...	0940	41	1180	13.0
					30...	1210	35	1260	18.5

07106500 FOUNTAIN CREEK AT PUEBLO, CO

LOCATION.--Lat 38°17'16", long 104°36'02", in SE¹/4SW¹/4 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 mi².

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. Elevation of gage is 4,705 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1940, and WSP 1921 for changes prior 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, National Geodetic Vertical Datum of 1929 (unadjusted).

REMARKS.--Estimated daily discharges: Dec. 31 to Jan. 2, Jan. 11-12, 14-15, 18-19. Records good except for Jan. 25 to Feb. 21, those above 400 ft³/s, and estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions for municipal use, diversions for irrigation of about 14,000 acres upstream from station and municipal use, 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 ft³/s, by slope-area measurement. Flood of May 30, 1935, reached a discharge of 35,000 ft³/s, by slope-area measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	125	117	105	129	137	153	68	164	124	19	123
2	48	135	138	110	137	136	144	67	215	94	19	95
3	26	152	136	118	135	134	151	65	116	114	18	75
4	31	156	125	127	131	510	158	77	158	106	25	63
5	55	161	139	131	128	414	147	86	135	99	30	54
6	57	186	140	131	122	208	142	67	134	90	22	49
7	78	174	125	129	130	202	145	65	150	76	18	50
8	60	186	131	107	125	202	143	55	149	63	12	48
9	48	178	114	91	128	607	151	47	161	53	8.0	39
10	29	184	105	99	135	243	156	45	167	46	11	31
11	21	209	101	110	139	244	169	104	133	39	67	28
12	19	191	116	115	141	222	199	62	122	30	46	25
13	15	182	136	111	138	213	182	87	121	55	197	19
14	19	175	85	105	142	203	160	73	99	54	75	19
15	22	181	81	105	145	194	188	54	91	28	44	67
16	28	230	98	106	144	198	416	44	85	24	34	75
17	30	334	104	129	139	201	385	33	79	32	34	49
18	30	362	94	115	129	195	263	32	82	48	34	30
19	40	293	92	115	124	205	258	29	80	39	35	25
20	41	257	106	139	142	188	239	19	162	27	35	62
21	46	170	95	134	142	165	188	19	197	20	23	67
22	57	175	97	128	141	199	176	19	175	16	72	44
23	58	132	90	112	146	177	168	19	105	13	66	31
24	56	119	85	114	141	160	141	24	115	13	673	25
25	76	135	83	116	133	156	126	27	138	13	908	25
26	87	135	79	118	132	159	118	34	372	110	321	28
27	86	132	88	112	127	152	127	142	673	69	332	28
28	78	125	101	118	120	187	96	245	187	33	160	31
29	92	135	117	117	131	183	82	98	323	14	130	35
30	95	124	108	124	---	163	74	73	136	13	124	33
31	116	---	105	127	---	164	---	73	---	16	132	---
TOTAL	1620	5433	3331	3618	3896	6721	5245	1952	5024	1571	3724.0	1373
MEAN	52.3	181	107	117	134	217	175	63.0	167	50.7	120	45.8
MAX	116	362	140	139	146	607	416	245	673	124	908	123
MIN	15	119	79	91	120	134	74	19	79	13	8.0	19
AC-FT	3210	10780	6610	7180	7730	13330	10400	3870	9970	3120	7390	2720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1992, BY WATER YEAR (WY)

	MEAN	42.0	53.9	54.1	56.7	61.3	58.5	70.6	153	105	64.9	111	35.8
MAX	513	303	193	185	174	217	564	970	859	388	650	241	
(WY)	1985	1985	1985	1985	1985	1992	1942	1980	1965	1923	1965	1982	
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1922 - 1992

ANNUAL TOTAL	39870.9	43508.0	
ANNUAL MEAN	109	119	73.8
HIGHEST ANNUAL MEAN			276
LOWEST ANNUAL MEAN			4.42
HIGHEST DAILY MEAN	1050	Aug 3	908
LOWEST DAILY MEAN	8.9	Jul 16	8.0
ANNUAL SEVEN-DAY MINIMUM	22	Oct 10	18
INSTANTANEOUS PEAK FLOW			2440
INSTANTANEOUS PEAK STAGE			5.97
ANNUAL RUNOFF (AC-FT)	79080	86300	53440
10 PERCENT EXCEEDS	179	197	156
50 PERCENT EXCEEDS	95	114	27
90 PERCENT EXCEEDS	30	27	1.0

a-No flow at times many years.

b-Site and datum then in use, from rating curve extended above 400 ft³/s, on basis of contracted-opening measurement of peak flow.

c-From floodmarks.

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 since December 1985.

REMARKS.--Records for daily specific conductance and water temperature are fair. Daily data that are not published are either missing or of unacceptable quality. Daily maximum and minimum specific conductance and daily mean water temperature data are available in district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,460 microsiemens, July 7, 1989; minimum, 203 microsiemens, June 6, 1991.

WATER TEMPERATURE: Maximum, 33.1°C, July 17, 1991; minimum, 0.0°C, many days during the winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,460 microsiemens, Sept. 19; minimum recorded, 340 microsiemens, May 28, may have been lower during period of missing record Apr. 17-19.

WATER TEMPERATURE: Maximum, 31.4°C, July 6; minimum, 0.0°C, many days during winter.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1300	1210	1130	1220	1170	1040	1200	1000	1040	1530	1110
2	1350	1260	1220	---	1230	1160	1020	1180	877	1110	1550	1170
3	1410	1320	1210	1170	1240	1160	1010	1200	1010	1070	1560	1250
4	1400	1240	1220	1110	1210	997	1010	1160	980	1090	1460	1280
5	1340	1270	1190	1120	1180	815	1010	1130	1010	1110	1480	1340
6	1360	1210	1200	1140	1190	1060	1010	1180	1010	1160	1620	1360
7	1340	1200	1230	1180	1130	1100	998	1200	1010	1190	1730	---
8	1330	1190	1270	1230	1160	1110	1000	1210	994	1240	1790	1460
9	1320	1200	1280	1200	1130	684	982	1250	1000	1290	---	1470
10	1380	1190	1330	1180	1180	979	979	1290	993	1370	---	1500
11	1390	1150	1240	1160	1210	1060	968	1100	1050	1450	1290	1420
12	1400	1180	1220	1160	1230	1070	898	1160	1080	1470	1390	1480
13	1430	1200	1250	1170	1260	1090	878	1120	---	1530	977	1510
14	1450	1200	1280	1080	1210	1090	874	1130	---	1440	1100	1410
15	1400	1200	1290	1180	1250	1090	833	1230	---	1440	1270	1230
16	1380	1150	1300	---	1270	1070	533	1280	---	---	---	1230
17	1370	1080	1300	1160	1340	1090	---	1350	---	---	1460	1330
18	1350	1060	1280	1160	1310	1070	---	1430	1210	1160	1410	1400
19	1330	1090	1280	1150	1220	1060	---	1480	1210	---	1440	1620
20	1340	1110	1240	1160	1180	1070	823	1520	1110	1550	1490	1420
21	1340	1180	---	1160	1200	1080	876	1520	963	1630	1550	1270
22	1280	1150	---	---	1220	1060	933	1500	967	1570	1330	1480
23	1320	1190	---	---	1170	1060	989	1440	1090	1710	1150	1650
24	1340	1230	---	---	1170	1090	1020	1410	1040	1590	1060	1720
25	1270	1230	---	---	1180	1090	1030	1370	944	1610	643	1740
26	1260	1200	1280	---	1190	1090	1080	1340	611	1210	966	1710
27	1290	1200	1250	---	1180	1100	1080	1050	515	1260	902	1680
28	1310	1210	1190	---	1180	1070	1100	647	519	1450	1080	1620
29	1320	1190	1110	1190	1180	1020	1110	978	---	1600	1150	1550
30	1340	1180	1120	1200	---	1030	1140	1090	---	1640	1150	1530
31	1320	---	1120	1220	---	1020	---	1100	---	1540	1110	---
MEAN	1340	1190	---	---	1210	1050	---	1230	---	---	---	---

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.3	9.6	6.7	.0	2.6	.0	---	.3	8.5	.5	13.1	2.6
2	23.4	10.1	1.9	.0	1.2	.0	4.9	.0	8.6	1.4	14.9	3.8
3	22.9	9.6	.9	.0	1.8	.0	3.5	.0	4.7	2.7	12.0	4.3
4	12.5	5.9	6.2	.1	3.6	.0	6.4	.0	6.2	1.3	10.5	6.0
5	18.2	6.0	9.7	2.2	4.7	.1	5.8	.0	7.1	.0	10.5	4.1
6	17.6	5.7	11.3	3.7	6.9	.3	6.0	.0	7.9	.0	13.7	4.3
7	20.9	6.5	10.3	4.4	7.9	.4	3.3	.0	7.2	.0	13.8	4.9
8	22.0	8.3	10.7	2.6	7.6	1.5	4.5	.0	6.8	.0	13.1	5.3
9	21.5	10.1	13.3	3.6	6.9	.5	3.6	.0	7.9	.0	7.0	2.5
10	22.4	8.6	10.4	7.1	3.9	.0	4.7	.0	8.1	.0	9.9	.8
11	21.8	9.1	10.0	5.1	2.4	.0	4.5	.0	9.5	.2	12.0	.0
12	21.5	9.1	11.3	2.3	4.3	.0	3.4	.0	11.3	3.6	12.3	2.7
13	19.1	10.8	11.2	2.4	3.6	.0	3.0	.0	6.5	1.3	15.4	3.4
14	18.7	9.0	10.3	3.7	3.0	.0	2.7	.0	10.5	.0	16.1	4.8
15	19.9	7.8	5.3	.0	3.2	.0	.0	.0	9.7	.0	14.9	5.4
16	20.7	7.5	2.7	.0	6.1	.0	2.6	.0	3.8	.0	15.7	4.9
17	21.5	8.3	7.2	.0	3.2	.0	1.7	.0	8.0	.7	14.2	5.6
18	17.7	8.2	2.0	.0	3.3	.0	4.3	.0	8.3	.0	12.3	5.4
19	16.6	6.4	3.8	.0	6.1	2.0	3.8	.0	8.5	.0	13.9	5.9
20	15.5	8.0	6.9	.4	4.3	1.1	5.2	.0	9.8	.0	14.2	3.4
21	17.9	5.8	9.3	2.3	6.5	.0	6.1	.0	11.9	2.6	14.0	4.1
22	18.3	8.1	5.9	2.1	3.3	1.8	5.3	.0	9.6	1.1	7.9	4.5
23	17.1	6.8	4.9	.0	5.4	.0	5.0	.0	9.0	2.2	14.2	2.4
24	9.1	.0	4.7	.0	4.8	.0	8.0	.0	10.4	.0	13.6	4.9
25	15.2	.0	7.1	.7	5.1	.0	7.3	.0	8.7	.0	16.7	3.6
26	15.3	4.7	9.6	2.3	5.3	.0	7.3	.0	7.8	.0	15.8	5.8
27	16.4	6.0	8.5	1.2	3.8	.0	6.5	.0	13.3	3.8	13.6	5.9
28	8.6	2.0	6.0	1.2	2.5	.0	7.7	.0	14.4	2.3	10.2	7.2
29	6.4	.0	4.4	.0	4.4	.0	8.4	.0	14.5	2.5	15.0	5.5
30	4.5	.0	1.7	.0	3.0	.0	8.5	.0	---	---	16.8	5.1
31	4.4	.0	---	---	4.4	.0	9.7	.0	---	---	9.5	5.7
MONTH	23.4	.0	13.3	.0	7.9	.0	---	.0	14.5	.0	16.8	.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.7	4.1	26.5	11.3	12.1	9.1	27.4	15.9	29.3	14.9	24.0	14.1
2	13.0	4.0	23.5	11.7	17.0	8.0	27.6	16.1	30.0	15.7	25.6	13.6
3	18.3	3.2	24.1	11.2	23.3	12.7	27.8	16.2	27.8	15.9	26.0	13.3
4	18.9	7.3	25.3	10.9	24.1	11.7	27.7	16.2	29.3	16.1	21.4	14.8
5	19.2	7.4	25.0	10.9	24.4	13.5	29.0	15.5	28.6	15.8	24.2	12.5
6	19.0	7.8	25.9	11.3	---	11.2	31.4	18.5	24.8	17.8	25.1	12.4
7	18.7	8.6	24.8	11.7	24.2	10.2	28.2	17.3	26.9	15.8	24.6	12.5
8	19.8	7.6	17.1	13.4	21.8	12.9	24.8	17.7	24.1	17.7	25.9	14.2
9	20.5	9.0	17.1	15.2	18.4	10.3	26.7	18.9	20.5	17.1	24.4	13.4
10	19.6	9.1	15.4	13.6	25.1	10.8	25.5	16.3	22.2	18.5	24.3	12.4
11	18.8	9.1	23.7	8.4	25.3	8.1	27.9	16.7	28.4	15.6	25.7	12.1
12	14.8	10.2	22.2	11.3	---	11.5	23.7	16.7	26.3	15.6	26.3	14.0
13	20.6	8.2	25.0	12.3	---	---	28.5	16.1	20.8	17.0	25.7	14.2
14	19.1	11.2	27.1	11.9	---	---	28.1	15.9	27.1	17.1	25.9	14.0
15	19.3	10.1	27.6	11.8	---	---	---	16.9	29.4	15.8	24.9	15.4
16	17.7	11.3	27.1	11.8	---	---	26.4	16.9	25.0	16.4	25.9	14.7
17	17.1	9.0	25.2	12.5	---	---	26.0	16.0	26.9	17.0	24.8	14.0
18	13.7	9.0	27.0	11.1	28.0	---	28.9	14.8	27.8	15.7	20.0	14.0
19	11.2	6.8	26.4	12.6	28.0	14.6	28.6	14.4	28.8	15.8	18.9	14.4
20	16.4	6.7	25.1	13.8	24.3	14.6	27.7	15.8	29.8	15.9	21.1	13.1
21	18.9	7.0	21.1	14.3	24.1	15.0	29.0	17.1	29.3	16.9	19.6	11.7
22	18.4	8.2	17.5	14.1	27.4	13.8	18.3	15.2	28.0	16.7	23.5	10.8
23	18.9	8.5	19.9	12.7	29.7	16.4	20.0	17.2	26.0	17.4	24.7	11.7
24	19.4	8.2	25.8	13.2	26.8	16.8	27.9	16.5	18.3	15.6	25.2	12.2
25	20.1	5.2	16.0	12.5	25.3	15.6	22.2	19.4	19.1	14.6	19.4	12.1
26	20.7	6.4	24.1	10.5	25.2	15.7	28.2	18.1	21.8	14.8	21.7	9.1
27	22.3	5.6	14.6	9.9	18.6	14.8	29.9	16.6	21.9	13.4	22.9	8.6
28	24.5	10.1	14.7	8.7	22.9	14.5	29.2	16.1	24.9	13.0	21.4	10.1
29	25.3	10.4	20.5	10.1	25.9	16.1	27.9	17.2	23.6	13.5	23.2	9.2
30	24.6	11.1	19.8	7.5	28.4	16.9	27.4	15.8	23.6	12.1	23.3	10.1
31	---	---	20.7	8.8	---	---	29.2	16.5	24.5	14.4	---	---
MONTH	25.3	3.2	27.6	7.5	---	---	---	14.4	30.0	12.1	26.3	8.6

07108900 ST. CHARLES RIVER AT VINELAND, CO

LOCATION.--Lat 38°14'44", long 104°29'09", in NE¹/4SW¹/4 sec.6, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank at right downstream end of downstream bridge on U.S. Highway 50C, 1.6 mi west of Vineland, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--474 mi².

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

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,581.58 ft above National Geodetic Vertical Datum of 1929, (Colorado Division of Highways benchmark).

REMARKS.--Estimated daily discharge: Nov. 3. Records fair except those above 1,000 ft³/s, which are poor. Natural flow of stream affected by diversions upstream from station for irrigation of about 8,500 acres, and for industrial uses, and return flow from land irrigated by Bessemer Ditch. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1901, 56,000 ft³/s, at site 5.0 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	12	10	14	13	9.7	8.4	14	46	12	17	121
2	8.1	11	11	11	12	9.8	10	23	45	9.3	9.4	106
3	9.3	12	10	11	12	10	11	27	36	7.1	7.8	93
4	9.0	12	9.1	15	12	13	7.7	24	39	5.0	8.2	53
5	8.8	12	10	16	15	15	6.5	17	47	4.6	9.0	45
6	8.1	12	13	15	16	14	6.5	21	38	3.9	9.8	43
7	9.1	11	12	15	13	12	6.4	25	156	3.7	9.6	39
8	8.7	11	12	14	11	12	5.8	27	37	4.1	9.8	35
9	8.6	11	11	12	12	12	6.6	30	39	3.3	9.1	35
10	8.1	9.9	11	11	12	12	7.8	30	111	6.2	9.3	35
11	8.0	10	12	12	12	12	12	38	89	38	12	37
12	7.5	10	13	15	12	12	15	34	97	5.7	19	30
13	7.7	9.5	12	13	12	11	16	38	103	6.1	23	23
14	8.0	9.5	11	11	12	11	73	36	80	487	27	21
15	8.0	9.7	11	10	13	26	84	36	62	19	43	20
16	6.9	13	11	12	13	18	92	34	27	11	32	20
17	7.7	14	11	12	13	8.9	133	34	13	9.8	18	20
18	8.2	13	12	13	10	8.5	115	35	10	11	138	20
19	8.7	15	13	11	9.5	8.7	125	65	10	11	76	18
20	8.4	13	14	12	9.2	8.2	111	21	12	11	53	21
21	8.4	13	14	12	10	7.1	98	15	208	72	26	11
22	8.6	12	16	12	14	7.7	90	13	19	32	14	9.8
23	8.9	11	16	12	13	8.5	87	13	13	47	9.1	9.7
24	9.0	10	14	14	13	9.1	45	18	19	14	65	8.2
25	9.5	10	13	14	13	7.6	22	18	11	12	466	8.3
26	9.8	12	13	14	11	6.8	17	19	11	13	304	7.8
27	9.7	11	12	14	10	5.7	17	18	197	18	607	8.0
28	10	10	12	13	11	6.7	17	29	22	18	195	9.0
29	9.6	11	13	13	10	7.1	17	43	23	12	159	9.6
30	11	10	13	13	---	6.9	15	40	16	11	130	9.4
31	12	---	15	13	---	8.0	---	33	---	8.2	124	---
TOTAL	271.0	340.6	380.1	399	348.7	325.0	1277.7	868	1636	926.0	2639.1	925.8
MEAN	8.74	11.4	12.3	12.9	12.0	10.5	42.6	28.0	54.5	29.9	85.1	30.9
MAX	12	15	16	16	16	26	133	65	208	487	607	121
MIN	6.9	9.5	9.1	10	9.2	5.7	5.8	13	10	3.3	7.8	7.8
AC-FT	538	676	754	791	692	645	2530	1720	3250	1840	5230	1840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	14.1	14.0	12.3	12.3	13.3	19.3	59.0	126	78.3	35.2	56.4	22.6		
MAX	39.5	31.8	22.4	16.6	22.5	45.3	306	484	358	84.0	207	120		
(WY)	1983	1983	1983	1984	1987	1987	1987	1980	1983	1982	1982	1982		
MIN	3.50	5.59	6.81	6.75	7.89	7.25	5.02	6.06	8.79	7.60	10.2	6.36		
(WY)	1979	1979	1981	1981	1990	1981	1981	1991	1990	1981	1989	1980		

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1979 - 1992

ANNUAL TOTAL	6460.8	10337.0		
ANNUAL MEAN	17.7	28.2		
HIGHEST ANNUAL MEAN			38.7	
LOWEST ANNUAL MEAN			88.4	1987
HIGHEST DAILY MEAN	510	Aug 4	607	Aug 27
LOWEST DAILY MEAN	4.1	Apr 17	3.3	Jul 9
ANNUAL SEVEN-DAY MINIMUM	4.6	Apr 15	4.4	Jul 4
INSTANTANEOUS PEAK FLOW			a3810	Jul 14
INSTANTANEOUS PEAK STAGE			b8.94	Jul 14
ANNUAL RUNOFF (AC-FT)	12810	20500		
10 PERCENT EXCEEDS	24	53		
50 PERCENT EXCEEDS	9.8	12		
90 PERCENT EXCEEDS	5.4	8.0		

a-From rating curve extended above 1,800 ft³/s.

b-From crest-stage gage reading.

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

LOCATION.--Lat 38°14'53", long 104°23'55", in NE¹/4SW¹/4 sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank 15 ft downstream from bridge on Sixmile Road, 0.3 mi upstream from Sixmile Creek, and 2.6 mi west of Avondale.

DRAINAGE AREA.--6,327 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to September 1951, February 1965 to current year. Statistical summary computed for 1975 to current year.

REVISED RECORDS.--WSP 1087: 1942. WSP 1311: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,509.53 ft above National Geodetic Vertical Datum of 1929. Prior to January 21, 1965, at site 550 ft downstream at datum 1.37 ft lower. January 21, 1965 to September 30, 1991, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: July 21-23 and Aug. 23. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	349	459	341	323	425	357	765	866	1550	1630	967	970
2	340	537	339	323	426	359	765	867	1600	1490	995	1080
3	311	534	343	319	438	414	740	877	1550	1480	1150	1050
4	299	550	345	330	424	550	740	884	1580	1350	1210	907
5	323	644	356	330	400	894	736	992	1530	1260	1170	774
6	330	697	360	331	425	582	724	1020	1390	1310	1050	752
7	386	718	341	332	432	530	655	1140	1360	1130	971	751
8	377	688	324	335	423	512	621	1190	1310	1040	910	1060
9	328	647	330	375	422	818	597	1220	1440	1210	745	1120
10	372	645	304	384	428	640	588	1060	1640	1690	750	1020
11	359	667	297	380	427	595	573	1150	1610	1840	997	951
12	321	629	321	382	438	575	601	1130	1580	1820	1020	908
13	306	552	341	368	438	565	618	900	1620	1800	1150	901
14	311	520	308	364	433	563	701	859	1690	2040	983	599
15	324	374	287	368	434	538	786	806	1690	1490	864	534
16	367	400	294	373	430	528	1040	807	1730	1260	791	1010
17	420	451	302	374	435	509	1230	826	1760	1210	733	998
18	402	476	288	381	439	530	1210	850	1690	984	1340	966
19	372	548	296	369	431	580	1150	1060	1480	826	1030	954
20	350	459	310	362	440	603	1140	1200	1350	803	951	969
21	308	393	308	374	433	619	1140	1350	1470	780	820	952
22	282	404	317	379	391	639	1100	1580	1320	750	757	521
23	264	372	320	377	388	654	1050	1810	1350	733	840	489
24	292	345	303	377	388	685	957	1920	1560	661	1260	479
25	339	346	289	378	378	657	871	1910	1740	802	2630	470
26	352	357	291	378	391	653	848	1870	1990	964	2490	466
27	346	358	294	385	405	649	842	1810	2430	993	2080	463
28	325	353	304	383	396	645	795	1910	2170	1040	1450	440
29	341	368	318	371	362	663	786	1760	2160	1050	1160	419
30	357	369	328	380	---	654	870	1590	1910	1050	925	380
31	391	---	328	420	---	697	---	1420	---	996	865	---
TOTAL	10544	14860	9827	11305	12120	18457	25239	38634	49250	37482	35054	23353
MEAN	340	495	317	365	418	595	841	1246	1642	1209	1131	778
MAX	420	718	360	420	440	894	1230	1920	2430	2040	2630	1120
MIN	264	345	287	319	362	357	573	806	1310	661	733	380
AC-FT	20910	29470	19490	22420	24040	36610	50060	76630	97690	74350	69530	46320

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	MEAN	524	442	333	381	431	508	787	1488	2557	1867	1316	616
MAX	1631	985	718	770	1103	994	1884	4170	4397	3771	3210	1511	
(WY)	1985	1985	1987	1985	1985	1985	1987	1980	1980	1983	1984	1982	
MIN	187	170	197	190	223	219	220	517	638	562	423	200	
(WY)	1979	1979	1979	1979	1979	1978	1978	1977	1977	1977	1977	1977	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1975 - 1992
ANNUAL TOTAL	287143	286125	
ANNUAL MEAN	787	782	^a 940
HIGHEST ANNUAL MEAN			1626
LOWEST ANNUAL MEAN			411
HIGHEST DAILY MEAN	3300	Jun 14	^b 6880
LOWEST DAILY MEAN	222	Apr 23	^c 90
ANNUAL SEVEN-DAY MINIMUM	258	Apr 21	118
INSTANTANEOUS PEAK FLOW			^d 15400
INSTANTANEOUS PEAK STAGE		4.48 Jul 14	8.93 Jul 30 1978
ANNUAL RUNOFF (AC-FT)	569500	567500	680600
10 PERCENT EXCEEDS	1900	1550	2190
50 PERCENT EXCEEDS	459	644	560
90 PERCENT EXCEEDS	306	328	257

a-Average discharge for 20 years (water years 1940-51, 1966-73), 867 ft³/s; 628100 acre-ft/yr, prior to completion of Pueblo Reservoir.

b-Maximum daily discharge for period of record, 12100 ft³/s, Apr 24, 1942.

c-Minimum daily discharge for period of record, 50 ft³/s, Apr 2, 1940.

d-Maximum discharge and stage for period of record, about 50000 ft³/s, Jun 18, 1965, gage height, 9.77 ft, from rating curve extended above 6700 ft³/s, on basis of records for station near Pueblo and indirect measurements of peak flow on Fountain Creek at Pueblo, Chico Creek near North Avondale, and Arkansas River near North Avondale.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

07116500 HUEFANO RIVER NEAR BOONE, CO

LOCATION.--Lat 38°13'30", long 104°15'37", in NE¹/4NE¹/4 sec.18, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020006, at right upstream end of bridge on U.S. Highway 50, 0.8 mi upstream from mouth, and 1.6 mi south of Boone.

DRAINAGE AREA.--1,875 mi².

PERIOD OF RECORD.--January 1922 to September 1925 (monthly and annual discharge only, published in WSP 1311 as near Nepesta), October 1979 to current year.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gages. Datum of gage is 4,443.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 9, Nov. 19 to Dec. 24, Jan. 9 to Feb. 9, May 19, 20, and Sept. 4-13. Records 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	11	12	10	7.0	4.7	4.7	1.9	3.2	8.3	16	91
2	.00	9.2	14	12	5.8	5.7	4.1	1.3	14	5.5	.04	23
3	.00	7.0	15	13	5.4	5.4	5.3	1.7	2.6	4.2	.04	9.9
4	.00	8.0	16	19	5.8	15	4.9	1.6	5.9	2.7	.07	5.8
5	.00	9.4	18	16	5.4	18	4.6	1.3	5.2	.85	.00	2.9
6	.00	11	16	10	5.2	11	4.3	1.2	3.9	.41	.00	1.4
7	.00	10	15	11	5.2	3.3	4.5	.82	36	.00	.00	.72
8	.00	12	16	9.0	5.0	3.2	5.6	.66	22	.00	.00	.80
9	.00	25	15	8.8	4.8	5.1	3.8	.71	23	.00	.00	.50
10	.00	16	17	9.4	4.8	5.3	3.0	.87	21	.00	.00	.58
11	.00	16	16	9.6	4.0	6.1	2.8	.85	21	.00	.00	.29
12	.00	20	17	9.4	3.6	5.1	2.9	.58	172	.00	.02	.40
13	.00	15	17	8.6	4.7	4.5	3.4	.77	37	.00	.00	.20
14	.00	15	16	8.2	4.5	3.7	2.8	.59	21	.00	.00	.00
15	.00	15	17	8.0	3.8	3.9	3.4	.30	25	.00	.00	.00
16	.00	9.0	18	8.4	4.1	3.2	4.2	.11	9.9	.00	.00	.00
17	.00	7.9	16	8.8	4.6	6.1	3.9	.19	8.1	.00	.00	.00
18	.00	9.7	15	8.5	5.6	18	3.8	.36	4.5	.00	97	.00
19	.00	14	14	8.3	5.6	11	4.1	.50	3.4	.00	13	.00
20	.00	16	15	8.6	3.1	8.5	3.9	.12	4.0	.00	.32	.00
21	.00	18	14	8.8	3.5	5.0	3.8	.00	21	54	.00	.00
22	.00	14	15	9.5	2.7	3.4	2.8	.00	8.5	1.5	.00	.00
23	.00	13	14	10	2.7	3.4	2.8	.00	5.1	.07	.00	.00
24	.00	14	14	11	2.5	4.4	2.6	.00	3.7	.06	3.3	.00
25	.00	15	14	10	2.7	7.2	2.5	.00	5.2	.02	148	.00
26	.00	17	13	11	3.7	5.1	3.2	.00	28	.03	123	.00
27	.00	16	16	9.4	3.9	3.2	3.0	.00	20	.00	328	.00
28	.00	13	13	9.7	4.0	3.9	2.4	.00	9.6	.00	21	.00
29	.00	12	19	9.4	4.1	4.4	1.9	.00	12	.00	5.1	.00
30	.00	11	14	9.7	---	4.2	3.6	.00	26	.00	42	.00
31	10	---	14	9.0	---	4.3	---	.00	---	.00	331	---
TOTAL	10.00	399.2	475	312.1	127.8	195.3	108.6	16.43	581.8	77.64	1127.89	137.49
MEAN	.32	13.3	15.3	10.1	4.41	6.30	3.62	.53	19.4	2.50	36.4	4.58
MAX	10	25	19	19	7.0	18	5.6	1.9	172	54	331	91
MIN	.00	7.0	12	8.0	2.5	3.2	1.9	.00	2.6	.00	.00	.00
AC-FT	20	792	942	619	253	387	215	33	1150	154	2240	273

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

	MEAN	8.54	14.8	13.9	21.2	27.1	21.8	21.1	151	107	20.4	38.7	5.37
MAX	46.7	46.0	34.2	65.1	64.5	129	94.3	1113	667	110	254	23.9	
(WY)	1985	1986	1987	1984	1984	1984	1988	1987	1983	1983	1981	1982	
MIN	.000	.000	.000	.000	.13	2.12	.47	.53	.16	.000	.36	.000	
(WY)	1990	1990	1990	1990	1990	1990	1990	1992	1981	1989	1988	1980	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1980 - 1992

ANNUAL TOTAL	2512.14	3569.25	
ANNUAL MEAN	6.88	9.75	37.7
HIGHEST ANNUAL MEAN			153
LOWEST ANNUAL MEAN			5.09
HIGHEST DAILY MEAN	436	331	2900
LOWEST DAILY MEAN	a .00	a .00	a .00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		1390	b 8030
INSTANTANEOUS PEAK STAGE		c 9.78	10.90
ANNUAL RUNOFF (AC-FT)	4980	7080	27290
10 PERCENT EXCEEDS	15	17	56
50 PERCENT EXCEEDS	1.2	4.1	3.9
90 PERCENT EXCEEDS	.00	.00	.00

a-No flow many days each year.

b-Maximum discharge for period of record, 19400 ft³/s, Aug 1, 1923, gage height, 9.4 ft, datum then in use, from rating curve extended above 1200 ft³/s, on the basis of slope-area measurement of peak flow.

c-From crest-stage reading.

07117000 ARKANSAS RIVER NEAR NEPESTA, CO

LOCATION.--Lat 38°11'03", long 104°10'22", in SW¹/₄SW¹/₄ sec.25, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 110200005, on right bank 0.7 mi upstream from headgate of Oxford Farmers Co. canal, 1.9 mi northwest of Nepesta, 2.7 mi upstream from Kramer Creek, and 6.6 mi downstream from Huerfano River.

DRAINAGE AREA.--9,345 mi², of which 54 mi² is probably non-contributing.

PERIOD OF RECORD.--April to October 1903, April to November 1912, October 1913 to September 1984. Monthly discharge only for some periods, published in WSP 1311. Records originally published for October 1933 to June 1936 did not include diversions to Oxford Farmers Co. canal, but monthly figures only for this period have been adjusted for diversion, and published in WSP 1311. Statistical summary computed for 1975 to current year. Records for river below Oxford Farmers Co. canal (diversion to canal not included), published as "at Nepesta" September 1897 to October 1903 (irrigation seasons only), April to October 1904, June 1906 to September 1908 (irrigation seasons only), September 1909 to December 1910, February to September 1911 (gage heights and discharge measurements only), October 1913 to November 1912, March to August 1913 (discharge measurements only), October 1913 to September 1936. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area, WDR CO-79-1: 1965.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,385 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 5, 1921, nonrecording gages or water-stage recorders at various sites within 4.5 mi upstream and 3.0 mi downstream at different datums. June 5, 1921 to Apr. 4, 1966, water-stage recorders at sites on river or river and canal within 0.7 mi downstream at various datums.

REMARKS.--Estimated daily discharges: Oct. 11-14, Nov. 3, and Dec. 2, 3. Records fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 230,000 acres, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	297	210	393	500	234	573	398	964	1400	818	868
2	226	308	203	379	477	242	634	364	1190	1230	695	913
3	212	285	212	390	479	217	619	358	1100	1220	637	920
4	198	342	200	404	501	285	603	342	1100	1150	724	813
5	202	446	189	404	493	566	600	404	1060	909	735	655
6	216	381	189	386	469	332	585	428	973	763	647	595
7	240	182	179	361	440	255	517	519	986	624	581	566
8	255	87	176	359	423	228	470	610	1040	505	546	522
9	245	90	184	361	415	362	460	631	1120	492	419	511
10	254	208	176	401	452	313	433	737	1360	941	311	466
11	260	286	168	424	491	245	409	822	1470	1170	452	409
12	235	274	172	426	504	221	407	935	1530	1190	570	362
13	189	218	176	444	481	203	429	677	1120	1150	811	326
14	207	189	176	455	446	206	430	616	895	1400	848	398
15	226	255	146	461	477	386	501	583	1380	1180	714	349
16	258	221	146	419	473	401	695	568	1400	980	674	573
17	282	250	169	444	458	399	1030	574	1500	908	609	697
18	273	281	165	455	438	409	1050	579	1470	819	716	705
19	266	373	165	453	416	435	977	705	1340	598	1030	675
20	254	310	189	448	420	443	925	832	1180	574	781	698
21	214	247	193	425	449	475	905	928	1310	645	652	727
22	184	227	190	431	415	496	852	1190	1160	616	555	534
23	156	241	222	416	248	521	814	1420	1110	595	497	381
24	175	211	219	402	230	560	770	1570	1290	467	519	366
25	186	202	205	412	223	541	675	1580	1470	489	1620	330
26	196	204	253	406	234	508	658	1590	1690	650	1580	303
27	185	195	368	432	250	489	698	1470	1630	760	1460	274
28	170	196	372	439	241	451	667	1610	1790	793	864	248
29	168	210	379	456	226	462	589	1490	1960	828	1010	231
30	176	220	366	475	---	469	422	1390	1740	837	883	252
31	216	---	391	505	---	503	---	1130	---	818	918	---
TOTAL	6720	7436	6748	13066	11769	11857	19397	27050	39328	26701	23876	15667
MEAN	217	248	218	421	406	382	647	873	1311	861	770	522
MAX	282	446	391	505	504	566	1050	1610	1960	1400	1620	920
MIN	156	87	146	359	223	203	407	342	895	467	311	231
AC-FT	13330	14750	13380	25920	23340	23520	38470	53650	78010	52960	47360	31080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	407	389	342	400	390	396	572	1185	2066	1431	974	424						
MAX	1433	909	772	818	1134	1040	1568	3763	3831	2909	2565	1223						
(WY)	1985	1985	1987	1985	1985	1985	1987	1980	1983	1983	1984	1982						
MIN	104	149	110	124	209	168	99.3	254	518	307	372	93.1						
(WY)	1979	1979	1991	1990	1978	1978	1978	1981	1977	1977	1977	1977						

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1975 - 1992
ANNUAL TOTAL	205312	209615	
ANNUAL MEAN	562	573	a 749
HIGHEST ANNUAL MEAN			1356 1985
LOWEST ANNUAL MEAN			349 1977
HIGHEST DAILY MEAN	2130 Jun 14	1960 Jun 29	b 8770 Aug 22 1984
LOWEST DAILY MEAN	87 Nov 8	87 Nov 8	c 33 Nov 26 1990
ANNUAL SEVEN-DAY MINIMUM	132 Mar 2	163 Dec 13	d 38 Nov 22 1990
INSTANTANEOUS PEAK FLOW		2210 Aug 25	d 13600 Aug 22 1984
INSTANTANEOUS PEAK STAGE		e 3.29 Aug 25	9.45 Aug 22 1984
ANNUAL RUNOFF (AC-FT)	407200	415800	542800
10 PERCENT EXCEEDS	1460	1170	1650
50 PERCENT EXCEEDS	334	455	428
90 PERCENT EXCEEDS	170	199	173

a-Average discharge for 60 years (water years 1914-73), 684 ft³/s; 495600 acre-ft/yr, prior to completion of Pueblo Dam.

b-Maximum daily discharge for period of record, 26600 ft³/s, May 16, 1957.

c-Minimum daily discharge for period of record, no flow at times in 1902, 1910 1931, and 1934.

d-Maximum discharge for period of record, 180000 ft³/s, Jun 4, 1921, by slope-area measurement of peak flow at a point 8 mi upstream; gage height not determined.

e-Maximum gage height, 3.31 ft, Jun 12.

07119500 APISHAPA RIVER NEAR FOWLER, CO

LOCATION.--Lat 38°05'28", long 103°58'52", in SE¹/4NW¹/4 sec.35, T.22 S., R.59 W, Otero Country, Hydrologic Unit 11020007, near right bank on downstream side of county highway bridge, 3.5 mi southeast of Fowler, and 5.4 mi upstream from mouth.

DRAINAGE AREA.--1,125 mi².

PERIOD OF RECORD.--Streamflow records, April 1922 to September 1925, May 1939 to current year. Monthly discharge only for some periods, published in WSP 1311. Water-quality data available, November 1963 to September 1967, January to April 1969.

REVISED RECORDS.--WSP 957: 1939, 1941. WSP 1117: Drainage area. WSP 1241: 1923(M). WRD Colo. 1974: 1973(M).

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gages. Datum of gage is 4,317.05 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 29, 1923, at site 3 mi downstream at different datum. Aug. 29, 1923, to Sept. 30, 1925, at present site at different datum. May 27, 1939 to July 30, 1940, at present site at different datum. July 30, 1940 to Sept. 30, 1985, at datum 2.0 ft, higher.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 5, and Feb. 20-25. Records fair except for estimated daily discharges, which are poor. Waste water from Oxford Farmers Co., and Rocky Ford Highline canals enters river upstream from station. Diversions upstream from station for irrigation of about 4,700 acres. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	13	3.7	3.3	2.9	2.3	15	5.1	15	16	16	132
2	6.0	13	3.7	3.1	2.7	2.5	16	4.9	12	9.2	47	47
3	5.3	12	3.7	3.1	2.9	2.4	14	6.0	13	7.3	23	37
4	4.3	11	4.1	3.1	3.1	2.6	13	6.5	13	7.6	16	27
5	7.0	9.0	3.8	3.1	3.1	2.5	12	5.0	19	5.3	9.8	19
6	8.9	7.0	3.8	3.1	2.9	2.5	13	4.7	18	4.4	10	16
7	6.8	4.7	3.7	3.3	2.7	2.3	16	3.5	25	4.9	7.5	13
8	5.2	5.0	3.6	3.1	2.7	2.4	15	3.6	223	4.0	6.0	11
9	4.7	4.7	3.4	3.1	2.7	2.3	13	3.0	61	7.6	4.7	8.0
10	4.7	4.0	3.8	3.1	2.7	2.5	5.9	5.3	11	4.2	5.2	4.0
11	4.6	3.9	3.7	3.1	2.7	2.5	4.1	3.9	24	4.1	4.0	4.8
12	5.1	3.9	3.7	3.2	2.7	2.2	4.0	3.3	33	4.1	5.6	6.8
13	7.8	4.1	3.5	3.1	2.7	2.4	5.5	3.0	32	4.1	34	8.3
14	12	3.8	3.5	2.9	3.2	2.2	5.7	3.7	15	36	56	13
15	8.9	3.9	3.5	2.9	2.8	3.9	10	3.4	15	33	34	13
16	3.9	5.5	3.5	2.9	3.0	13	13	2.9	17	31	15	9.1
17	5.2	4.5	3.2	3.1	2.9	3.8	14	2.7	13	15	15	9.5
18	4.4	4.0	3.1	3.1	2.7	7.0	13	2.3	12	5.3	173	7.7
19	4.8	4.1	3.1	2.9	2.7	9.2	17	2.2	17	9.0	32	7.5
20	5.4	3.7	3.1	2.9	2.8	9.7	19	2.2	8.4	6.1	22	7.4
21	8.1	3.7	3.1	2.9	2.8	14	15	2.6	9.9	109	12	7.3
22	8.5	3.7	3.5	2.9	2.7	13	12	3.6	13	150	6.3	7.3
23	8.1	3.7	3.6	2.7	2.7	13	10	8.6	8.1	70	4.3	7.3
24	3.9	3.7	3.5	2.7	2.7	13	14	7.2	9.7	22	7.3	7.1
25	3.9	3.7	3.5	2.9	2.7	12	12	9.8	22	12	80	9.1
26	4.0	3.7	3.5	2.9	2.5	11	10	12	183	15	127	7.7
27	6.5	3.7	3.5	2.9	2.4	8.6	11	13	62	9.4	107	7.7
28	7.2	3.7	3.3	2.9	2.4	11	7.5	9.7	59	15	95	7.0
29	6.7	3.8	3.3	2.7	2.4	13	5.6	7.5	30	18	50	5.8
30	12	3.7	3.3	2.7	---	16	4.2	12	20	19	35	5.6
31	13	---	3.4	2.9	---	15	---	15	---	22	72	---
TOTAL	201.4	161.9	108.7	92.6	79.9	219.8	339.5	178.2	1013.1	679.6	1131.7	473.0
MEAN	6.50	5.40	3.51	2.99	2.76	7.09	11.3	5.75	33.8	21.9	36.5	15.8
MAX	13	13	4.1	3.3	3.2	16	19	15	223	150	173	132
MIN	3.9	3.7	3.1	2.7	2.4	2.2	4.0	2.2	8.1	4.0	4.0	4.0
AC-FT	399	321	216	184	158	436	673	353	2010	1350	2240	938

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1992, BY WATER YEAR (WY)

	MEAN	15.4	17.5	11.8	7.41	10.0	11.8	22.1	43.6	47.7	56.3	69.4	20.0
MAX	87.2	83.1	54.7	30.4	54.0	59.6	529	576	290	306	628	154	
(WY)	1924	1966	1966	1966	1971	1924	1942	1955	1948	1958	1923	1940	
MIN	1.06	.90	1.33	2.37	1.85	1.35	.94	1.65	1.13	1.53	1.56	1.07	
(WY)	1965	1940	1955	1976	1976	1955	1955	1975	1954	1974	1974	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1922 - 1992

ANNUAL TOTAL	3654.4	4679.4	
ANNUAL MEAN	10.0	12.8	28.0
HIGHEST ANNUAL MEAN			105
LOWEST ANNUAL MEAN			5.73
HIGHEST DAILY MEAN	949	Jul 2	10100
LOWEST DAILY MEAN	a 1.7	May 1	.00
ANNUAL SEVEN-DAY MINIMUM	2.0	Apr 29	.16
INSTANTANEOUS PEAK FLOW		825	83000
INSTANTANEOUS PEAK STAGE		6.76	
ANNUAL RUNOFF (AC-FT)	7250	9280	20310
10 PERCENT EXCEEDS	13	22	46
50 PERCENT EXCEEDS	3.7	5.3	6.6
90 PERCENT EXCEEDS	2.3	2.7	1.8

a-Also occurred May 5, 10, and 11.

b-Also occurred Mar 14.

c-From slope-area measurement of peak flow, at site 2 mi upstream from present site, caused by failure of Apishapa Dam 31 mi upstream.

07119700 ARKANSAS RIVER AT CATLIN DAM, NEAR FOWLER, CO

LOCATION.--Lat 38°07'33", long 103°54'41", in NW¹/4NW¹/4 sec.21, T.22 S., R.58 W., Otero County, Hydrologic Unit 11020005, 600 ft downstream from gage on Catlin Canal, on right bank 2.2 mi downstream from diversion dam for Catlin Canal, 2.3 mi downstream from Apishapa River, and 6.0 mi east of Fowler.

DRAINAGE AREA.--10,901 mi², of which 54 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. Statistical summary computed for 1975 to current year.

GAGE.--Water-stage recorders with satellite telemetry on river and on Catlin Canal. Datum of river gage is 4,245.92 ft above National Geodetic Vertical Datum of 1929. Datum of canal gage is 4,257.87 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Oct. 30 to Nov. 7, Dec. 17-19, Dec. 30 to Jan. 2, and Jan. 4-6. Records good 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. Several measurements of specific conductance and water temperature were obtained and 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	344	226	380	485	254	554	459	1030	1560	818	1000
2	205	406	202	385	499	237	586	434	1250	1370	826	857
3	223	294	199	388	520	237	566	441	1200	1320	677	904
4	202	430	196	390	533	243	525	453	1190	1250	705	830
5	192	532	212	400	517	395	511	445	1320	1080	728	699
6	225	500	210	410	520	456	505	537	1090	812	686	625
7	231	326	218	405	537	233	485	549	1100	732	573	610
8	278	189	206	385	550	187	441	636	1450	635	505	599
9	274	123	193	386	544	193	403	675	1420	529	465	557
10	239	106	197	413	544	377	373	748	1340	638	335	548
11	260	270	186	428	532	247	364	898	1680	1060	313	506
12	263	293	192	411	541	196	408	1020	1820	1180	482	459
13	237	271	196	409	544	146	418	919	1430	1140	657	414
14	232	205	204	425	538	153	426	710	842	1250	925	407
15	228	218	197	403	526	260	473	643	1150	1210	776	475
16	237	255	193	401	526	449	597	587	1370	1010	652	444
17	258	273	184	432	523	437	879	569	1560	871	584	800
18	294	296	180	426	515	449	1040	574	1550	817	1010	814
19	290	355	179	436	495	466	999	594	1450	655	1030	821
20	271	405	180	442	483	485	954	783	1530	556	706	834
21	263	338	185	446	510	500	908	932	1450	731	615	826
22	236	293	196	450	521	512	884	1140	1400	775	582	760
23	217	286	217	438	440	527	838	1290	1250	575	535	481
24	196	265	220	422	356	556	771	1540	1320	529	515	430
25	200	247	214	412	328	571	717	1610	1480	423	1520	396
26	224	240	224	434	307	537	708	1610	1850	567	1560	374
27	225	253	306	449	306	524	697	1540	1720	612	1580	361
28	227	245	375	445	297	519	697	1570	1590	594	924	351
29	216	241	393	450	283	527	643	1630	1960	744	896	347
30	241	237	384	444	---	534	539	1470	1910	773	909	334
31	247	---	380	450	---	529	---	1290	---	832	882	---
TOTAL	7325	8736	7044	12995	13820	11936	18909	28296	42702	26830	23971	17863
MEAN	236	291	227	419	477	385	630	913	1423	865	773	595
MAX	294	532	393	450	550	571	1040	1630	1960	1560	1580	1000
MIN	192	106	179	380	283	146	364	434	842	423	313	334
AC-FT	14530	17330	13970	25780	27410	23680	37510	56130	84700	53220	47550	35430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	405	402	360	436	437	386	538	1136	2007	1362	973	420						
MAX	1234	925	773	854	1249	867	1526	3888	3971	2705	2384	1209						
(WY)	1985	1985	1987	1985	1985	1985	1987	1987	1983	1983	1984	1982						
MIN	91.0	152	133	175	249	175	86.6	212	432	286	526	84.5						
(WY)	1979	1979	1991	1990	1978	1978	1978	1981	1977	1977	1978	1977						

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1975 - 1992
ANNUAL TOTAL	199807	220427	
ANNUAL MEAN	547	602	a 740
HIGHEST ANNUAL MEAN			1292
LOWEST ANNUAL MEAN			351
HIGHEST DAILY MEAN	2250	Jul 2	b 8480
LOWEST DAILY MEAN	45	Mar 6	c 30
ANNUAL SEVEN-DAY MINIMUM	66	Mar 5	d 23300
INSTANTANEOUS PEAK FLOW			3460
INSTANTANEOUS PEAK STAGE			5.35
ANNUAL RUNOFF (AC-FT)	396300	437200	535900
10 PERCENT EXCEEDS	1320	1260	1610
50 PERCENT EXCEEDS	353	497	430
90 PERCENT EXCEEDS	186	215	185

a-Average discharge for 9 years (water years 1965-73), 636 ft³/s, 460800 acre-ft/yr, prior to completion of Pueblo Dam.

b-Maximum daily discharge for period of record, 43200 ft³/s, Jun 18, 1965.

c-Also occurred Aug 14, 1977.

d-Maximum discharge and stage for period of record, 43200 ft³/s, Jun 18, 1965, gage height, 7.95 ft, site and datum then in use, from rating curve extended above 13000 ft³/s, on basis of flow-over-dam computation of peak flow.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07119700 ARKANSAS RIVER AT CATLIN DAM, NEAR FOWLER, CO

07121500 TIMPAS CREEK AT MOUTH, NEAR SWINK, CO

LOCATION.--Lat 38°00'11", long 103°39'20", in NW¹/4SW¹/4 sec.35, T.23 S., R.56 W., Otero County, Hydrologic Unit 11020005, on left bank 40 ft shoreward, 125 ft upstream from left end of 20th Rd. Bridge, 1.7 mi southwest of Swink, and 2.9 mi upstream from mouth.

DRAINAGE AREA.--496 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 29, 1975, at site 140 ft downstream at datum 0.13 ft, lower.

REMARKS.--Estimated daily discharges: Apr. 11-15. Records good, except for estimated daily discharges, 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 elsewhere in this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1922, 21,400 ft³/s, June 17, 1965.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	79	18	15	13	32	27	45	91	85	41	99
2	33	46	18	15	13	28	23	50	110	71	47	93
3	37	32	18	15	13	24	29	42	111	68	47	98
4	38	27	18	15	14	26	33	35	110	52	45	87
5	42	25	18	15	14	26	40	38	113	56	43	70
6	47	24	18	14	14	25	41	36	112	53	42	53
7	46	22	18	15	14	26	34	35	122	43	37	51
8	42	29	18	15	13	26	35	34	143	44	38	55
9	41	26	18	14	13	32	35	41	135	54	39	75
10	42	23	17	14	13	36	37	46	122	49	35	90
11	46	22	17	14	13	28	47	46	162	46	34	81
12	48	34	17	14	13	26	50	44	226	48	36	86
13	48	37	17	14	13	27	60	45	78	49	45	98
14	48	53	17	13	13	26	64	44	78	46	48	95
15	45	55	17	13	13	26	50	50	108	91	53	103
16	46	54	16	13	13	57	54	52	156	241	57	109
17	52	48	16	14	13	86	74	46	103	135	54	108
18	46	28	16	14	12	74	97	46	80	87	134	99
19	47	24	16	14	12	75	73	42	56	86	77	96
20	51	23	16	14	13	50	81	37	54	71	66	103
21	67	22	16	14	13	42	95	42	57	74	59	109
22	74	21	16	14	13	64	79	48	277	82	53	99
23	67	21	16	13	13	50	81	50	61	71	60	92
24	63	20	16	13	13	51	74	64	53	74	72	74
25	54	20	16	13	13	43	77	92	53	72	174	56
26	59	20	16	13	14	29	51	90	70	91	95	60
27	59	20	16	13	14	31	48	86	59	93	129	64
28	70	20	16	13	16	34	59	82	71	74	102	60
29	77	19	15	13	23	55	44	97	156	56	97	81
30	91	19	15	13	---	43	41	94	111	47	118	75
31	114	---	15	13	---	27	---	69	---	42	113	---
TOTAL	1671	913	517	429	394	1225	1633	1668	3238	2251	2090	2519
MEAN	53.9	30.4	16.7	13.8	13.6	39.5	54.4	53.8	108	72.6	67.4	84.0
MAX	114	79	18	15	23	86	97	97	277	241	174	109
MIN	31	19	15	13	12	24	23	34	53	42	34	51
AC-FT	3310	1810	1030	851	781	2430	3240	3310	6420	4460	4150	5000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1992, BY WATER YEAR (WY)

	MEAN	89.5	78.7	38.9	25.3	34.5	64.6	60.9	68.4	80.0	70.5	85.8	70.4
MAX	265	210	109	60.4	84.6	201	170	150	318	200	401	159	159
(WY)	1924	1924	1971	1923	1924	1924	1924	1987	1923	1923	1923	1986	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	15.7
(WY)	1979	1992	1979	1975	1976	1981	1978	1981	1981	1974	1974	1974	1974

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1922 - 1992

ANNUAL TOTAL	16275	18548	
ANNUAL MEAN	44.6	50.7	
HIGHEST ANNUAL MEAN			64.2
LOWEST ANNUAL MEAN			130
HIGHEST DAILY MEAN	697	Jul 8	25.2
LOWEST DAILY MEAN	12	Jan 13	2670
ANNUAL SEVEN-DAY MINIMUM	13	Jan 11	3.3
INSTANTANEOUS PEAK FLOW			5.7
INSTANTANEOUS PEAK STAGE			12300
ANNUAL RUNOFF (AC-FT)	32280	36790	21.11
10 PERCENT EXCEEDS	70	97	46480
50 PERCENT EXCEEDS	39	45	127
90 PERCENT EXCEEDS	16	14	47
			15

a-Also occurred Feb 19.

b-From rating curve extended above 250 ft³/s, on basis of contracted opening measurement of peak flow.

c-From floodmark.

07122400 CROOKED ARROYO NEAR SWINK, CO

LOCATION.--Lat 37°58'56", long 103°35'52", in SW¹/4SW¹/4 sec.5, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank 54 ft downstream from bridge on State Highway 10, 2.0 mi upstream from mouth, and 2.8 mi southeast of Swink.

DRAINAGE AREA.--108 mi².

PERIOD OF RECORD.--February 1968 to current year.

REVISED RECORDS.--WDR CO-76-1: 1975.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,100 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good except for discharges above 100 ft³/s, which are fair. Natural flow of stream affected by minor diversions upstream from station for irrigation, water exported upstream from station to Timpas Creek, water imported from Arkansas River for irrigation upstream from station, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	12	4.5	3.9	3.0	2.3	11	7.7	26	6.2	11	9.8
2	4.1	7.2	4.3	3.9	3.0	2.4	6.7	6.5	20	6.7	12	13
3	4.0	6.0	4.1	3.9	3.0	2.5	9.1	7.0	21	12	11	8.6
4	4.1	5.7	4.1	3.9	3.0	3.4	10	9.0	15	9.2	12	9.4
5	9.8	5.6	4.5	4.0	3.0	4.5	11	9.0	11	11	8.9	15
6	4.4	5.3	4.6	4.1	3.0	5.2	13	8.4	9.2	14	5.8	14
7	4.5	5.2	5.0	4.1	2.8	4.4	9.5	9.4	14	11	7.5	17
8	6.3	5.2	5.3	3.9	2.8	4.5	9.9	11	19	7.3	8.5	17
9	7.9	5.1	4.6	3.9	2.8	4.9	9.7	11	24	6.8	9.9	16
10	6.7	4.9	4.5	3.9	2.7	4.5	8.2	12	19	7.6	9.5	11
11	9.2	4.7	4.3	3.9	2.6	4.9	6.5	18	19	10	4.8	10
12	8.1	4.5	4.3	3.9	2.6	4.4	7.2	11	20	10	5.0	16
13	8.7	4.5	4.3	3.9	2.6	4.7	10	8.8	6.0	10	9.7	15
14	12	4.5	4.1	3.9	2.6	4.3	12	12	4.9	8.6	11	20
15	9.8	4.5	3.9	3.6	2.6	4.4	9.5	9.3	8.7	10	12	24
16	11	4.5	4.0	3.5	2.5	4.7	9.9	8.5	24	54	13	21
17	14	4.5	4.1	3.5	2.6	11	13	6.6	11	11	13	15
18	19	4.4	4.1	3.3	2.6	14	10	6.9	10	12	10	15
19	22	4.3	4.1	3.3	2.6	8.5	21	6.1	9.4	13	10	20
20	26	4.5	4.1	3.2	2.6	6.0	25	7.0	12	17	12	19
21	26	4.5	4.1	3.1	2.5	18	11	9.4	8.1	32	12	22
22	18	4.4	4.1	3.1	2.3	11	12	12	11	16	12	16
23	16	4.3	4.1	3.1	2.3	17	12	15	7.2	28	12	13
24	14	4.3	4.1	3.1	2.2	11	11	21	6.2	29	17	7.7
25	18	4.2	4.1	3.2	2.2	5.9	10	6.3	5.4	16	16	13
26	14	4.2	4.1	3.3	2.2	6.6	16	6.3	6.3	27	18	14
27	14	4.3	4.1	3.3	2.2	11	18	9.0	12	19	15	15
28	23	4.3	4.1	3.2	2.2	15	8.0	19	18	9.6	12	13
29	19	4.3	4.1	3.0	2.2	15	6.3	24	14	11	20	7.9
30	26	4.3	3.9	3.0	---	7.7	7.5	22	5.8	10	20	6.2
31	29	---	3.9	3.0	---	9.1	---	19	---	7.0	16	---
TOTAL	412.8	150.2	131.5	109.9	75.3	232.8	334.0	348.2	397.2	452.0	366.6	433.6
MEAN	13.3	5.01	4.24	3.55	2.60	7.51	11.1	11.2	13.2	14.6	11.8	14.5
MAX	29	12	5.3	4.1	3.0	18	25	24	26	54	20	24
MIN	4.0	4.2	3.9	3.0	2.2	2.3	6.3	6.1	4.9	6.2	4.8	6.2
AC-FT	819	298	261	218	149	462	662	691	788	897	727	860

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	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
MEAN	14.6	13.2	5.67	2.94	4.30	8.54	10.3	14.6	18.4	16.0	15.1	14.0													
MAX	40.1	32.9	25.8	9.53	22.4	19.3	31.6	46.3	47.2	40.5	37.3	30.9													
(WY)	1985	1980	1970	1969	1971	1970	1984	1985	1983	1983	1984	1986													
MIN	.062	.56	.59	.45	.23	2.75	.33	.64	2.69	1.38	.50	.003													
(WY)	1979	1979	1979	1979	1979	1983	1978	1981	1977	1977	1974	1974													

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1968 - 1992

ANNUAL TOTAL	2955.1	3444.1		
ANNUAL MEAN	8.10	9.41	11.5	
HIGHEST ANNUAL MEAN			21.5	1970
LOWEST ANNUAL MEAN			5.24	1977
HIGHEST DAILY MEAN		54	354	Aug 22 1984
LOWEST DAILY MEAN	a 1.9	Feb 24	b .00	Sep 4 1974
ANNUAL SEVEN-DAY MINIMUM	2.0	Feb 19	c .00	Sep 4 1974
INSTANTANEOUS PEAK FLOW		c 141	d 1200	Aug 7 1971
INSTANTANEOUS PEAK STAGE		3.61	7.91	Aug 7 1971
ANNUAL RUNOFF (AC-FT)	5860	6830	8330	
10 PERCENT EXCEEDS	18	19	27	
50 PERCENT EXCEEDS	5.6	7.9	7.4	
90 PERCENT EXCEEDS	2.4	3.1	1.1	

a-Also occurred Feb 25.

b-No flow at times most years.

c-From rating curve extended above 50 ft³/s, on basis of slope-area measurements of peak flow.

d-From rating curve extended above 87 ft³/s.

07123000 ARKANSAS RIVER AT LA JUNTA, CO

LOCATION.--Lat 37°59'26", long 103°31'55", in SE¹/4NE¹/4 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 ft upstream from King Arroyo.

DRAINAGE AREA.--12,210 mi², of which 115 mi² is probably non-contributing.

PERIOD OF RECORD.--May to August 1889, September 1893 to December 1895 (gage heights, discharge measurements, and flood data only), April to October 1903, June to November 1908 (gage heights and discharge measurements only), April 1912 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near La Junta" in 1903. Statistical summary computed for 1975 to current year.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1922.

GAGE.--Water-stage recorder with satellite telemetry, and nonrecording gage read twice daily. Datum of gage is 4,039.60 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Nov. 1-9, 12, 13, 15-24. Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 400,000 acres, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	150	85	93	90	132	28	242	470	557	231	392
2	50	180	82	96	143	111	22	221	475	547	233	318
3	58	180	91	98	166	111	23	197	455	678	204	291
4	60	193	89	130	183	114	29	213	307	784	125	283
5	58	247	92	106	193	110	28	202	330	776	84	298
6	63	392	91	104	187	149	27	179	234	623	38	289
7	76	240	92	147	186	137	24	146	319	489	67	293
8	65	186	87	188	173	119	24	160	497	388	64	348
9	50	123	86	156	177	125	31	239	697	203	28	378
10	43	47	84	149	181	128	31	304	348	170	19	328
11	42	38	80	154	189	112	30	394	513	288	31	308
12	64	42	82	158	317	103	30	480	729	454	24	258
13	75	37	83	150	328	106	33	551	409	521	74	223
14	67	35	82	142	334	84	37	443	221	456	186	196
15	67	219	83	138	348	32	33	340	43	479	294	190
16	70	193	84	214	354	21	32	284	256	544	285	224
17	72	196	85	213	357	19	35	227	397	371	243	160
18	75	165	84	264	352	22	250	223	553	278	259	140
19	117	159	83	238	352	15	432	228	543	266	354	168
20	124	153	80	196	358	18	417	257	608	383	424	178
21	133	101	78	125	358	30	379	428	536	392	319	214
22	129	101	79	107	360	25	291	673	668	213	221	216
23	109	98	81	97	353	31	364	562	567	150	193	194
24	82	89	79	98	251	32	367	500	594	115	199	235
25	69	87	79	96	173	25	387	543	626	175	291	165
26	86	95	81	94	164	25	451	591	646	128	364	122
27	104	93	83	94	144	27	410	602	678	48	211	113
28	111	91	85	94	144	36	380	570	399	30	307	94
29	122	89	86	92	137	39	351	613	817	25	445	94
30	126	87	88	89	---	31	314	480	691	37	464	87
31	140	---	89	90	---	25	---	463	---	134	433	---
TOTAL	2554	4106	2613	4210	7052	2094	5290	11555	14626	10702	6714	6797
MEAN	82.4	137	84.3	136	243	67.5	176	373	488	345	217	227
MAX	140	392	92	264	360	149	451	673	817	784	464	392
MIN	42	35	78	89	90	15	22	146	43	25	19	87
AC-FT	5070	8140	5180	8350	13990	4150	10490	22920	29010	21230	13320	13480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	195	120	118	152	146	97.5	124	513	725	462	301	133						
MAX	1189	545	335	453	620	400	770	3082	1581	1299	1345	463						
(WY)	1985	1987	1987	1987	1985	1987	1987	1987	1987	1983	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1975 - 1992

	1991	1992	1975-1992
ANNUAL TOTAL	77542	78313	
ANNUAL MEAN	212	214	a258
HIGHEST ANNUAL MEAN			659
LOWEST ANNUAL MEAN			107
HIGHEST DAILY MEAN	1100	817	b9790
LOWEST DAILY MEAN	c23	15	d2.5
ANNUAL SEVEN-DAY MINIMUM	31	21	e18000
INSTANTANEOUS PEAK FLOW		1180	f11.09
INSTANTANEOUS PEAK STAGE		7.90	
ANNUAL RUNOFF (AC-FT)	153800	155300	186800
10 PERCENT EXCEEDS	593	479	597
50 PERCENT EXCEEDS	109	157	101
90 PERCENT EXCEEDS	43	34	17

a-Average discharge for 61 years (water years 1913-73), 244 ft³/s; 176800 acre-ft/yr, prior to completion of Pueblo Dam.

b-Maximum daily discharge for period of record, 61100 ft³/s, Jun 4, 1921.

c-Also occurred May 12.

d-Minimum daily discharge for period of record, no flow, Jan 20-22 and Mar 20-22, 1915.

e-Maximum discharge and stage for period of record, 200000 ft³/s, Jun 4, 1921, gage height, 18.40 ft, site and datum then in use, from rating curve extended above 15000 ft³/s, on basis of slope-area measurement of peak flow.

f-Maximum gage height for statistical period, 11.87 ft, Jul 10, 1978.

07123675 HORSE CREEK NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°05'06", long 103°21'12", in SE¹/4SW¹/4 sec.33, T.22 S., R.53 W., Bent County, Hydrologic Unit 11020008, 15 ft right of right upstream end of box culverts on State Highway 194, 3.2 mi upstream of mouth, 3.4 mi downstream from Fort Lyon Canal Aqueduct, and 7.5 mi west of Las Animas.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

REVISED RECORDS.--WDR CO-91-1: 1989 (M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,975 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 14-16. Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by seepage and sluicing from Fort Lyon Canal. There is some irrigation upstream, however, amounts are unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	4.8	6.1	5.5	5.4	4.3	3.9	3.2	4.9	2.7	4.4	4.5
2	2.6	4.4	5.8	5.4	5.6	4.3	3.9	2.9	5.8	2.5	4.3	4.2
3	2.5	14	5.7	5.3	6.4	4.5	4.2	3.4	4.9	2.8	4.0	4.0
4	2.5	7.4	5.6	5.3	7.8	5.3	4.1	3.9	6.4	2.6	3.7	4.2
5	2.7	20	5.7	5.3	8.3	5.8	3.9	3.6	9.0	2.3	3.5	4.0
6	2.7	43	6.0	5.5	7.8	6.0	3.7	3.1	8.7	2.4	3.5	4.3
7	2.7	11	6.3	5.5	6.9	6.0	3.6	3.3	9.8	2.3	3.7	3.7
8	2.7	8.4	6.4	5.5	6.5	6.0	3.5	3.0	7.9	2.6	3.7	3.5
9	2.8	6.7	6.5	5.4	6.2	6.2	3.4	2.6	7.0	3.4	3.5	3.4
10	2.8	6.6	6.2	5.5	5.8	6.9	3.9	2.4	8.0	3.6	3.3	3.4
11	2.9	6.3	5.7	5.5	5.5	7.1	4.7	2.6	5.5	3.3	3.7	3.4
12	3.3	6.1	5.7	5.4	5.5	7.1	3.7	2.6	6.0	3.7	4.8	3.4
13	3.2	5.9	5.7	5.4	5.3	7.0	3.9	2.7	8.3	3.6	4.7	3.4
14	3.2	5.7	5.6	5.3	5.2	6.8	4.1	2.8	7.7	3.3	4.2	3.2
15	3.4	5.4	5.5	5.2	5.3	7.9	3.9	3.7	4.8	3.3	4.0	3.1
16	3.4	5.5	5.4	5.1	5.1	25	3.6	4.3	5.4	4.5	3.5	3.0
17	3.5	5.9	5.3	5.2	5.1	7.7	4.0	2.7	6.0	5.4	3.3	2.8
18	3.6	6.8	5.3	5.1	4.8	6.0	4.1	2.4	5.7	6.0	3.7	2.8
19	3.7	8.1	5.4	5.0	4.7	5.7	4.4	2.2	6.2	4.1	3.8	2.9
20	3.8	9.1	5.5	5.1	4.5	5.3	4.7	2.3	7.2	3.6	4.1	2.9
21	3.8	8.5	5.7	5.3	4.6	4.7	4.1	2.6	8.8	4.0	3.9	3.2
22	3.9	7.5	5.8	5.1	4.5	4.4	4.5	2.4	7.1	4.0	3.7	4.0
23	4.0	6.7	5.8	5.0	4.5	4.4	4.2	2.4	7.0	4.3	3.7	3.7
24	3.9	6.4	5.8	5.1	4.5	4.1	3.8	3.4	6.4	4.2	4.1	3.2
25	4.0	6.3	5.6	5.1	4.5	4.2	4.2	5.0	6.1	4.9	7.4	3.0
26	4.0	6.1	5.5	5.3	4.4	3.7	4.2	4.4	6.3	7.2	6.9	3.1
27	4.1	6.3	5.4	5.6	4.3	3.8	3.8	6.0	5.3	5.7	8.6	2.7
28	4.0	6.2	5.3	5.7	4.4	3.8	3.5	8.2	4.7	5.3	11	2.6
29	4.1	6.3	5.4	5.7	4.4	3.7	3.3	7.1	4.9	6.6	6.5	2.6
30	4.2	6.2	5.4	5.6	---	3.8	3.2	5.2	3.3	6.5	5.1	2.6
31	4.4	---	5.4	5.5	---	3.9	---	4.6	---	5.3	5.3	---
TOTAL	105.1	297.2	176.5	165.5	157.8	185.4	118.0	111.0	195.1	126.0	143.6	100.8
MEAN	3.39	9.91	5.69	5.34	5.44	5.98	3.93	3.58	6.50	4.06	4.63	3.36
MAX	4.4	44	6.5	5.7	8.3	25	4.7	8.2	9.8	7.2	11	4.5
MIN	2.5	4.8	5.3	5.0	4.3	3.7	3.2	2.2	3.3	2.3	3.3	2.6
AC-FT	208	589	350	328	313	368	234	220	387	250	285	200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	10.9	7.77	7.53	11.3	9.89	10.1	11.1	21.3	22.7	21.8	15.9	10.6	
MAX	32.4	14.4	20.3	46.2	28.1	23.2	27.9	67.5	51.8	55.4	49.3	33.3	
(WY)	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	
MIN	.84	2.02	2.98	2.52	3.02	3.80	1.87	2.86	1.79	.16	2.60	1.78	
(WY)	1980	1980	1980	1982	1981	1982	1982	1981	1981	1981	1990	1990	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1980 - 1992

ANNUAL TOTAL	1945.1	1882.0	
ANNUAL MEAN	5.33	5.14	13.4
HIGHEST ANNUAL MEAN			26.9
LOWEST ANNUAL MEAN			3.37
HIGHEST DAILY MEAN	44	Nov 2	585
LOWEST DAILY MEAN	1.6	Sep 2	a .00
ANNUAL SEVEN-DAY MINIMUM	1.8	Aug 27	b .00
INSTANTANEOUS PEAK FLOW			1210
INSTANTANEOUS PEAK STAGE			6.61
ANNUAL RUNOFF (AC-FT)	3860	3730	9740
10 PERCENT EXCEEDS	7.5	7.0	33
50 PERCENT EXCEEDS	5.1	4.6	6.9
90 PERCENT EXCEEDS	2.7	2.8	2.6

a-No flow many days in 1981.

b-From rating curve extended above 240 ft³/s, on basis of culvert and flow-over-road measurement of peak flow

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07123675 HORSE CREEK NEAR LAS ANIMAS, CO

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

LOCATION.--Lat 38°04'51", long 103°13'09", in SE¹/4NE¹/4 sec.3, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020009, on right bank at upstream side of bridge on U.S. Highway 50, 1.1 mi north of courthouse in Las Animas, and 4.2 mi upstream from Purgatoire River.

DRAINAGE AREA.--14,417 mi², of which 441 mi² are probably non-contributing.

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 National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Oct. 30 to Nov. 1 and Jan. 13-16. 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 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	100	124	121	123	161	27	206	425	553	182	423
2	24	110	126	122	136	152	25	154	445	473	285	378
3	22	376	129	118	189	139	24	144	473	541	242	271
4	21	454	136	124	206	150	23	133	379	715	216	249
5	22	123	142	138	213	148	23	143	317	760	144	258
6	23	505	135	120	222	138	22	128	336	673	90	277
7	25	348	124	120	215	178	22	108	282	519	54	261
8	33	205	124	177	225	146	22	86	352	408	59	257
9	32	177	124	197	212	138	22	98	681	287	54	337
10	28	119	124	172	207	137	22	171	487	99	37	315
11	24	80	126	172	202	142	22	243	386	159	35	280
12	24	68	126	179	249	143	22	355	710	277	42	248
13	27	63	126	170	355	137	21	447	548	421	74	199
14	37	63	119	160	374	132	21	471	332	462	72	173
15	38	86	112	150	376	117	22	343	178	396	206	154
16	39	195	109	180	376	71	22	282	69	524	270	155
17	42	190	111	253	381	46	22	213	256	401	253	161
18	43	192	114	264	381	39	22	179	455	315	202	114
19	48	188	118	331	374	37	329	170	517	227	284	116
20	66	187	121	275	378	34	387	163	579	245	311	133
21	79	182	124	185	370	33	387	228	574	442	354	137
22	85	160	124	154	378	33	271	467	580	326	290	174
23	81	151	122	143	393	31	247	580	532	223	205	188
24	76	142	120	140	368	29	292	438	544	143	183	200
25	67	140	114	136	238	29	290	452	612	119	261	199
26	60	136	113	135	197	28	338	501	591	234	278	142
27	59	129	110	132	186	28	375	471	619	147	263	112
28	62	134	111	121	166	28	320	497	456	88	116	103
29	68	135	113	114	163	31	313	523	503	69	324	95
30	75	132	113	116	---	32	263	490	683	70	452	89
31	90	---	120	119	---	28	---	403	---	70	446	---
TOTAL	1455	5270	3754	5038	7853	2715	4218	9287	13901	10386	6284	6198
MEAN	46.9	176	121	163	271	87.6	141	300	463	335	203	207
MAX	90	505	142	331	393	178	387	580	710	760	452	423
MIN	21	63	109	114	123	28	21	86	69	69	35	89
AC-FT	2890	10450	7450	9990	15580	5390	8370	18420	27570	20600	12460	12290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	MEAN	167	119	130	168	179	107	119	485	697	426	248	112
MAX	1092	532	378	453	761	405	877	3205	1807	1705	1051	373	
(WY)	1985	1987	1987	1985	1985	1987	1987	1987	1987	1983	1984	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1975 - 1992
ANNUAL TOTAL	67321	76359	
ANNUAL MEAN	184	209	^a 247
HIGHEST ANNUAL MEAN			700
LOWEST ANNUAL MEAN			84.1
HIGHEST DAILY MEAN	804	Jul 3	^b 5930
LOWEST DAILY MEAN	^c 17	Apr 18	^e 3.0
ANNUAL SEVEN-DAY MINIMUM	17	May 11	^d 4.1
INSTANTANEOUS PEAK FLOW			^f 7150
INSTANTANEOUS PEAK STAGE			^g 7.38
ANNUAL RUNOFF (AC-FT)	133500	151500	178700
10 PERCENT EXCEEDS	467	454	522
50 PERCENT EXCEEDS	126	154	107
90 PERCENT EXCEEDS	22	32	12

a-Average discharge for 34 years (water years 1940-73), 203 ft³/s; 147100 acre-ft/yr, prior to completion of Pueblo Dam.

b-Maximum daily discharge for period of record, 25800 ft³/s, May 20, 1955.

c-Also occurred Apr 20, 22, May 11-16, 18, 20, and 21.

d-Also occurred Apr 13 and 14.

e-Minimum daily discharge for period of record, 0.9 ft³/s, Jul 31, Aug 1, and 3, 1964.

f-Maximum discharge and stage for period of record, 44000 ft³/s, May 20, 1955, gage height, 15.03 ft, site and datum then in use, from rating curve extended above 24000 ft³/s, on basis of slope-area measurement of peak flow.

g-Maximum gage height for statistical period, 7.81 ft, May 24, 1987.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

07124200 PURGATOIRE RIVER AT MADRID, CO

LOCATION.--Lat 37°07'46", long 104°38'20", in SW¹/₄NE¹/₄ sec.35, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 70 ft downstream from county bridge, 0.3 mi northeast of Madrid, and 1.0 mi downstream from Burro Canyon.

DRAINAGE AREA.--505 mi².

PERIOD OF RECORD.--Streamflow records, March 1972 to current year. Water-quality data available October 1978 to September 1981.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,261.61 ft above National Geodetic Vertical Datum of 1929 (U.S. Army, Corps of Engineers bench mark).

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 5, Nov. 21, 22, Dec. 4-7, 16-19, 25-27, 30, Jan. 1, 4-6, Jan. 14-25, and Feb. 7, 8. Records good except those for Aug. 1-27, and those above 600 ft³/s, which are fair, 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	24	24	24	21	18	30	63	274	116	193	86
2	52	24	24	20	19	19	26	59	259	104	117	76
3	48	25	30	22	15	19	24	72	240	92	145	70
4	46	27	34	23	12	24	23	78	248	96	104	65
5	46	30	38	23	16	26	25	74	255	98	117	61
6	45	28	41	21	16	23	25	71	260	86	130	58
7	42	28	41	18	19	22	24	74	267	69	118	53
8	39	24	40	18	20	22	25	78	284	79	111	47
9	40	23	32	18	19	21	27	74	323	95	111	45
10	39	22	24	17	18	17	29	78	275	125	138	44
11	39	25	29	23	19	22	30	75	262	107	152	47
12	39	22	30	22	19	21	31	68	264	104	554	43
13	38	23	28	18	18	21	33	69	284	111	224	36
14	36	25	32	16	19	21	39	69	276	92	285	38
15	36	24	29	16	17	21	49	75	264	83	382	53
16	35	27	30	18	17	21	57	83	246	205	188	48
17	35	25	30	19	17	21	52	100	199	190	369	38
18	34	25	28	20	21	21	50	86	178	173	381	34
19	32	26	25	20	25	19	54	84	176	101	433	34
20	32	24	24	22	21	18	49	73	175	104	128	35
21	32	24	20	24	21	20	43	80	173	259	118	32
22	32	21	21	25	17	24	38	85	167	123	98	33
23	40	19	19	25	18	23	36	133	172	122	76	31
24	33	22	21	25	18	21	35	130	188	117	263	28
25	31	26	24	24	20	22	36	140	346	231	202	26
26	31	27	25	23	19	21	39	130	171	170	199	24
27	31	24	24	22	17	22	41	136	149	138	146	25
28	28	26	21	21	18	23	43	171	144	114	107	24
29	25	26	23	21	17	25	50	185	139	112	99	23
30	25	27	26	22	---	24	57	230	129	249	112	23
31	24	---	24	20	---	25	---	271	---	694	112	---
TOTAL	1140	743	861	650	533	667	1120	3194	6787	4559	5912	1280
MEAN	36.8	24.8	27.8	21.0	18.4	21.5	37.3	103	226	147	191	42.7
MAX	55	30	41	25	25	26	57	271	346	694	554	86
MIN	24	19	19	16	12	17	23	59	129	69	76	23
AC-FT	2260	1470	1710	1290	1060	1320	2220	6340	13460	9040	11730	2540

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1992, BY WATER YEAR (WY)

	MEAN	24.3	20.9	18.2	19.9	20.3	46.1	121	191	126	117	56.8
MAX	78.5	37.7	40.3	36.6	37.2	55.9	203	413	589	313	342	232
(WY)	1983	1983	1984	1984	1983	1987	1987	1980	1983	1983	1981	1981
MIN	9.89	12.7	8.47	7.60	5.80	9.72	12.4	26.6	34.8	18.6	18.9	11.0
(WY)	1973	1977	1977	1973	1977	1979	1981	1981	1972	1972	1972	1978

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1972 - 1992

ANNUAL TOTAL	30212	27446	
ANNUAL MEAN	82.8	75.0	68.2
HIGHEST ANNUAL MEAN			145
LOWEST ANNUAL MEAN			21.6
HIGHEST DAILY MEAN	804	694	1640
LOWEST DAILY MEAN	16	12	3.0
ANNUAL SEVEN-DAY MINIMUM	18	17	3.0
INSTANTANEOUS PEAK FLOW		4850	14300
INSTANTANEOUS PEAK STAGE		7.51	12.80
ANNUAL RUNOFF (AC-FT)	59930	54440	49420
10 PERCENT EXCEEDS	184	191	174
50 PERCENT EXCEEDS	34	34	29
90 PERCENT EXCEEDS	20	19	12

a-Also occurred Feb 24 to Mar 2, 1977.

b-From rating curve extended above 300 ft³/s, on basis of drift-timed measurement, and slope-area measurements of peak flow.

c-From floodmarks.

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO

LOCATION (REVISED).--Lat 37°08'37", long 104°32'49", in NE¹/₄SW¹/₄ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank of flip bucket outlet, 500 ft downstream from base of dam, 0.8 mi upstream from Santa Fe Railroad bridge, and 3.0 mi southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi².

PERIOD OF RECORD.--Streamflow records, 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 National Geodetic Vertical Datum of 1929 (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 those below 0.5 ft³/s, which are poor. 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	.24	.08	.06	25	.22	.38	113	233	205	333	149
2	3.4	.22	.08	.06	34	.21	4.0	204	326	204	316	125
3	6.7	.19	.08	.06	22	.18	12	203	276	202	112	85
4	9.9	.18	.08	.06	.38	.18	15	276	236	201	49	62
5	9.6	.18	.08	.05	.38	.18	15	321	236	200	65	59
6	8.6	.17	.08	.04	.38	.14	17	305	237	122	85	56
7	8.7	.18	.08	.04	.38	.12	18	288	237	81	79	56
8	9.5	.18	.08	.04	.38	.11	18	281	238	64	72	119
9	9.9	32	.08	.04	.38	.11	18	277	238	32	68	151
10	10	47	.08	.04	.33	.11	18	276	268	88	67	237
11	8.0	77	.08	.04	.33	.11	18	275	328	136	74	289
12	6.8	93	.07	.04	.33	.11	18	274	195	136	159	294
13	5.0	46	.06	.04	.33	.10	22	272	238	193	352	290
14	.84	.60	.06	.04	6.3	.08	22	271	238	209	317	285
15	.71	.51	.06	.03	16	.10	19	268	238	236	252	281
16	.67	.46	.06	.04	12	.11	19	256	223	148	248	201
17	.64	.44	.06	.03	.21	.11	16	251	196	241	153	157
18	.58	.44	.06	.03	.22	.11	14	249	185	315	161	140
19	.58	.44	.06	.03	.22	.11	14	250	186	311	389	130
20	.58	.89	.06	.03	.22	.11	13	250	186	151	513	128
21	.58	.11	.06	.03	.22	.11	15	250	186	30	230	75
22	.58	.11	.06	.02	.22	.11	15	247	186	128	78	45
23	.58	.11	.06	.01	.22	22	14	247	186	234	78	44
24	.48	.11	.06	.00	.22	34	14	245	186	354	109	44
25	.38	.12	.06	.00	.22	23	19	236	186	180	45	44
26	.35	.11	.06	.00	.22	10	23	234	281	213	1.0	44
27	.33	.10	.06	.00	.22	.68	37	222	122	174	.74	44
28	.30	.08	.06	.10	.22	.67	48	202	120	63	61	78
29	.28	.09	.06	.08	.22	.56	45	191	197	58	93	96
30	.30	.11	.06	.08	---	.45	48	188	206	58	92	96
31	.27	---	.06	.08	---	.39	---	177	---	47	129	---
TOTAL	112.53	301.37	2.09	1.24	121.75	94.58	588.38	7599	6594	5014	4780.74	3904
MEAN	3.63	10.0	.067	.040	4.20	3.05	19.6	245	220	162	154	130
MAX	10	93	.08	.10	34	34	48	321	328	354	513	294
MIN	.27	.08	.06	.00	.21	.08	.38	113	120	30	.74	44
AC-FT	223	598	4.1	2.5	241	188	1170	15070	13080	9950	9480	7740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1992, BY WATER YEAR (WY)

	MEAN	21.2	7.94	3.07	3.17	4.02	4.45	35.0	154	198	172	152	116
MAX		96.0	25.9	11.9	14.7	13.1	17.8	91.7	266	614	306	285	283
(WY)		1984	1984	1979	1977	1977	1977	1982	1983	1983	1983	1991	1984
MIN		.35	.015	.067	.012	.056	.007	.073	25.5	51.5	40.5	36.1	5.15
(WY)		1989	1982	1992	1985	1984	1982	1984	1980	1977	1977	1977	1987

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1977 - 1992

ANNUAL TOTAL	29260.08	29113.68	
ANNUAL MEAN	80.2	79.5	76.1
HIGHEST ANNUAL MEAN			146
LOWEST ANNUAL MEAN			42.8
HIGHEST DAILY MEAN	743	513	917
LOWEST DAILY MEAN	.01	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.02	.01	.00
INSTANTANEOUS PEAK FLOW		546	963
INSTANTANEOUS PEAK STAGE		7.23	7.89
ANNUAL RUNOFF (AC-FT)	58040	57750	55150
10 PERCENT EXCEEDS	219	250	237
50 PERCENT EXCEEDS	12	15	13
90 PERCENT EXCEEDS	.06	.06	.04

a-Also occurred Feb 7.

b-Also occurred Jan 25-27.

c-No flow at times most years.

ARKANSAS RIVER BASIN

07126140 VAN BREMER ARROYO NEAR TYRONE, CO

LOCATION.--Lat 37°23'58", long 104°06'55", in SW¹/₄SW¹/₄, sec.27, T.30 S., R. 60 W., Las Animas County, Hydrologic Unit 11020010, on left bank, on Pinon Canyon Army Maneuver Site, 200 ft downstream from military road at gas line crossing near Brown Sheep Camp, 6 mi southeast of Tyrone, and 11 mi upstream from mouth.

DRAINAGE AREA.--132 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 5,310 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-8, and Sept. 27-30. Records good except for estimated daily discharges, which are poor. Natural flow affected by return flow from irrigation and storage in a small channel reservoir upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.62
7	.00	.00	.00	.00	.00	.00	.00	.00	124	.00	.00	1.3
8	.00	.00	.00	.00	.00	.00	.00	.00	7.7	.00	.00	1.4
9	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.00	1.6
10	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00	1.7
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.2
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.6
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.3
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.1
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.3
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.5
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.1
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.8
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.81
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.49	.00	.32
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.0	.00	1.0
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	21	1.1
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.4	.30
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.96	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.05	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	133.13	1.58	29.85	43.85
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	4.44	.051	.96	1.46
MAX	.00	.00	.00	.00	.00	.00	.00	.00	124	1.0	21	3.5
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	264	3.1	59	87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1992, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	2.65	.066	.033	.027	.070	.006	.018	1.15	2.06	.79	2.88	2.79				
MAX	17.3	.23	.11	.16	.48	.035	.10	5.11	7.44	2.74	8.30	10.3				
(WY)	1986	1986	1987	1987	1987	1987	1986	1987	1985	1990	1986	1988				
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.051	.004	.000				
(WY)	1990	1990	1990	1989	1989	1989	1989	1990	1990	1992	1985	1991				

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1985 - 1992

ANNUAL TOTAL	17.80	208.41		
ANNUAL MEAN	.049	.57		
HIGHEST ANNUAL MEAN			.97	1986
LOWEST ANNUAL MEAN			2.53	1991
HIGHEST DAILY MEAN	3.2 Jul 7	124 Jun 7	.049	Aug 23 1986
LOWEST DAILY MEAN	a .00 Jan 1	a .00 Oct 1	a .00	Jul 27 1985
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00	Aug 5 1985
INSTANTANEOUS PEAK FLOW		b 347 Jun 7	b 511	Aug 23 1986
INSTANTANEOUS PEAK STAGE		10.17 Jun 7	c 10.02	Aug 23 1986
ANNUAL RUNOFF (AC-FT)	35	413	700	
10 PERCENT EXCEEDS	.00	.07	2.1	
50 PERCENT EXCEEDS	.00	.00	.00	
90 PERCENT EXCEEDS	.00	.00	.00	

a-No flow many days most years.

b-From rating curve extended above 45 ft³/s, on basis of flow through culvert computation.

c-Maximum gage height, 10.17 ft, Jun 7, 1992.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07126140 VAN BREMER ARROYO NEAR TYRONE, CO

Water-Quality and Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07126200 VAN BREMER ARROYO NEAR MODEL, CO

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1966 to current year. Statistical summary computed for 1976 to current year, subsequent to completion of Trinidad Reservoir.

REVISED RECORDS.--WDR CO-84-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,790 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 3, Dec. 1, 2, Jan 1, and Jan. 12-18. Records good except for estimated daily discharges, 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. Flood of June 18, 1965, reached a stage of 23.5 ft, from floodmarks, discharge, 47,700 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	18	29	27	24	24	30	12	18	20	188	141
2	23	17	26	30	24	25	39	10	21	18	256	130
3	23	20	27	31	27	25	49	15	26	16	176	123
4	20	25	28	32	31	25	48	13	21	14	52	99
5	17	30	30	26	30	26	46	13	19	13	37	67
6	20	30	32	30	26	26	42	20	24	15	33	43
7	22	33	36	33	27	26	37	11	131	12	73	36
8	21	31	34	39	26	24	40	8.8	95	9.7	33	33
9	20	29	33	31	26	22	52	8.3	46	14	23	32
10	20	26	32	29	27	22	58	9.0	37	9.8	21	24
11	25	27	30	27	26	22	50	8.6	31	7.4	119	20
12	23	41	32	26	26	21	46	7.9	26	7.9	47	16
13	21	31	32	25	25	21	39	14	44	19	329	16
14	17	25	33	22	25	21	37	10	37	81	119	14
15	18	27	40	21	25	20	31	8.8	45	76	154	16
16	18	31	43	21	25	20	30	8.4	37	37	93	16
17	18	39	41	22	23	20	34	7.2	38	338	68	16
18	17	41	36	23	23	21	61	5.4	31	118	297	16
19	17	51	33	25	22	26	38	7.0	23	37	109	15
20	18	48	31	26	22	27	39	7.6	72	22	157	15
21	19	39	33	27	23	25	35	5.8	45	500	244	13
22	19	39	33	30	24	23	30	5.7	31	222	139	13
23	19	42	38	31	25	25	28	5.3	28	103	88	13
24	16	31	35	28	26	28	25	7.9	18	212	76	14
25	18	33	33	30	24	28	23	11	16	432	1820	14
26	19	33	33	29	24	25	21	10	18	334	271	14
27	19	33	32	28	23	22	20	10	21	103	135	14
28	19	34	30	26	23	21	18	13	30	79	124	17
29	19	33	29	25	23	50	15	14	49	76	110	22
30	19	33	30	24	---	43	13	14	33	39	109	27
31	19	---	30	24	---	30	---	15	---	115	147	---
TOTAL	602	970	1014	848	725	784	1074	316.7	1111	3099.8	5647	1049
MEAN	19.4	32.3	32.7	27.4	25.0	25.3	35.8	10.2	37.0	100	182	35.0
MAX	25	51	43	39	31	50	61	20	131	500	1820	141
MIN	16	17	26	21	22	20	13	5.3	16	7.4	21	13
AC-FT	1190	1920	2010	1680	1440	1560	2130	628	2200	6150	11200	2080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

	MEAN	32.3	28.2	26.8	26.1	29.3	30.4	79.9	128	114	101	159	62.8
MAX	84.0	52.3	44.3	43.2	53.3	105	467	592	764	547	910	302	
(WY)	1986	1987	1987	1988	1987	1987	1983	1987	1983	1981	1981	1981	
MIN	.73	3.71	12.1	10.6	11.5	5.97	1.38	6.22	6.69	8.80	9.10	.64	
(WY)	1979	1979	1979	1978	1976	1977	1978	1991	1976	1989	1976	1978	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1976 - 1992
ANNUAL TOTAL	13299.27	17240.5	
ANNUAL MEAN	36.4	47.1	a 68.4
HIGHEST ANNUAL MEAN			181
LOWEST ANNUAL MEAN			12.3
HIGHEST DAILY MEAN	1160	1820	10000
LOWEST DAILY MEAN	.12	5.3	b .00
ANNUAL SEVEN-DAY MINIMUM	.55	6.3	b .00
INSTANTANEOUS PEAK FLOW		4090	c 42400
INSTANTANEOUS PEAK STAGE		9.04	22.00
ANNUAL RUNOFF (AC-FT)	26380	34200	49570
10 PERCENT EXCEEDS	51	89	109
50 PERCENT EXCEEDS	22	26	27
90 PERCENT EXCEEDS	5.7	14	4.4

a-Average discharge for 10 years (water years 1967-76), 37.9 ft³/s; 27460 acre-ft/yr, prior to completion of Trinidad Dam.

b-No flow at times in most years.

c-From rating curve extended above 2100 ft³/s, on basis of two slope-area measurements of peak flow.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07126300 PURGATORIE RIVER NEAR THATCHER, CO

07126325 TAYLOR ARROYO BELOW ROCK CROSSING, NEAR THATCHER, CO

LOCATION.--Lat 37°25'26", long 103°55'09", in SE¹/4SE¹/4 sec.17, T.30 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on left bank 5 mi upstream from mouth, 1.6 mi southeast of Rock Crossing, and 13.5 mi southeast of Thatcher.

DRAINAGE AREA.--48.4 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 4,982 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.55
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	10 2.8	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	79	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.89	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.60	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	93.18	0.00	0.60	0.56
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	3.11	.000	.019	.019
MAX	.00	.00	.00	.00	.00	.00	.00	.00	79	.00	.60	.55
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	185	.00	1.2	1.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	.028	.000	.000	.000	.000	.000	.033	.066	.47	1.02
MAX	.14	.000	.000	.000	.000	.000	.33	.50	3.11	7.60
(WY)	1987	1991	1984	1984	1984	1984	1983	1987	1992	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1984	1984	1984	1984	1984	1984	1984	1983	1984	1983

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1983 - 1992
ANNUAL TOTAL	18.33	94.34	
ANNUAL MEAN	.050	.26	.21
HIGHEST ANNUAL MEAN			.67
LOWEST ANNUAL MEAN			.050
HIGHEST DAILY MEAN	17 Jun 11	79 Jun 7	144 Jul 31 1989
LOWEST DAILY MEAN	a .00 Jan 1	a .00 Oct 1	a .00 Mar 18 1983
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	b .00 Mar 18 1983
INSTANTANEOUS PEAK FLOW		661 Jun 7	b 2820 Jul 31 1989
INSTANTANEOUS PEAK STAGE		7.53 Jun 7	10.96 Jul 31 1989
ANNUAL RUNOFF (AC-FT)	36	187	153
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

a-No flow most of the time.

b-From rating extended to peak flow on the basis of slope-conveyance.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07126325 TAYLOR ARROYO BELOW ROCK CROSSING, NEAR THATCHER, CO

07126390 LOCKWOOD CANYON CREEK NEAR THATCHER, CO

LOCATION.--Lat 37°29'37", long 103°49'47", in SE¹/4NW¹/4 sec.30, T29 S., R.57 W., Las Animas County, Hydrologic Unit 11020010, on right bank 0.6 mi downstream from Sharp Ranch, 5.3 mi upstream from mouth, and 16 mi southeast of Thatcher.

DRAINAGE AREA.--41.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1983 to current year. Prior to May 3, 1989, gage located 1,000 ft upstream, low-flow records are not equivalent because of undetermined flow loss between the sites. Statistical summary computed for 1990 to current year.

REVISED RECORDS.--WDR CO-86-1: 1983, 1984.

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 4,815 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 3, 1989, at site 1,000 ft upstream, at different datum.

REMARKS.--No estimated daily discharge. Records are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	9.6	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.86	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.36	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	9.6	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	22	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.12	.20	.006	.000
MAX	.000	.000	.000	.000	.000	.000	.000	.000	.36	.60	.018	.000
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1992	1990	1990	1990
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1991	1991	1990

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1990 - 1992

ANNUAL TOTAL		10.86										
ANNUAL MEAN		.030								a	.027	
HIGHEST ANNUAL MEAN										b	.053	1990
LOWEST ANNUAL MEAN										b	.000	1991
HIGHEST DAILY MEAN												
LOWEST DAILY MEAN												
ANNUAL SEVEN-DAY MINIMUM												
INSTANTANEOUS PEAK FLOW												
INSTANTANEOUS PEAK STAGE												
ANNUAL RUNOFF (AC-FT)												
10 PERCENT EXCEEDS												
50 PERCENT EXCEEDS												

a-Average discharge for 5 years (water years 1984-88), 0.17 ft³/s; 123 acre-ft/year, at former location 1000 ft upstream.

b-No flow most of the time.

c-From rating curve extended above 5 ft³/s, on the basis of slope-area measurement of peak flow.

d-Maximum discharge for period of record, 1070 ft³/s, May 22, 1987, from rating curve extended above 5 ft³/s, on basis of slope-area measurements at gage heights, 9.42 ft, and 10.39 ft.

e-From floodmark.

f-Maximum gage height for period of record, 10.39 ft, from floodmark, site and datum then in use.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07126390 LOCKWOOD CANYON CREEK NEAR THATCHER, CO

07126470 CHACUACO CREEK AT MOUTH NEAR TIMPAS, CO

LOCATION.--Lat 37°32'38", long 103°37'54", in SE¹/4SE¹/4 sec.1, T.28 S., R.56 W., Las Animas County, Hydrologic Unit 11020010, 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.--424 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CO-85-1: 1984 (M).

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 4,350 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of May 19, 1955, and June 17, 1965, reached discharges of 3,170 ft³/s, and 38,900 ft³/s, respectively, at a different site, from slope-area measurements of peak flows.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	1330	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	322	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.2	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.67	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	46	33	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	14	4.2	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.01	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	1694.56	0.12	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	2.00	54.7	.004	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	46	1330	.11	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	119	3360	.2	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	.12	.000	.000	.17	.000	.000	.000	2.73	1.29	8.90
MAX	.91	.000	.000	1.52	.000	.000	.000	14.4	6.52	54.7
(WY)	1985	1984	1984	1987	1985	1984	1984	1987	1986	1992
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1984	1984	1984	1984	1985	1984	1984	1983	1983	1983

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1983 - 1992
ANNUAL TOTAL	657.54	1754.68	
ANNUAL MEAN	1.80	4.79	1.77
HIGHEST ANNUAL MEAN			4.79
LOWEST ANNUAL MEAN			.32
HIGHEST DAILY MEAN	172 Aug 9	1330 Jul 8	1330 Jul 8 1992
LOWEST DAILY MEAN	^a .00 Jan 1	^a .00 Oct 1	^a .00 May 1 1983
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 May 1 1983
INSTANTANEOUS PEAK FLOW		^b 11800 Jul 8	^b 11800 Jul 8 1992
INSTANTANEOUS PEAK STAGE		^c 16.22 Jul 8	^c 16.22 Jul 8 1992
ANNUAL RUNOFF (AC-FT)	1300	3480	1290
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

a-No flow most of time.

b-From rating curve extended on basis of slope-area measurement of peak flow.

c-From floodmarks.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

[illegible]

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

Water-Quality and Streamflow data for water year 1992 for the following station
will be published in a subsequent report

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ARKANSAS RIVER BASIN

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO

07126500 PURGATOIRE RIVER AT NINEMILE DAM, NEAR HIGBEE, CO

LOCATION.--Lat 37°42'53", long 103°30'38", in NW¹/₄ sec.7, T.27 S., R.54 W., Otero County, Hydrologic Unit 11020010, on left bank at Ninemile Dam, 4 mi southwest of Higbee, and 5.5 mi upstream from Smith Canyon. Prior to Apr. 21, 1978 gage located 850 ft, upstream.

DRAINAGE AREA.--2,752 mi².

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1311. Statistical summary computed for 1977 to current year.

REVISED RECORDS.--WSP 1311: 1934 (M), 1936 (M), 1941-42 (M), 1948-49 (M). WSP 1731: 1929 (M).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,240.59 ft above National Geodetic Vertical Datum of 1929, supplementary adjustment of 1960. See WSP 1711 or 1731 for history of changes prior to Dec. 6, 1956. Dec. 6, 1956 to Apr. 20, 1978, at site 850 ft, upstream.

REMARKS.--Estimated daily discharges: Nov. 1 and 4. Records good except for estimated daily discharges, and those for flows over 1,000 ft³/s, which are poor. Diversions for irrigation of about 32,000 acres above station. Discharge computed by combining discharge of river below Ninemile Dam and Ninemile canal.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	17	36	28	28	24	36	15	9.1	37	151	180
2	7.8	18	28	25	30	25	29	11	9.8	19	224	176
3	7.6	23	26	23	30	26	33	11	11	17	388	174
4	17	25	27	27	28	28	46	10	12	16	310	153
5	20	27	30	27	30	28	45	9.8	173	14	111	113
6	18	30	32	27	32	27	42	11	39	11	61	81
7	16	33	33	25	31	26	42	11	46	11	64	57
8	18	34	33	26	28	26	39	14	138	43	97	34
9	20	35	36	32	29	27	34	12	87	1750	76	26
10	19	31	36	33	30	25	45	7.9	53	98	57	25
11	18	30	32	29	30	23	46	7.7	33	67	52	24
12	18	30	35	33	30	23	44	7.3	32	55	175	18
13	22	33	35	32	29	22	42	7.5	25	53	116	16
14	21	35	28	21	25	22	38	7.0	25	52	324	13
15	19	28	30	23	25	22	34	6.3	29	67	144	12
16	17	28	24	26	25	18	32	8.0	31	117	185	13
17	16	30	31	34	24	20	36	6.4	30	77	122	13
18	16	34	34	25	24	21	28	5.3	28	327	103	12
19	16	41	34	23	24	23	42	14	29	172	303	14
20	17	45	31	32	25	27	40	14	24	96	146	14
21	17	46	28	32	23	28	36	6.7	44	232	236	11
22	17	40	30	36	24	30	35	4.5	51	480	298	11
23	18	35	32	28	25	29	32	5.1	28	270	154	11
24	18	38	32	37	24	26	28	5.6	24	165	111	11
25	18	36	36	31	24	29	26	4.9	68	310	618	8.9
26	17	30	30	28	25	31	25	4.3	67	751	672	9.5
27	18	32	28	31	26	29	24	4.7	20	281	194	11
28	13	33	26	32	25	26	21	4.9	19	131	172	10
29	13	32	27	30	25	25	19	5.7	24	99	158	11
30	15	32	24	33	---	34	17	5.9	31	105	125	11
31	16	---	25	30	---	42	---	7.8	---	74	120	---
TOTAL	511.3	961	949	899	778	812	1036	256.3	1239.9	5997	6067	1273.4
MEAN	16.5	32.0	30.6	29.0	26.8	26.2	34.5	8.27	41.3	193	196	42.4
MAX	22	46	36	37	32	42	46	15	173	1750	672	180
MIN	7.6	17	24	21	23	18	17	4.3	9.1	11	52	8.9
AC-FT	1010	1910	1880	1780	1540	1610	2050	508	2460	11900	12030	2530

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1992, BY WATER YEAR (WY)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	32.1	25.3	24.0	24.7	27.7	31.8	72.5	125	122	121	181	58.7				
MAX	79.9	43.7	40.0	35.6	65.7	93.4	333	489	640	448	829	268				
(WY)	1986	1987	1987	1988	1988	1987	1983	1987	1983	1981	1981	1981				
MIN	.000	.000	4.45	5.82	11.7	6.06	1.19	5.87	4.35	29.9	32.6	.90				
(WY)	1978	1977	1979	1977	1977	1977	1978	1991	1977	1989	1980	1978				

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1977 - 1992
ANNUAL TOTAL	10950.20	20779.9	
ANNUAL MEAN	30.0	56.8	a 70.9
HIGHEST ANNUAL MEAN			161
LOWEST ANNUAL MEAN			26.6
HIGHEST DAILY MEAN	640	1750	b 7280
LOWEST DAILY MEAN	c .00	4.3	d .00
ANNUAL SEVEN-DAY MINIMUM	.13	4.9	e 10000
INSTANTANEOUS PEAK FLOW			f 22700
INSTANTANEOUS PEAK STAGE			9.26
ANNUAL RUNOFF (AC-FT)	21720	41220	51330
10 PERCENT EXCEEDS	45	123	129
50 PERCENT EXCEEDS	19	28	28
90 PERCENT EXCEEDS	4.4	11	5.1

a-Average discharge for 52 years (water years 1925-76), 94.5 ft³/s; 68470 acre-ft/yr, prior to completion of Trinidad Dam.

b-Maximum daily discharge for period of record, 27000 ft³/s, Aug 7, 1929.

c-Also occurred Jun 3-6 and Jun 7-10.

d-No flow at times most years.

e-Approximately, gage height not determined.

f-Maximum discharge and stage for period of record, 105000 ft³/s, estimated, Jun 18, 1965, gage height, 19.6 ft, from floodmarks.

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°02'02", long 103°12'00", in NE¹/4SW¹/4 sec.23, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020010, on right bank at downstream side of bridge on State Highway 101, 2.3 mi southeast of courthouse in Las Animas, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--3,318 mi².

WATER-DISCHARGE RECORDS

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.

REVISED RECORDS.--WSP 1241: 1927(M); WDR CO-84-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 3,871.84 ft above National Geodetic Vertical Datum of 1929. 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, higher.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 4, June 2-9, and Aug. 4. Records fair except for estimated daily discharges which are poor. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1860 occurred Oct. 1, 1904.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	9.0	32	32	34	20	8.9	6.7	15	11	47	76
2	2.4	8.5	22	29	33	24	21	6.3	16	12	58	108
3	2.8	8.0	27	28	39	21	16	6.3	18	11	104	113
4	4.0	11	28	32	43	19	12	7.1	18	8.8	420	109
5	4.6	29	32	30	42	17	15	8.1	16	6.5	221	94
6	3.2	32	32	31	40	18	25	6.9	100	6.2	77	66
7	2.4	25	31	34	40	15	21	6.7	30	4.1	46	43
8	2.3	29	33	32	40	10	22	6.8	28	3.5	41	30
9	2.5	35	31	29	37	19	20	5.7	70	963	48	24
10	2.4	45	31	30	35	27	17	5.2	89	346	52	20
11	2.6	41	35	42	35	29	19	5.3	59	52	41	16
12	2.6	33	39	41	34	27	20	4.7	39	25	87	18
13	2.9	32	36	34	34	24	22	4.7	35	24	189	16
14	3.4	31	33	24	34	22	26	8.5	26	49	87	12
15	3.6	26	28	20	33	18	24	5.3	15	23	152	7.4
16	3.8	31	27	25	31	16	17	6.3	7.2	39	78	6.4
17	3.8	28	31	30	32	41	20	4.2	14	46	93	8.9
18	4.2	31	31	38	31	37	16	6.0	7.3	30	67	7.6
19	5.4	34	35	30	31	44	12	4.7	7.7	107	65	4.9
20	5.5	42	41	27	31	35	13	4.1	4.8	54	163	6.1
21	5.0	45	38	27	28	38	26	4.5	6.1	103	100	4.8
22	6.2	46	37	36	26	39	15	4.0	8.7	183	134	6.5
23	4.5	42	37	32	25	33	12	2.7	21	210	189	6.1
24	3.9	37	37	34	28	32	11	2.6	9.2	114	117	4.4
25	9.5	38	37	37	28	29	12	2.4	12	72	97	4.1
26	12	41	40	40	30	21	9.8	3.9	59	343	376	6.3
27	17	36	39	35	31	22	8.8	5.2	58	341	350	11
28	25	32	35	36	30	31	8.2	4.0	23	184	212	14
29	29	33	35	36	21	53	8.2	4.2	20	124	157	11
30	32	34	33	35	---	24	8.6	5.3	16	115	113	15
31	25	---	31	33	---	11	---	9.6	---	81	88	---
TOTAL	235.9	944.5	1034	999	956	816	486.5	168.0	848.0	3691.1	4069	869.5
MEAN	7.61	31.5	33.4	32.2	33.0	26.3	16.2	5.42	28.3	119	131	29.0
MAX	32	46	41	42	43	53	26	9.6	100	963	420	113
MIN	2.3	8.0	22	20	21	10	8.2	2.4	4.8	3.5	41	4.1
AC-FT	468	1870	2050	1980	1900	1620	965	333	1680	7320	8070	1720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1992, BY WATER YEAR (WY)

	MEAN	29.6	30.6	25.4	28.7	30.5	37.0	77.3	130	118	75.4	133	45.2
MAX	82.6	59.1	38.0	46.3	56.2	125	418	614	724	263	761	224	
(WY)	1986	1987	1987	1983	1988	1987	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	10.7	3.76	3.14	
(WY)	1978	1979	1979	1979	1979	1978	1978	1991	1990	1980	1980	1978	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1978 - 1992

ANNUAL TOTAL	10241.7	15117.5	
ANNUAL MEAN	28.1	41.3	
HIGHEST ANNUAL MEAN			^a 63.6
LOWEST ANNUAL MEAN			166
HIGHEST DAILY MEAN	357	Aug 10	963 Jul 9
LOWEST DAILY MEAN	1.5	May 18	2.3 Oct 8
ANNUAL SEVEN-DAY MINIMUM	2.5	Oct 7	2.5 Oct 7
INSTANTANEOUS PEAK FLOW			2560 Jul 9
INSTANTANEOUS PEAK STAGE			9.43 Jul 9
ANNUAL RUNOFF (AC-FT)	20310	29990	46080
10 PERCENT EXCEEDS	43	87	119
50 PERCENT EXCEEDS	21	28	24
90 PERCENT EXCEEDS	3.6	4.7	3.9

a-Average discharge for 37 years (water years 1923-31, 1949-76), 116 ft³/s; 84040 acre-ft/yr, prior to completion of Trinidad Reservoir.

b-Maximum daily discharge for period of record, 46300 ft³/s, May 20, 1955.

c-No flow at times in 1924-25, 1927, 1949, and 1974.

d-Maximum discharge and stage for period of record, 70000 ft³/s, May 20, 1955, gage height, 20.00 ft, from rating curve extended above 38000 ft³/s, at different datum.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°04'05", long 102°56'13", in NE¹/4NW¹/4 sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, at dam on Arkansas River at Caddoa, 3.2 mi southeast of Hasty, and 58 mi upstream from Colorado-Kansas State line.

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, and nonrecording gage read once daily for those below. Datum of gage is 3,760.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Corps of Engineers); gage readings have been reduced to elevations above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated contents. Records good. 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 1986 resurvey used from Feb. 1, 1988) 608,200 acre-ft, at elevation 3,870.00 ft, top of spillway gates, of which 345,300 acre-ft between elevations 3778.22 ft, elevation of no contents, and 3851.58 ft, is reserved for flood control. Contents table shown is from the latest survey of 1986. No dead storage. Figures given represent total contents.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 429,600 acre-ft, Aug. 25, 1965, elevation, 3,856.16 ft; no contents at times many years.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 70,800 acre-ft, Apr. 3-4, elevation, 3,815.99 ft; minimum contents, 8,540 acre-ft, Oct. 29, elevation, 3,795.02 ft.

3,785.0	196	3,820.0	88,900
3,790.0	2,400	3,830.0	148,000
3,795.0	8,510	3,840.0	227,000
3,800.0	18,500	3,850.0	327,000
3,810.0	47,600	3,860.0	453,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9330	9090	21800	33000	45700	63500	70600	48500	34600	34300	18700	16800
2	9250	9490	22200	33300	46100	63900	70700	47500	34600	34200	18700	16900
3	9150	9560	22500	33600	46700	64300	70800	46600	34500	34100	18800	16800
4	9130	9660	22900	34000	47300	64700	70800	45700	34300	34300	19600	16700
5	9090	10000	23300	34300	47800	65100	70800	44600	34100	34600	20000	16500
6	9080	10900	23900	34700	48400	65500	70600	43600	33800	35000	19300	16400
7	9080	11900	24200	35100	48800	65500	69800	42700	33700	34100	18700	16100
8	9080	12500	24600	35400	49400	66300	68800	41800	33500	32600	18200	15800
9	9080	13000	25000	35900	49900	66500	67800	40800	33700	31200	17600	15700
10	9060	13400	25300	36400	50300	66800	66700	39900	34200	30900	17300	15700
11	9030	13800	25800	36800	50900	67100	65700	39100	34400	29400	16800	15600
12	8990	14000	26100	37400	51300	67500	64500	38500	34500	28000	16400	15500
13	8940	14300	26500	38000	52100	67800	63500	38200	34700	26800	16300	15300
14	8960	14500	26800	38300	52900	68000	62300	38000	34600	25700	16100	14900
15	8960	14700	27200	38500	53600	68300	61000	37700	34400	24800	15800	14700
16	8960	15300	27500	38700	54500	68600	59700	37200	33900	24000	15700	14500
17	8910	15800	27700	39200	55300	68800	58500	36600	33400	23300	15600	14500
18	8880	16300	28100	39800	56000	69000	57400	36000	33200	22300	15400	14500
19	8830	16900	28500	40500	56800	69100	56300	35300	33300	21300	15100	14500
20	8880	17400	28900	41100	57500	69300	55600	34800	33500	20100	15100	14400
21	8930	17800	29200	41800	58400	69400	55000	34400	33900	20100	15100	14400
22	8890	18300	29600	42300	59100	69500	54600	34200	33800	20100	15300	14300
23	8890	18700	29900	42700	59900	69700	53800	34400	33700	20300	15400	14300
24	8860	19100	30300	43000	60700	69800	53000	34500	33500	20000	15700	14300
25	8790	19500	30600	43300	61400	69900	52400	34400	33400	19800	15600	14300
26	8710	19900	31000	43700	61800	69900	51700	34300	33500	20100	15900	14200
27	8620	20300	31300	44000	62300	70000	51100	34500	34200	20500	16500	14000
28	8640	20700	31700	44400	62700	70300	50600	34600	34400	20400	16500	13900
29	8540	21100	32000	44700	63100	70400	49900	34600	34100	20100	16300	14000
30	8620	21500	32300	45100	---	70500	49300	34700	34400	19500	16400	14000
31	8670	---	32700	45400	---	70600	---	34700	---	19100	16700	---
MEAN	8930	15300	27400	39200	54200	67900	60800	38500	34000	25800	16800	15100
MAX	9330	21500	32700	45400	63100	70600	70800	48500	34700	35000	20000	16900
MIN	8540	9090	21800	33000	45700	63500	49300	34200	33200	19100	15100	13900
CAL YR 1991		MEAN 31400		MAX 70300		MIN 8540						
WTR YR 1992		MEAN 33600		MAX 70800		MIN 8540						

Water-Quality and Streamflow data for water year 1992 for the following station
will be published in a subsequent report

ARKANSAS RIVER BASIN

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO

07133000 ARKANSAS RIVER AT LAMAR, CO

LOCATION.--Lat 38°06'21", long 102°37'05", in NE¹/₄SE¹/₄ sec.30, T.22 S., R.46 W., Prowers County, Hydrologic Unit 11020009, on left bank at left upstream end of upstream bridge on U.S. Highways 50 and 287, and 1.3 mi north of courthouse in Lamar.

DRAINAGE AREA.--19,780 mi², of which 950 mi² is probably non-contributing.

PERIOD OF RECORD.--Streamflow records, May 1913 to September 1955, April 1959 to current year. Monthly discharge only for some periods, published in WSP 1311. Statistical summary computed for 1949 to current year. Water-quality data available, November 1963 to September 1965, September 1969 to August 1972.

REVISED RECORDS.--WSP 1341: 1921(M), 1945-46(M), drainage area; WDR CO-86-1: 1985.

GAGE.--Water-stage recorder. Datum of gage is 3,602.23 ft above National Geodetic Vertical Datum of 1929. See WSP 1731 for history of changes prior to Apr. 4, 1959. Apr. 4, 1959 to Mar. 26, 1968, at site 450 ft upstream at datum 2.42 ft, higher. Mar. 27, 1968 to Nov. 17, 1982 at datum 4.00 ft lower. Prior to Mar. 18, 1987, at site 75 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 1-4, Dec. 2, 26, 27, Jan. 2, 3, 6-8, Feb. 20-25, Sept. 9, 10, and Sept. 25-27. Records good except for Oct. 2-10, Jan. 18-22, Jan. 24 to Feb. 19, Sept. 17-24, and daily discharges above 600 ft³/s, which are fair; and for Mar. 13 to Apr. 8, and estimated daily discharges, which are poor. Flow regulated by John Martin Reservoir (station 07130000) 21 mi upstream since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 487,000 acres, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	20	27	20	19	20	5.2	48	34	13	9.7	7.9
2	27	30	29	20	19	20	5.2	51	15	11	9.8	7.2
3	26	25	30	21	24	20	5.0	53	8.0	7.4	8.6	7.7
4	23	35	29	21	25	20	4.4	53	7.4	9.6	7.2	7.9
5	23	40	29	20	23	23	4.9	51	7.7	9.4	16	7.2
6	17	41	29	20	21	22	4.9	50	7.4	10	12	6.5
7	9.4	38	28	20	21	21	4.9	51	6.7	74	18	5.4
8	9.5	36	28	20	20	19	11	51	7.1	539	20	5.0
9	9.2	34	27	20	20	22	27	51	9.7	641	13	5.0
10	8.5	32	26	22	22	20	42	52	10	646	60	4.8
11	8.1	32	28	20	21	19	29	53	11	645	34	14
12	8.5	31	31	20	21	20	31	50	6.5	654	16	21
13	8.3	23	31	20	20	17	39	52	6.8	603	14	21
14	8.1	22	27	20	21	15	54	56	6.3	513	15	18
15	8.5	22	26	19	20	14	43	61	5.5	439	13	16
16	8.4	26	26	18	20	14	43	63	4.6	431	13	5.2
17	8.0	28	25	18	21	13	46	65	5.0	410	29	5.4
18	7.6	27	25	17	19	12	51	47	4.4	434	41	5.4
19	7.6	32	27	20	18	9.0	57	43	4.0	440	23	7.4
20	8.1	33	26	19	17	6.6	57	38	10	471	10	6.5
21	8.1	31	25	17	17	5.6	45	11	7.8	810	8.0	7.4
22	8.3	30	24	18	16	5.2	30	8.9	4.6	181	9.0	6.7
23	10	28	23	18	16	6.1	25	7.7	31	65	7.0	6.2
24	9.3	28	22	18	17	6.2	27	7.6	33	31	9.2	5.2
25	10	28	22	20	18	5.1	26	7.0	48	40	18	5.0
26	9.4	28	22	19	20	5.7	33	6.7	53	250	7.9	4.6
27	11	28	22	19	20	4.9	37	19	319	91	7.1	4.8
28	10	28	22	18	20	4.7	36	31	65	34	8.0	5.1
29	7.4	27	21	19	20	5.1	41	43	30	16	5.9	18
30	10	27	20	18	---	5.3	49	55	14	14	5.9	18
31	13	---	21	18	---	5.7	---	84	---	13	6.0	---
TOTAL	365.3	890	798	597	576	406.2	913.5	1319.9	782.5	8545.4	474.3	265.5
MEAN	11.8	29.7	25.7	19.3	19.9	13.1	30.4	42.6	26.1	276	15.3	8.85
MAX	27	41	31	22	25	23	57	84	319	810	60	21
MIN	7.4	20	20	17	16	4.7	4.4	6.7	4.0	7.4	5.9	4.6
AC-FT	725	1770	1580	1180	1140	806	1810	2620	1550	16950	941	527

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1992, BY WATER YEAR (WY)

	MEAN	39.2	15.9	20.9	23.6	31.3	29.0	171	176	245	233	216	96.0
MAX	233	52.2	71.5	158	507	210	1089	2143	2087	950	1547	689	
(WY)	1949	1987	1966	1966	1966	1986	1987	1987	1987	1980	1965	1965	
MIN	.84	1.81	.56	.47	.72	1.11	10.9	6.41	3.80	10.2	10.9	1.37	
(WY)	1978	1978	1978	1978	1965	1965	1983	1963	1954	1964	1974	1974	

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1949 - 1992
ANNUAL TOTAL	18928.8	15933.6	
ANNUAL MEAN	51.9	43.5	a ₁₀₆
HIGHEST ANNUAL MEAN			537
LOWEST ANNUAL MEAN			27.0
HIGHEST DAILY MEAN	985	810	b ₂₅₀₀₀
LOWEST DAILY MEAN	4.4	4.0	c _{.00}
ANNUAL SEVEN-DAY MINIMUM	4.8	4.9	.21
INSTANTANEOUS PEAK FLOW		1790	d ₇₃₈₀₀
INSTANTANEOUS PEAK STAGE		8.95	e _{16.48}
ANNUAL RUNOFF (AC-FT)	37550	31600	76850
10 PERCENT EXCEEDS	56	52	391
50 PERCENT EXCEEDS	20	20	21
90 PERCENT EXCEEDS	6.0	6.0	3.7

a-Average discharge for 30 years (water years 1914-43), 298 ft³/s; 215900 acre-ft/yr, prior to and during construction of John Martin Dam.

b-Maximum daily discharge for period of record, 87300 ft³/s, Jun 6, 1921.

c-Minimum daily discharge for period of record, no flow at times in 1913-15.

d-Maximum discharge and stage for period of record, 130000 ft³/s, Jun 5, 1921, gage height, 14.55 ft, datum then in use, from rating curve extended above 10000 ft³/s.

e-Datum then in use, from floodmarks.

07134180 ARKANSAS RIVER NEAR GRANADA, CO

LOCATION.--Lat 38°05'44", long 102°18'37", in SE1/4NE1/4 sec.36, T.22 S., R.44 W., Prowers County, Hydrologic Unit 11020009, on left bank at upstream side at end of bridge on U.S. Highway 385, 1.2 mi downstream from headgate of Buffalo Canal, and 2.3 mi north of Granada.

DRAINAGE AREA.--23,707 mi².

PERIOD OF RECORD.--January 1899 to December 1901, gage heights only at different site and datum, August to October 1903, December 1980 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by John Martin Reservoir (station 07130000) 38 mi upstream since October 1948. Natural flow of stream affected by transmountain diversion, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 500,000 acres, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	23	95	90	80	79	17	4.4	4.5	22	38	17
2	6.2	29	90	89	75	83	10	4.0	4.2	27	25	14
3	5.0	30	95	85	83	84	4.9	4.2	4.0	44	14	9.6
4	5.0	46	100	88	90	87	4.5	3.8	3.9	38	6.9	9.6
5	5.0	85	101	88	90	90	4.7	3.9	4.2	33	6.8	9.8
6	5.0	89	101	87	87	96	4.7	3.8	4.1	28	6.7	9.6
7	5.0	101	100	87	84	94	4.7	3.8	4.7	14	7.1	9.5
8	5.0	102	98	84	84	93	4.4	5.2	4.3	77	7.4	8.1
9	5.0	102	98	84	84	89	4.5	5.2	5.0	357	7.7	8.0
10	4.8	99	98	82	80	85	4.5	5.1	4.4	466	8.7	8.3
11	4.8	98	99	82	80	84	4.5	5.6	4.9	507	14	8.3
12	4.8	98	106	85	78	84	5.8	4.0	5.4	527	9.8	8.5
13	4.8	94	106	84	79	82	4.9	4.1	5.7	543	10	7.7
14	4.8	84	101	81	79	70	5.7	4.4	5.0	468	11	7.2
15	4.8	81	101	78	75	64	6.1	4.3	5.0	407	11	7.4
16	4.8	85	97	72	74	61	4.9	5.1	4.7	394	50	6.8
17	4.8	92	93	80	73	58	3.6	5.4	4.8	369	60	6.2
18	4.8	95	89	83	73	58	4.0	4.3	5.1	390	47	6.0
19	6.0	98	96	81	74	56	6.8	4.2	5.4	396	52	6.2
20	5.6	102	98	79	75	56	7.8	4.6	6.2	417	39	5.2
21	6.0	102	97	81	75	54	7.8	4.4	6.8	436	29	5.3
22	5.6	98	96	82	75	49	6.6	4.4	5.5	565	19	5.5
23	5.6	94	95	78	75	48	4.3	4.5	5.6	231	17	4.9
24	5.1	94	93	78	75	37	4.4	4.2	5.5	143	13	4.9
25	4.8	95	93	78	75	26	3.7	4.1	6.2	80	14	5.8
26	4.8	95	92	78	76	26	3.7	5.0	9.1	139	19	4.6
27	5.0	95	89	78	76	27	5.3	5.6	13	210	19	4.7
28	9.9	94	92	78	77	25	6.1	4.4	161	129	15	4.9
29	16	94	92	77	78	24	5.3	4.3	56	87	14	4.9
30	18	95	91	78	---	21	5.3	5.4	35	69	14	5.0
31	21	---	90	78	---	17	---	4.2	---	55	16	---
TOTAL	205.3	2589	2982	2533	2279	1907	170.5	139.9	399.2	7668	621.1	223.5
MEAN	6.62	86.3	96.2	81.7	78.6	61.5	5.68	4.51	13.3	247	20.0	7.45
MAX	21	102	106	90	90	96	17	5.6	161	565	60	17
MIN	4.8	23	89	72	73	17	3.6	3.8	3.9	14	6.7	4.6
AC-FT	407	5140	5910	5020	4520	3780	338	277	792	15210	1230	443

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1992, BY WATER YEAR (WY)

	MEAN	83.4	87.4	108	99.7	95.9	100	212	276	381	324	249	119
MAX		184	149	157	134	143	249	1138	2072	2196	529	607	430
(WY)		1984	1987	1988	1988	1988	1987	1987	1987	1987	1983	1983	1984
MIN		5.43	9.68	35.4	51.6	55.9	33.3	5.68	4.51	9.39	130	4.39	4.13
(WY)		1982	1982	1982	1982	1982	1981	1992	1992	1981	1990	1990	1990

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1981 - 1992
ANNUAL TOTAL	23111.3	21717.5	
ANNUAL MEAN	63.3	59.3	187
HIGHEST ANNUAL MEAN			597
LOWEST ANNUAL MEAN			59.3
HIGHEST DAILY MEAN	678 Jul 1	565 Jul 22	3330 May 26 1987
LOWEST DAILY MEAN	3.7 Jun 11	3.6 Apr 17	a 2.7 Aug 17 1990
ANNUAL SEVEN-DAY MINIMUM	4.0 May 27	4.0 May 1	b 3.0 Aug 14 1990
INSTANTANEOUS PEAK FLOW		910 Jul 22	b 3460 May 26 1987
INSTANTANEOUS PEAK STAGE		8.30 Jul 22	11.78 May 26 1987
ANNUAL RUNOFF (AC-FT)	45840	43080	135400
10 PERCENT EXCEEDS	100	98	466
50 PERCENT EXCEEDS	24	27	90
90 PERCENT EXCEEDS	4.8	4.5	6.4

a-Also occurred Aug 18 and 19, 1990.

b-From rating curve extended above 2700 ft³/s.

07137000 FRONTIER DITCH NEAR COOLIDGE, KS

LOCATION.--Lat 38°02'18", long 102°02'19", in SW¹/4SE¹/4NE¹/4 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 midstream 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. 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 ft³/s, Aug. 1, 1975; no flow many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	.09	.00	.00	.00	.00	.00	38	24	.00	26	33
2	18	.00	.00	.00	.00	.00	.00	49	24	.00	26	36
3	17	.00	.00	.00	.00	.00	.00	29	24	.00	26	29
4	18	.00	.00	.00	.00	.00	.00	33	23	.00	26	25
5	18	.00	.00	.00	.00	.00	.00	26	22	3.2	25	25
6	18	.00	.00	.00	.00	.00	.00	24	22	23	25	30
7	17	.00	.00	.00	.00	.00	.00	22	21	18	24	28
8	18	.00	.00	.00	.00	.00	.00	25	19	19	25	24
9	19	.00	.00	.00	.00	.00	.00	24	10	23	24	20
10	18	.00	.00	.00	.00	.00	.00	21	.00	26	25	16
11	18	.00	.00	.00	.00	.00	.00	25	.00	33	6.4	15
12	19	.00	.00	.00	.00	.00	.00	30	.00	40	.40	15
13	18	.00	.00	.00	.00	.00	.00	30	.00	30	.03	14
14	18	.00	.00	.00	.00	.00	.00	31	.00	17	.00	14
15	17	.00	.00	.00	.00	.00	.00	29	.00	.63	.00	12
16	17	.00	.00	.00	.00	.00	.00	28	2.5	.03	.00	11
17	24	.00	.00	.00	.00	.00	.00	33	20	.00	5.6	15
18	21	.00	.00	.00	.00	.00	.00	30	20	.00	.35	33
19	17	.00	.00	.00	.00	.00	.00	27	25	.00	.01	33
20	16	.00	.00	.00	.00	.00	.00	26	25	.00	.00	32
21	16	.00	.00	.00	.00	.00	.00	26	26	.00	.00	30
22	13	.00	.00	.00	.00	.00	13	26	26	.00	.00	29
23	13	.00	.00	.00	.00	.00	29	27	25	10	.00	29
24	13	.00	.00	.00	.00	.00	33	26	26	26	9.5	29
25	12	.00	.00	.00	.00	.00	37	26	13	21	24	29
26	13	.00	.00	.00	.00	.00	36	26	.00	19	36	29
27	13	.00	.00	.00	.00	.00	38	25	.00	.04	40	28
28	14	.00	.00	.00	.00	.00	35	25	.00	.00	36	25
29	7.2	.00	.00	.00	.00	.00	39	26	.00	11	33	21
30	4.3	.00	.00	.00	---	.00	43	25	.00	21	32	17
31	.47	---	.00	.00	---	.00	---	25	---	25	32	---
TOTAL	493.97	.09	.00	.00	.00	.00	303.00	863	397.50	365.90	507.29	726
MEAN	15.6	.003	.000	.000	.000	.000	10.1	27.8	13.2	11.8	16.4	24.2
MAX	24	.09	.00	.00	.00	.00	43	49	26	40	40	36
MIN	.47	.00	.00	.00	.00	.00	.00	21	.00	.00	.00	11
AC-FT	960	.2	.00	.00	.00	.00	601	1710	788	726	1010	1440

CAL YR TOTAL 3815.98 MEAN 10.4 MAX 63 MIN .00 AC-FT 7570
WTR YR TOTAL 3646.75 MEAN 9.96 MAX 49 MIN .00 AC-FT 7230

LOCATION.--Lat 38°01'34", long 102°00'41", in NW¹/₄ NE¹/₄ NW¹/₄ sec.26, T.23 S., R.43 W., Hamilton County, Hydrologic Unit 11030001, on right bank at downstream side of bridge, 1.0 mi south of Coolidge, 1.9 mi downstream from Colorado-Kansas State line, and at mile 1,099.3.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1341: 1903, drainage area.

REMARKS.--Records excellent. Combined flow of river and Frontier Ditch (station 07137000) represents entire flow that enters Kansas. Flow regulated since 1943 by John Martin Reservoir (station 07130000). Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 500,000 acres, and return flow from irrigated areas. Satellite telemeter at station.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	e50	101	109	105	96	69	27	63	160	147	101
2	31	e55	102	108	104	95	70	27	75	149	119	100
3	27	e60	100	108	110	97	77	58	62	183	97	86
4	28	63	105	106	112	102	77	56	59	167	91	83
5	38	80	106	108	112	100	77	52	58	129	87	75
6	46	90	107	108	111	103	67	49	51	78	86	74
7	43	91	107	110	109	105	54	50	54	67	85	71
8	28	95	107	106	107	104	57	41	55	56	87	67
9	26	98	106	106	107	100	63	48	92	136	76	70
10	20	97	107	104	106	94	92	47	101	291	113	64
11	17	97	107	106	105	95	70	43	92	374	149	56
12	20	96	112	108	104	94	58	33	75	407	135	58
13	20	96	114	106	104	94	67	24	73	664	109	59
14	29	96	112	106	105	93	66	18	90	604	95	61
15	27	90	110	102	99	92	65	21	96	489	99	56
16	27	97	109	101	98	91	64	21	60	449	103	53
17	22	99	106	102	98	89	69	23	37	422	1050	49
18	17	100	105	105	95	90	72	31	26	419	464	36
19	20	102	107	105	95	88	106	32	18	433	268	41
20	29	102	110	104	96	88	120	26	18	429	246	38
21	32	104	109	105	96	88	112	23	44	510	205	36
22	24	99	112	106	95	86	77	17	40	623	172	32
23	23	98	109	104	95	84	44	15	33	374	145	38
24	25	100	108	104	94	84	25	15	28	239	124	31
25	23	101	108	107	95	77	18	15	110	193	111	32
26	24	103	108	106	96	72	15	18	110	1020	109	31
27	26	102	107	105	95	71	16	33	158	561	121	37
28	37	102	107	104	96	72	22	51	332	378	116	37
29	39	104	109	105	96	70	28	50	246	246	111	33
30	42	103	108	104	---	68	25	42	194	193	102	35
31	46	---	111	104	---	67	---	45	---	173	99	---
MEAN	28.4	92.3	108	106	101	88.7	61.4	33.9	85.0	342	165	54.7
MAX	46	104	114	110	112	105	120	58	332	1020	1050	101
MIN	17	50	100	101	94	67	15	15	18	56	76	31
AC-FT	1750	5490	6620	6490	5830	5450	3650	2080	5060	21060	10160	3250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

MEAN	119	102	107	106	120	110	198	285	473	274	300	173
MAX	331	256	270	274	602	331	1221	2106	8221	741	1979	1079
(WY)	1985	1988	1966	1966	1966	1960	1987	1987	1965	1965	1965	1965
MIN	1.97	1.53	3.94	3.14	5.52	5.63	9.43	6.61	4.20	3.59	1.94	.90
(WY)	1979	1979	1979	1979	1978	1978	1979	1963	1954	1974	1964	1960

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1951 - 1992	
ANNUAL MEAN	102		106		197	
HIGHEST ANNUAL MEAN					1012	1965
LOWEST ANNUAL MEAN					19.8	1979
HIGHEST DAILY MEAN	594	Jul 1	1050	Aug 17	101000	Jun 18 1965
LOWEST DAILY MEAN	17	Oct 11	15	Apr 26	.00	Jul 9 1954
ANNUAL SEVEN-DAY MINIMUM	23	Oct 9	18	May 20	.00	Jul 9 1954
INSTANTANEOUS PEAK FLOW			2290	Aug 17	158000	Jun 17 1965
INSTANTANEOUS PEAK STAGE			7.13	Aug 17	14.80	Jun 17 1965
INSTANTANEOUS LOW FLOW			15	Jun 20	.00	many years
ANNUAL RUNOFF (AC-FT)	74190		76900		143000	
10 PERCENT EXCEEDS	139		149		419	
50 PERCENT EXCEEDS	96		95		110	
90 PERCENT EXCEEDS	27		27		8.0	

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-68, 1970-73, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1963 to September 1968, January 1976 to September 1981.

WATER TEMPERATURES: November 1963 to September 1968, January 1976 to September 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 26...	1055	90	--	8.2	4.0	12.2	673	33	61
MAR 23...	1120	84	5360	8.2	12.0	10.2	680	<38	75
JUN 16...	1300	61	3880	8.1	26.0	6.4	670	150	700
JUL 20...	1155	414	2160	8.2	22.0	7.3	680	360	1300

DATE	TUR-BID- ITY (NTU)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV 26...	41	1700	360	200	530	6	11	310	378	0	2300
MAR 23...	17	1800	390	210	560	6	10	282	344	0	2300
JUN 16...	100	1300	280	140	440	5	11	239	292	0	1800
JUL 20...	37	880	200	91	220	3	7.6	190	232	0	950

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, TOTAL (MG/L AS NO3)
NOV 26...	140	1.0	17	3740	5.09	913	2.20	22.0	0.04	0.05	13
MAR 23...	180	0.80	13	4220	5.74	957	2.00	2.00	0.06	0.04	11
JUN 16...	130	0.90	12	3350	4.56	552	1.10	1.20	0.06	0.08	6.6
JUL 20...	81	1.0	8.5	1820	2.48	2030	0.920	0.900	0.04	0.03	7.6

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
NOV 26...	97	0.07	0.030	0.041	0.80	3.0	2.18	22.0	0.021	0.021
MAR 23...	8.8	0.07	0.050	0.030	0.50	2.5	1.98	1.98	0.020	0.020
JUN 16...	5.2	0.07	0.050	0.060	0.40	1.5	1.07	1.18	0.030	0.020
JUL 20...	--	--	0.030	0.020	0.80	1.7	0.890	--	0.030	<0.010

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued
(National stream-quality accounting network station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	PHOS- PHATE, TOTAL (MG/L AS PO4)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 26...	0.77	--	0.03	0.080	0.010	--	0.010	201	49	82
MAR 23...	0.45	--	--	0.020	0.030	<0.010	<0.010	82	19	86
JUN 16...	0.35	0.09	0.03	0.040	0.020	0.030	0.010	342	56	96
JUL 20...	0.77	0.15	--	0.140	<0.010	0.050	<0.010	311	348	61

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 26...	10	100	<1	<10	170	20	6	<1	24	<1.0	6100	6
MAR 23...	<10	<100	<1	<10	170	20	5	<1	24	<1.0	6500	5
JUN 16...	10	<100	<1	<10	130	30	7	4	14	<1.0	4700	7
JUL 20...	<10	<100	<1	<10	80	<10	8	2	11	<1.0	3200	3

RIO GRANDE BASIN

08213500 RIO GRANDE AT THIRTYMILE BRIDGE, NEAR CREEDE, CO

LOCATION.--Lat 37°43'29", long 107°15'18", in NE¹/₄ sec.13, T.40 N., R.4 W., Hinsdale County, Hydrologic Unit 13010001, on right bank 70 ft downstream from bridge, 500 ft upstream from Squaw Creek, 0.8 mi downstream from Rio Grande Reservoir, and 20 mi southwest of Creede.

DRAINAGE AREA.--163 mi².

PERIOD OF RECORD.--June 1909 to September 1923, May 1925 to current year. No winter records 1910, 1926. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,300 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1712 or 1732 for history of changes prior to Oct. 1, 1934.

REMARKS.--Estimated daily discharges: Oct. 30 to Apr. 20. Records good except for estimated daily discharges, which are fair. Flow regulated by Rio Grande Reservoir, capacity, 51,110 acre-ft, since 1912. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area upstream from station through Weminuche Pass and Pine River-Weminuche Pass ditches. No known diversions 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	.63	1.0	1.6	2.2	2.8	3.4	578	496	833	125	172
2	99	.63	1.0	1.6	2.2	2.8	3.4	585	562	468	118	163
3	98	.63	1.0	1.6	2.2	2.8	3.4	596	771	441	109	148
4	97	.63	1.0	1.6	2.3	2.8	3.5	467	766	460	108	135
5	95	.63	1.0	1.7	2.3	2.9	3.5	355	1010	447	115	124
6	95	.63	1.1	1.7	2.3	2.9	3.5	394	915	440	117	117
7	90	.63	1.1	1.7	2.3	2.9	3.5	460	726	449	143	111
8	39	.63	1.1	1.7	2.3	2.9	3.5	476	755	460	134	104
9	39	.63	1.1	1.7	2.4	2.9	3.6	478	673	443	117	99
10	39	.63	1.1	1.8	2.4	3.0	3.6	385	818	414	111	94
11	40	.63	1.2	1.8	2.4	3.0	3.6	263	1040	331	134	90
12	41	.63	1.2	1.8	2.4	3.0	3.6	298	1080	239	130	87
13	41	.63	1.2	1.8	2.4	3.0	3.7	389	1030	292	112	84
14	41	.63	1.2	1.8	2.5	3.0	3.7	425	1040	237	102	80
15	41	.63	1.2	1.9	2.5	3.1	3.7	550	927	208	93	91
16	40	.70	1.3	1.9	2.5	3.1	3.7	582	872	263	89	93
17	42	.70	1.3	1.9	2.5	3.1	3.8	514	848	233	92	80
18	41	.70	1.3	1.9	2.5	3.1	3.8	514	843	187	83	67
19	42	.70	1.3	1.9	2.6	3.1	3.8	579	1050	174	77	66
20	42	.70	1.3	2.0	2.6	3.2	55	682	970	171	73	70
21	42	.80	1.4	2.0	2.6	3.2	127	793	896	170	71	71
22	42	.80	1.4	2.0	2.6	3.2	89	700	917	130	78	71
23	42	.80	1.4	2.0	2.6	3.2	78	514	961	131	96	73
24	42	.80	1.4	2.0	2.7	3.2	83	574	903	192	136	73
25	42	.80	1.4	2.1	2.7	3.3	95	670	643	226	187	94
26	42	.90	1.5	2.1	2.7	3.3	120	737	499	295	221	143
27	42	.90	1.5	2.1	2.7	3.3	152	826	425	313	230	99
28	70	.90	1.5	2.1	2.7	3.3	177	826	339	259	222	49
29	88	.90	1.5	2.1	2.8	3.3	250	554	417	166	212	57
30	35	.90	1.5	2.2	---	3.4	536	572	741	158	200	69
31	.63	---	1.6	2.2	---	3.4	---	571	---	135	182	---
TOTAL	1688.63	21.45	39.1	58.3	71.9	95.5	1830.3	16907	23933	9365	4017	2874
MEAN	54.5	.71	1.26	1.88	2.48	3.08	61.0	545	798	302	130	95.8
MAX	99	.90	1.6	2.2	2.8	3.4	536	826	1080	833	230	172
MIN	.63	.63	1.0	1.6	2.2	2.8	3.4	263	339	130	71	49
AC-FT	3350	43	78	116	143	189	3630	33540	47470	18580	7970	5700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1992, BY WATER YEAR (WY)

	MEAN	98.5	30.6	9.49	9.39	9.25	11.9	103	490	910	531	250	105
MAX	648	280	116	89.0	81.0	88.6	368	907	1842	1246	612	467	
(WY)	1912	1917	1912	1912	1912	1916	1950	1958	1917	1986	1957	1909	
MIN	2.00	.54	.40	.40	.40	.40	5.63	75.0	139	54.2	40.4	25.8	
(WY)	1937	1990	1952	1952	1952	1952	1983	1938	1934	1934	1940	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1909 - 1992

ANNUAL TOTAL	70200.88	60901.18	
ANNUAL MEAN	192	166	212
HIGHEST ANNUAL MEAN			362
LOWEST ANNUAL MEAN			77.7
HIGHEST DAILY MEAN	1950	Jun 9	5720
LOWEST DAILY MEAN	.63	Oct 31	.10
ANNUAL SEVEN-DAY MINIMUM	.63	Oct 31	.21
INSTANTANEOUS PEAK FLOW		1110	7500
INSTANTANEOUS PEAK STAGE		3.51	7.03
ANNUAL RUNOFF (AC-FT)	139200	120800	153800
10 PERCENT EXCEEDS	726	578	739
50 PERCENT EXCEEDS	42	41	51
90 PERCENT EXCEEDS	1.1	1.1	2.5

a-Also occurred Nov 1-15.

b-Also occurred Nov 3, 4, 1960.

c-Present site and datum, from rating curve extended above 1200 ft³/s.

d-Maximum gage height, 3.53 ft, Jun 5.

08214500 NORTH CLEAR CREEK BELOW CONTINENTAL RESERVOIR, CO

LOCATION.--Lat 37°53'18", long 107°12'10", in NE¹/₄SW¹/₄ sec.21, T.42 N., R.3 W., Hinsdale County, Hydrologic Unit 13010001, on left bank 100 ft downstream from bridge, 1,000 ft downstream from Continental Reservoir, and 15 mi west of Creede.

DRAINAGE AREA.--51.7 mi².

PERIOD OF RECORD.--May 1929 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1960, published as Clear Creek below Continental Reservoir.

REVISED RECORDS.--WSP 1008: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 10,200 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 2, 1951, at site 150 ft upstream, at different datum.

REMARKS.--Estimated daily discharges: Nov. 11 to Apr. 23. Records good except for estimated daily discharges, which are fair. Flow regulated by Continental Reservoir, capacity, 26,720 acre-ft. No diversion 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	.25	.25	.25	.25	.25	.25	85	59	20	23	14
2	23	.25	.25	.25	.25	.25	.25	88	68	20	23	14
3	15	.05	.25	.25	.25	.25	.25	44	70	20	20	14
4	14	.05	.25	.25	.25	.25	.25	59	58	20	17	17
5	13	.15	.25	.25	.25	.25	.25	68	54	20	74	19
6	13	.25	.25	.25	.25	.25	.25	68	53	20	108	19
7	13	.25	.25	.25	.25	.25	.25	58	53	9.6	109	15
8	13	.25	.25	.25	.25	.25	.25	53	53	1.2	111	11
9	13	.25	.25	.25	.25	.25	.25	62	52	1.2	110	10
10	13	.25	.25	.25	.25	.25	.25	58	53	1.2	157	10
11	13	.25	.25	.25	.25	.25	.25	49	53	1.2	195	10
12	13	.25	.25	.25	.25	.25	.25	41	53	4.2	201	10
13	12	.25	.25	.25	.25	.25	.25	36	53	11	203	9.9
14	6.4	.25	.25	.25	.25	.25	.25	42	49	15	201	7.7
15	.15	.25	.25	.25	.25	.25	.25	50	45	15	201	.44
16	.15	.25	.25	.25	.25	.25	.25	53	42	12	198	.35
17	.15	.25	.25	.25	.25	.25	.25	54	32	15	66	.38
18	.15	.25	.25	.25	.25	.25	.25	51	27	17	4.2	.50
19	.15	.25	.25	.25	.25	.25	.25	48	35	23	4.2	.50
20	.15	.25	.25	.25	.25	.25	.25	54	40	20	4.0	.50
21	.15	.25	.25	.25	.25	.25	.25	70	40	14	3.8	.35
22	.15	.25	.25	.25	.25	.25	.25	71	38	10	4.0	17
23	.15	.25	.25	.25	.25	.25	.25	58	36	3.0	4.2	33
24	.15	.25	.25	.25	.25	.25	.25	46	32	.65	4.2	36
25	.15	.25	.25	.25	.25	.25	.25	42	30	7.7	8.6	19
26	.15	.25	.25	.25	.25	.25	.25	67	30	19	13	3.0
27	.15	.25	.25	.25	.25	.25	19	92	30	23	13	9.8
28	.25	.25	.25	.25	.25	.25	44	99	28	28	13	16
29	.25	.25	.25	.25	.25	.25	52	77	26	30	17	14
30	.25	.25	.25	.25	---	.25	62	61	24	30	25	14
31	.25	---	.25	.25	---	.25	---	59	---	26	20	---
TOTAL	368.35	7.00	7.75	7.75	7.25	7.75	183.50	1863	1316	457.95	2155.2	345.42
MEAN	11.9	.23	.25	.25	.25	.25	6.12	60.1	43.9	14.8	69.5	11.5
MAX	191	.25	.25	.25	.25	.25	62	99	70	30	203	36
MIN	.15	.05	.25	.25	.25	.25	.25	36	24	.65	3.8	.35
AC-FT	731	14	15	15	14	15	364	3700	2610	908	4270	685

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1992, BY WATER YEAR (WY)

	MEAN	13.0	7.92	3.72	3.85	4.02	4.60	22.2	87.7	83.4	68.0	46.9	18.8
MAX	72.4	100	20.0	20.0	20.0	20.0	20.0	80.9	209	166	234	216	88.1
(WY)	1979	1985	1942	1939	1939	1939	1985	1987	1987	1987	1958	1948	1986
MIN	.20	.10	.11	.12	.13	.14	.19	14.8	13.0	11.6	2.78	4.59	
(WY)	1989	1989	1989	1989	1989	1989	1984	1980	1977	1963	1978	1946	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1929 - 1992

ANNUAL TOTAL	10154.67	6726.92	
ANNUAL MEAN	27.8	18.4	30.4
HIGHEST ANNUAL MEAN			54.5
LOWEST ANNUAL MEAN			8.55
HIGHEST DAILY MEAN	257	203	412
LOWEST DAILY MEAN	.05	.05	.00
ANNUAL SEVEN-DAY MINIMUM	.15	.15	.05
INSTANTANEOUS PEAK FLOW		227	362
INSTANTANEOUS PEAK STAGE		2.27	3.66
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	20140	13340	22000
10 PERCENT EXCEEDS	86	55	94
50 PERCENT EXCEEDS	.25	.25	11
90 PERCENT EXCEEDS	.16	.25	.70

a-Also occurred Nov 4.

b-Also occurred Jan 23, 1935, and Sep 25-27, 1990.

08217500 RIO GRANDE AT WAGON WHEEL GAP, CO

LOCATION.--Lat 37°46'01", long 106°49'51", in NW¹/4NE¹/4 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 mi².

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 8,431 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 15 to Apr. 3. Records good except for estimated daily discharges and those below 150 ft³/s, 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 elsewhere in this report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	126	120	106	113	127	127	1360	1370	1360	386	550
2	339	137	118	98	119	139	127	1380	1290	1170	354	521
3	323	113	115	94	140	146	130	1350	1450	976	333	489
4	307	126	118	110	124	160	132	1290	1590	973	332	464
5	298	130	117	123	117	156	136	1150	1730	936	359	429
6	290	131	113	122	112	137	147	1150	1900	905	393	407
7	282	142	114	132	110	140	181	1190	1620	850	407	388
8	265	122	117	121	123	150	198	1190	1520	850	432	366
9	203	129	119	110	127	142	241	1240	1520	823	409	344
10	199	134	122	115	130	120	267	1190	1430	784	366	328
11	197	129	126	123	125	110	309	977	1740	766	378	314
12	194	116	120	119	133	116	308	968	1790	673	384	300
13	191	112	111	116	136	120	315	1020	1870	689	372	293
14	188	115	100	123	136	124	347	1150	1800	693	346	285
15	196	120	104	126	120	126	360	1210	1700	582	330	300
16	198	111	108	117	127	128	320	1320	1520	590	310	317
17	193	127	112	116	113	130	304	1290	1440	593	316	293
18	188	120	113	120	104	120	324	1300	1380	524	296	268
19	185	114	120	99	108	116	300	1340	1540	496	270	328
20	184	114	123	105	106	113	272	1600	1670	495	253	388
21	182	120	118	112	130	121	354	1840	1500	459	245	328
22	182	120	113	114	125	130	398	1730	1520	428	246	297
23	175	115	108	117	130	130	373	1440	1580	378	289	284
24	175	114	107	120	120	127	405	1500	1560	497	488	285
25	178	115	110	117	133	128	396	1530	1430	652	656	272
26	173	120	107	111	128	130	416	1660	1160	730	731	301
27	173	120	104	103	124	130	497	1850	1120	658	723	314
28	179	120	103	102	127	129	635	1890	1010	616	676	266
29	183	117	105	100	127	128	805	1550	988	511	624	215
30	167	120	110	104	---	130	1050	1500	1160	445	582	246
31	140	---	112	110	---	128	---	1430	---	420	574	---
TOTAL	6667	3649	3507	3505	3567	4031	10174	42585	44898	21522	12860	10180
MEAN	215	122	113	113	123	130	339	1374	1497	694	415	339
MAX	340	142	126	132	140	160	1050	1890	1900	1360	731	550
MIN	140	111	100	94	104	110	127	968	988	378	245	215
AC-FT	13220	7240	6960	6950	7080	8000	20180	84470	89060	42690	25510	20190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

	MEAN	262	151	108	99.4	104	128	368	1387	1904	1004	526	324
MAX	542	482	228	178	175	251	677	2384	3259	2248	1405	841	
(WY)	1986	1986	1987	1986	1986	1972	1987	1987	1979	1957	1957	1970	
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 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1951 - 1992		
ANNUAL TOTAL	199349			167145					
ANNUAL MEAN	546			457			537		
HIGHEST ANNUAL MEAN							906		
LOWEST ANNUAL MEAN							219		
HIGHEST DAILY MEAN	2940			1900			4970		
LOWEST DAILY MEAN	100			94			46		
ANNUAL SEVEN-DAY MINIMUM	104			104			49		
INSTANTANEOUS PEAK FLOW				2040			5190		
INSTANTANEOUS PEAK STAGE				3.61			6.10		
ANNUAL RUNOFF (AC-FT)	395400			331500			388800		
10 PERCENT EXCEEDS	1670			1370			1620		
50 PERCENT EXCEEDS	278			209			212		
90 PERCENT EXCEEDS	110			113			90		

RIO GRANDE BASIN

08219500 SOUTH FORK RIO GRANDE AT SOUTH FORK, CO

LOCATION.--Lat 37°39'25", long 106°38'55", in SW1/4SE1/4 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 mi².

PERIOD OF RECORD.--August 1910 to September 1922, May 1936 to current year. 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. Datum of gage is 8,221.79 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Oct. 31 to Nov. 9, and Nov. 19 to Apr. 8. Records good except for estimated daily discharges, which are fair. 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, exceeded 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	50	48	52	52	54	100	697	538	174	86	137
2	81	48	44	48	54	56	100	690	467	161	80	142
3	78	40	46	48	58	60	110	670	461	149	79	123
4	76	42	50	58	56	64	120	580	473	138	83	108
5	73	45	50	52	52	60	120	548	555	130	82	100
6	72	48	52	54	52	56	130	572	551	120	78	93
7	70	48	50	58	52	56	140	639	537	107	80	87
8	68	46	54	52	54	64	160	619	529	104	77	83
9	67	48	52	48	54	56	183	651	489	101	76	79
10	66	50	52	50	54	54	207	588	447	90	69	75
11	64	51	64	54	54	54	237	506	425	90	70	72
12	64	45	58	54	54	58	255	533	443	103	61	70
13	64	43	52	50	56	60	305	597	466	109	72	68
14	62	48	50	50	58	62	365	682	444	104	66	71
15	60	50	50	52	52	64	354	718	406	88	61	99
16	59	58	52	52	54	64	302	732	362	81	62	92
17	58	56	56	54	56	68	289	762	323	76	76	80
18	57	53	56	50	50	66	302	800	311	77	64	73
19	54	48	60	48	50	64	253	819	317	83	57	292
20	50	44	56	50	52	64	220	921	316	81	54	227
21	50	52	54	52	56	70	203	979	317	85	51	178
22	50	48	58	56	54	78	205	873	306	84	53	154
23	51	44	54	58	56	74	200	814	277	81	129	143
24	52	46	52	56	52	72	219	796	258	144	476	136
25	54	54	52	56	56	72	264	747	246	143	422	121
26	55	56	52	54	52	78	303	787	234	177	309	107
27	58	56	50	54	54	90	346	893	225	137	245	105
28	66	62	50	52	54	90	448	829	212	123	195	101
29	70	60	52	52	54	90	559	743	199	106	166	93
30	71	54	52	54	---	90	635	688	187	98	150	90
31	54	---	54	54	---	94	---	616	---	90	147	---
TOTAL	1960	1493	1632	1632	1562	2102	7634	22089	11321	3434	3776	3399
MEAN	63.2	49.8	52.6	52.6	53.9	67.8	254	713	377	111	122	113
MAX	86	62	64	58	58	94	635	979	555	177	476	292
MIN	50	40	44	48	50	54	100	506	187	76	51	68
AC-FT	3890	2960	3240	3240	3100	4170	15140	43810	22460	6810	7490	6740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1992, BY WATER YEAR (WY)

MEAN	92.7	58.7	44.0	37.4	40.5	63.0	218	691	836	260	111	84.9
MAX	569	152	106	88.6	78.3	131	479	1282	1746	794	264	357
(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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1910 - 1992

ANNUAL TOTAL	79254		62034				
ANNUAL MEAN	217		169			212	
HIGHEST ANNUAL MEAN						359	1985
LOWEST ANNUAL MEAN						68.9	1977
HIGHEST DAILY MEAN	1440	May 27	979	May 21		2980	May 24 1984
LOWEST DAILY MEAN	a 36	Jan 24	40	Nov 3		10	Jan 6 1977
ANNUAL SEVEN-DAY MINIMUM	37	Jan 30	45	Nov 2		11	Dec 31 1976
INSTANTANEOUS PEAK FLOW			1040	Aug 24		b 8000	Oct 5 1911
INSTANTANEOUS PEAK STAGE			4.38	Aug 24		c 9.70	Oct 5 1911
ANNUAL RUNOFF (AC-FT)	157200		123000			153900	
10 PERCENT EXCEEDS	773		530			615	
50 PERCENT EXCEEDS	73		72			71	
90 PERCENT EXCEEDS	45		50			33	

a-Also occurred Jan 30, 31, and Feb 5.

b-Present site and datum, from rating curve extended above 1500 ft³/s.

c-From floodmarks.

08220000 RIO GRANDE NEAR DEL NORTE, CO

LOCATION.--Lat 37°41'22", long 106°27'38", in NW¼ sec.29, T.40 N., R.5 E., Rio Grande County, Hydrologic Unit 13010001, on right bank 20 ft downstream from county highway bridge, 5.0 mi upstream from Pinos Creek, and 6.0 mi west of Del Norte.

DRAINAGE AREA.--1,320 mi², approximately.

PERIOD OF RECORD.--June 1889 to current year. Monthly discharge only for some periods, published in WSP 1312.

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 National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Oct. 30 to Nov. 2, Nov. 4, 5, 23, 24, and Dec. 2 to Mar. 21. Records good except for estimated daily discharges, which are fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	410	270	176	160	120	170	297	2140	2190	1580	522	748
2	398	260	160	150	130	180	297	2140	1950	1430	473	713
3	373	208	160	150	140	200	302	2130	2060	1140	445	664
4	351	240	160	190	140	240	328	1960	2320	1120	444	611
5	342	270	170	170	120	230	338	1790	2430	1070	451	563
6	340	305	170	170	110	190	336	1770	2810	1020	490	533
7	335	294	170	200	110	190	389	1900	2510	974	516	505
8	339	264	170	150	140	220	440	1870	2310	952	522	471
9	298	258	170	130	140	190	513	1960	2340	940	527	436
10	278	269	170	130	130	180	562	1900	2140	890	463	411
11	272	276	200	140	130	190	650	1590	2430	862	459	394
12	270	252	180	140	130	210	671	1580	2510	812	462	371
13	270	219	170	140	140	230	745	1670	2650	811	468	356
14	267	226	160	120	160	240	830	1910	2530	823	431	347
15	262	272	160	120	150	250	872	1990	2430	689	406	386
16	274	252	160	120	140	240	773	2150	2140	671	379	414
17	270	242	180	130	160	270	722	2170	1960	668	393	381
18	280	251	180	120	140	260	753	2230	1870	610	370	340
19	277	227	200	110	130	250	683	2290	1970	594	334	569
20	257	164	190	120	150	240	596	2680	2190	590	309	697
21	249	169	190	120	170	255	587	3000	2010	569	292	554
22	249	223	200	130	170	260	662	2860	1970	544	293	494
23	248	158	180	130	170	277	633	2520	2000	489	382	460
24	255	146	170	130	160	248	658	2540	1970	633	862	453
25	265	209	170	140	170	255	729	2520	1840	773	1260	427
26	265	221	180	120	170	268	796	2680	1520	983	1130	406
27	268	219	160	120	170	280	884	3020	1440	845	1060	446
28	290	220	150	120	170	263	1110	3030	1320	790	948	407
29	295	233	150	130	170	268	1400	2620	1220	688	860	339
30	290	191	160	140	---	289	1660	2480	1330	594	789	331
31	280	---	170	120	---	299	---	2360	---	558	764	---
TOTAL	9117	7008	5336	4260	4230	7332	20216	69450	62360	25712	17504	14227
MEAN	294	234	172	137	146	237	674	2240	2079	829	565	474
MAX	410	305	200	200	170	299	1660	3030	2810	1580	1260	748
MIN	248	146	150	110	110	170	297	1580	1220	489	292	331
AC-FT	18080	13900	10580	8450	8390	14540	40100	137800	123700	51000	34720	28220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1890 - 1992, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1890	485	2451	1912	134	1957
1891	287	804	1917	114	1957
1892	207	420	1926	105	1957
1893	190	340	1912	89.8	1977
1894	198	300	1928	111	1977
1895	271	646	1910	153	1965
1896	779	1999	1895	317	1951
1897	2509	4449	1922	747	1977
1898	3162	6240	1921	475	1934
1899	1432	3451	1957	239	1934
1900	797	1745	1957	190	1956
1901	508	2001	1927	135	1956

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1890 - 1992

ANNUAL TOTAL	306256	246752	907
ANNUAL MEAN	839	674	1482
HIGHEST ANNUAL MEAN			311
LOWEST ANNUAL MEAN			1977
HIGHEST DAILY MEAN	4540	May 21	3030
LOWEST DAILY MEAN	146	Nov 24	110
ANNUAL SEVEN-DAY MINIMUM	157	Jan 20	120
INSTANTANEOUS PEAK FLOW			3140
INSTANTANEOUS PEAK STAGE			3.40
ANNUAL RUNOFF (AC-FT)	607500	489400	657400
10 PERCENT EXCEEDS	2850	2000	2460
50 PERCENT EXCEEDS	339	332	365
90 PERCENT EXCEEDS	170	140	166

a-Also occurred Feb 6 and 7.

b-From rating curve extended above 12900 ft³/s.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08227000 SAGUACHE CREEK NEAR SAGUACHE, CO

LOCATION.--Lat 38°09'48", long 106°17'24", in SE¹/4SE¹/4 sec.10, T.45 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.2 mi downstream from Middle Creek and 10 mi northwest of Saguache.

DRAINAGE AREA.--595 mi².

PERIOD OF RECORD.--August 1910 to September 1912, June 1914 to current year. Monthly discharge only for some periods, published in WSP 1312

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 National Geodetic Vertical datum of 1929, 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.--Estimated daily discharges: Oct. 30 to Nov. 10, Nov. 14, Nov. 20 to Mar. 10, Mar. 12, 13, and Mar. 17. Records good except for estimated daily discharges, which are fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	22	18	25	25	22	42	82	126	56	50	82
2	35	23	18	20	25	24	41	84	118	52	48	76
3	32	22	20	19	30	24	42	86	103	48	48	69
4	30	28	21	27	26	29	47	88	100	41	50	67
5	29	31	24	24	23	24	48	87	103	38	52	64
6	29	31	24	25	22	24	49	85	112	36	60	63
7	30	34	23	32	22	22	53	88	113	40	75	66
8	30	31	24	23	24	23	55	88	114	50	63	62
9	29	32	25	24	25	27	61	89	134	54	62	59
10	29	40	23	20	26	22	66	86	134	46	56	55
11	29	40	30	23	24	21	67	79	144	46	58	53
12	29	33	24	23	24	26	63	77	148	56	59	53
13	29	24	23	23	24	31	68	79	123	72	57	49
14	30	25	21	20	29	34	71	78	107	67	53	52
15	30	45	22	20	24	33	73	84	99	56	53	57
16	30	41	22	20	24	33	67	82	90	52	50	60
17	30	37	26	22	27	31	61	83	86	46	49	56
18	28	36	26	21	22	28	61	88	88	43	47	54
19	29	23	31	18	19	28	56	88	93	48	40	58
20	29	21	28	20	22	27	48	101	91	51	37	68
21	29	22	26	22	25	31	44	120	91	54	36	60
22	29	21	28	24	24	31	45	105	88	56	40	53
23	30	20	24	26	25	32	46	100	85	58	48	48
24	31	20	23	24	24	31	45	100	82	92	92	45
25	31	25	23	24	25	31	49	101	89	111	142	45
26	29	25	23	23	21	38	55	120	89	136	118	44
27	28	24	21	24	24	38	57	141	73	89	104	42
28	32	24	20	24	24	38	62	144	65	80	87	46
29	25	28	21	24	22	41	64	130	61	68	79	48
30	22	24	22	25	---	46	74	123	61	64	77	35
31	24	---	26	25	---	46	---	136	---	56	78	---
TOTAL	913	852	730	714	701	936	1680	3022	3010	1862	1968	1689
MEAN	29.5	28.4	23.5	23.0	24.2	30.2	56.0	97.5	100	60.1	63.5	56.3
MAX	37	45	31	32	30	46	74	144	148	136	142	82
MIN	22	20	18	18	19	21	41	77	61	36	36	35
AC-FT	1810	1690	1450	1420	1390	1860	3330	5990	5970	3690	3900	3350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1992, BY WATER YEAR (WY)

	MEAN	44.5	35.9	25.7	23.0	26.6	38.5	70.0	159	176	94.9	73.9	51.1
MAX	108	60.1	40.0	40.3	41.4	70.0	257	437	474	299	198	194	194
(WY)	1912	1930	1928	1986	1986	1924	1924	1924	1957	1957	1929	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	15.0
(WY)	1979	1978	1978	1978	1966	1964	1978	1981	1963	1940	1940	1956	1956

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1910 - 1992

	ANNUAL TOTAL	19158	18077	
ANNUAL MEAN	52.5	49.4	68.2	
HIGHEST ANNUAL MEAN			122	1924
LOWEST ANNUAL MEAN			28.0	1940
HIGHEST DAILY MEAN	189	May 21	148	Jun 12
LOWEST DAILY MEAN	^a 18	Dec 1	^a 18	Dec 1
ANNUAL SEVEN-DAY MINIMUM	21	Jan 20	20	Jan 14
INSTANTANEOUS PEAK FLOW			160	Jun 11
INSTANTANEOUS PEAK STAGE			^c 2.35	Jun 11
ANNUAL RUNOFF (AC-FT)	38000		49410	
10 PERCENT EXCEEDS	119		150	
50 PERCENT EXCEEDS	35		41	
90 PERCENT EXCEEDS	23		21	

a-Also occurred Dec 2.

b-Present datum, from rating curve extended above 83 ft³/s.

c-Maximum gage height, 2.85 ft, Jan 24, backwater from ice.

d-Maximum gage height, 3.94 ft, May 20, 1970.

08244500 PLATORO RESERVOIR AT PLATORO, CO

LOCATION.--Lat 37°21'07", long 106°32'38", Conejos County, Hydrologic Unit 13010005, on right bank in valvehouse, 400 ft downstream from Platoro Dam on Conejos River and 0.7 mi west of Platoro.

DRAINAGE AREA.--40 mi², approximately.

PERIOD OF RECORD.--November 1951 to current year.

REVISED RECORDS.--WDR CO-85-1: 1984.

GAGE.--Nonrecording gage. Datum of gage is 9,911.5 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above NGVD. Prior to June 9, 1955, nonrecording gage at present site and datum. June 9, 1955 to Sept. 30, 1959, water-stage recorder in gate chamber at dam for elevations above 9,921.0 ft, at same datum.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes. Dam completed Dec. 9, 1951; storage began Nov. 7, 1951. Capacity of reservoir (based on revised capacity table put in use Jan. 1, 1975), 59,570 acre-ft, between elevations 9,911.5 ft, sill of trashrack at outlet, and 10,034.0 ft, crest of spillway. No dead storage. Reservoir is used for irrigation and flood control. Figures given are usable contents.

COOPERATION.--Records provided by State of Colorado, Division of Water Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,420 acre-ft, June 9, 11, 1958, elevation, 10,035.5 ft; no contents for long periods in 1952-56.

EXTREMES FOR CURRENT YEAR.--Maximum contents, about 44,950 acre-ft, June 27, elevation, 10,017.86 ft; minimum contents, about 18,000 acre-ft, Nov. 1, elevation, 9,979.36 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	9,981.6	19,260	-
Oct. 31.	9,979.4	18,000	-1,260
Nov. 30.	9,980.6	18,690	+690
Dec. 31.	* 9,981.2	19,000	+310
CAL YR 1991			+9,760
Jan. 31.	* 9,982.8	19,900	+900
Feb. 29.	* 9,983.0	20,010	+110
Mar. 31.	* 9,983.3	20,210	+200
Apr. 30.	9,988.5	23,330	+3,120
May 31.	10,004.3	34,080	+10,750
June 30.	10,017.2	44,430	+10,350
July 31.	10,005.4	34,890	-9,540
Aug. 31.	10,002.5	32,790	-2,100
Sept. 30.	9,998.5	29,900	-2,890
WTR YR 1992			+10,640

*--Elevation and contents for these months estimated.

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 mi², 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Estimated daily discharges: Oct. 30, 31, Nov. 3 to May 4, and July 21. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	3.8	3.8	3.8	4.2	4.6	4.9	5.3	47	339	78	122
2	27	4.1	3.8	3.8	4.2	4.6	4.9	5.3	47	272	78	101
3	42	3.8	3.8	3.9	4.2	4.6	5.0	5.3	47	228	91	75
4	55	3.8	3.8	3.9	4.2	4.6	5.0	44	84	228	87	81
5	47	3.8	3.8	3.9	4.3	4.6	5.0	177	112	228	88	89
6	47	3.8	3.8	3.9	4.3	4.6	5.0	210	113	303	101	89
7	42	3.8	3.8	3.9	4.3	4.6	5.0	234	114	408	101	89
8	36	3.8	3.8	3.9	4.3	4.6	5.0	167	114	410	101	79
9	36	3.8	3.8	3.9	4.3	4.7	5.0	105	114	388	101	69
10	36	3.8	3.8	3.9	4.3	4.7	5.0	105	90	333	83	65
11	37	3.8	3.8	4.0	4.3	4.7	5.0	168	72	297	81	60
12	37	3.8	3.8	4.0	4.3	4.7	5.1	172	73	297	101	60
13	37	3.8	3.8	4.0	4.4	4.7	5.1	144	73	317	111	60
14	37	3.8	3.8	4.0	4.4	4.7	5.1	144	73	352	124	74
15	37	3.8	3.8	4.0	4.4	4.7	5.1	178	73	340	124	96
16	37	3.8	3.8	4.0	4.4	4.7	5.1	202	73	331	124	102
17	37	3.8	3.8	4.0	4.4	4.7	5.1	203	100	337	124	81
18	37	3.8	3.8	4.0	4.4	4.8	5.1	203	181	324	115	70
19	37	3.8	3.8	4.1	4.4	4.8	5.1	204	223	323	116	78
20	37	3.8	3.8	4.1	4.4	4.8	5.1	205	242	276	129	78
21	20	3.8	3.8	4.1	4.4	4.8	5.2	202	243	220	124	69
22	5.9	3.8	3.8	4.1	4.5	4.8	5.2	202	242	191	124	48
23	3.8	3.8	3.8	4.1	4.5	4.8	5.2	205	254	177	124	45
24	3.8	3.8	3.8	4.1	4.5	4.8	5.2	205	202	164	174	68
25	5.3	3.8	3.8	4.1	4.5	4.8	5.2	205	173	148	231	68
26	6.5	3.8	3.8	4.1	4.5	4.9	5.2	138	213	147	143	68
27	6.5	3.8	3.8	4.1	4.5	4.9	5.2	68	243	136	73	68
28	5.0	3.8	3.8	4.2	4.5	4.9	5.2	91	242	136	140	68
29	3.8	3.8	3.8	4.2	4.5	4.9	5.2	75	310	146	140	68
30	3.8	3.8	3.8	4.2	---	4.9	5.3	47	364	135	140	68
31	3.8	---	3.8	4.2	---	4.9	---	47	---	108	132	---
TOTAL	827.2	114.3	117.8	124.5	126.8	146.9	152.8	4365.9	4551	8039	3603	2256
MEAN	26.7	3.81	3.80	4.02	4.37	4.74	5.09	141	152	259	116	75.2
MAX	55	4.1	3.8	4.2	4.5	4.9	5.3	234	364	410	231	122
MIN	3.8	3.8	3.8	3.8	4.2	4.6	4.9	5.3	47	108	73	45
AC-FT	1640	227	234	247	252	291	303	8660	9030	15950	7150	4470

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1992, BY WATER YEAR (WY)

	MEAN	35.8	72.0	11.4	11.9	12.8	11.1	49.3	244	341	209	84.2	40.1
MAX	158	405	50.0	50.0	102	27.5	204	492	609	610	429	164	
(WY)	1958	1966	1986	1986	1983	1986	1980	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1952 - 1992
ANNUAL TOTAL	31972.9	24425.2	
ANNUAL MEAN	87.6	66.7	92.4
HIGHEST ANNUAL MEAN			137
LOWEST ANNUAL MEAN			44.3
HIGHEST DAILY MEAN	629	410	1150
LOWEST DAILY MEAN	^a 3.2	^a 3.8	^b .00
ANNUAL SEVEN-DAY MINIMUM	3.2	3.8	.16
INSTANTANEOUS PEAK FLOW		416	1160
INSTANTANEOUS PEAK STAGE		2.70	^c 4.02
ANNUAL RUNOFF (AC-FT)	63420	48450	66920
10 PERCENT EXCEEDS	247	205	328
50 PERCENT EXCEEDS	27	5.2	17
90 PERCENT EXCEEDS	3.2	3.8	6.0

a-Many days.

b-Also occurred Oct 17-20, 1955.

c-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 SE¹/4SE¹/4 sec.34, T.33 N., R.7 E., Conejos County, Hydrologic Unit 13010005, on left bank 75 ft downstream from bridge on State Highway 174, 0.4 mi downstream from Fox Creek, 5.3 mi west of Mogote, and 10 mi west of Antonito.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--April 1903 to October 1905, October 1911 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for March 1900 at site 5.5 mi upstream and May 1905 to September 1911 (some missing periods most years) at site 3.2 mi upstream not equivalent to present site due to inflow.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1903-5, 1913. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 8,273.69 ft, 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.--Estimated daily discharges: Nov. 3, Dec. 1 to Mar. 3, and Aug. 24, 25. Records good except for estimated daily discharges, which are fair. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	72	52	47	52	54	79	604	560	589	198	270
2	120	81	50	45	52	58	73	600	495	507	179	253
3	113	64	50	45	58	56	81	608	530	418	173	216
4	122	66	52	54	50	55	95	577	560	391	196	191
5	122	80	54	50	46	61	100	635	778	382	182	188
6	118	78	54	56	44	61	102	735	934	371	189	184
7	112	81	58	56	42	56	123	787	900	506	220	178
8	107	74	56	48	48	60	151	815	857	527	200	173
9	100	79	54	46	48	57	178	693	771	522	187	154
10	98	83	58	46	48	53	198	674	701	481	190	147
11	98	90	64	50	52	56	224	588	641	459	192	140
12	96	72	62	48	50	56	259	652	726	430	183	133
13	94	68	59	45	52	60	301	668	780	435	203	129
14	94	78	58	45	56	63	362	731	745	464	214	125
15	93	79	60	44	50	68	381	785	685	465	266	149
16	92	73	60	45	48	71	330	864	601	406	232	167
17	90	74	60	47	46	73	308	908	518	431	224	166
18	90	77	60	44	44	72	332	951	574	419	223	140
19	89	68	64	42	46	67	280	991	666	418	202	157
20	89	55	62	45	46	62	236	1090	713	418	217	174
21	89	67	60	45	50	65	215	1170	720	346	228	157
22	79	74	56	47	50	69	222	1090	696	304	210	143
23	66	41	52	47	52	68	221	1020	641	262	284	119
24	62	43	52	50	48	64	245	1030	618	268	658	118
25	62	70	52	48	48	64	300	933	500	258	1170	128
26	60	63	54	48	48	72	347	871	518	313	664	127
27	62	61	49	50	50	79	386	819	561	302	380	127
28	67	62	48	50	50	76	465	858	543	272	344	122
29	60	61	48	50	52	74	547	811	522	263	328	123
30	62	54	50	50	---	75	597	677	605	247	301	123
31	48	---	48	52	---	80	---	603	---	219	286	---
TOTAL	2839	2088	1716	1485	1426	2005	7738	24838	19659	12093	8923	4721
MEAN	91.6	69.6	55.4	47.9	49.2	64.7	258	801	655	390	288	157
MAX	185	90	64	56	58	80	597	1170	934	589	1170	270
MIN	48	41	48	42	42	53	73	577	495	219	173	118
AC-FT	5630	4140	3400	2950	2830	3980	15350	49270	38990	23990	17700	9360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1992, BY WATER YEAR (WY)

	MEAN	116	97.2	51.7	47.9	51.7	78.7	322	1110	1302	474	204	128
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1903 - 1992

ANNUAL TOTAL	120242	89531	
ANNUAL MEAN	329	245	330
HIGHEST ANNUAL MEAN			592
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN	1840	May 21	4490
LOWEST DAILY MEAN	39	Jan 24	10
ANNUAL SEVEN-DAY MINIMUM	40	Jan 21	17
INSTANTANEOUS PEAK FLOW			9000
INSTANTANEOUS PEAK STAGE			8.50
ANNUAL RUNOFF (AC-FT)	238500	177600	239100
10 PERCENT EXCEEDS	864	670	1050
50 PERCENT EXCEEDS	122	112	94
90 PERCENT EXCEEDS	49	48	42

a-Present site and datum, from rating curve extended above 3100 ft³/s.

b-From floodmarks.

08247500 SAN ANTONIO RIVER AT ORTIZ, CO

LOCATION.--Lat 36°59'35", long 106°02'17", in NE¹/₄SE¹/₄ sec.24, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 800 ft south of Colorado-New Mexico State line, 0.4 mi southeast of Ortiz, and 0.4 mi upstream from Los Pinos River.

DRAINAGE AREA.--110 mi², approximately.

PERIOD OF RECORD.--April 1919 to October 1920, October 1924 to current year (no winter records prior to 1941). Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1732: 1951. WSP 1923: 1927 (monthly runoff).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 7,970 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 7, 1926, nonrecording gage at various locations near present site, at different datums. Apr. 7, 1926 to June 24, 1954, water-stage recorder at site 200 ft downstream, at present datum.

REMARKS.--Estimated daily discharges: Oct. 1, 9-21, 23-28, Nov. 1-3, 11, 12, 16-19, 30, Dec. 1 to Mar. 18, and Mar. 26-29. Records good except for estimated daily discharges, which are fair. A few small diversions upstream from station for irrigation.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.5	3.1	3.1	3.7	5.0	21	158	24	.78	.75	1.4
2	3.1	5.0	3.0	3.0	3.7	5.8	18	139	20	.46	.40	1.5
3	2.4	7.5	3.1	3.0	4.1	6.6	20	117	17	.29	.20	1.8
4	1.6	8.0	3.7	3.7	3.8	7.0	22	99	15	.23	.06	1.4
5	1.6	9.9	3.7	3.5	3.5	7.0	29	85	13	.05	.00	.97
6	1.6	11	3.9	3.8	3.4	6.6	37	76	11	.00	.88	.68
7	1.8	12	3.9	3.8	3.3	7.0	53	70	11	.00	.64	.41
8	2.0	10	3.7	3.3	3.8	7.0	55	70	11	.00	.34	.23
9	1.9	10	3.3	3.3	3.8	6.6	52	64	17	.00	.71	.10
10	1.7	11	3.7	3.3	3.8	6.6	69	74	17	.00	.77	.05
11	1.7	7.8	3.9	3.5	4.1	6.6	84	65	14	.00	1.0	.00
12	1.8	6.4	3.5	3.4	3.9	7.4	91	52	11	.00	.71	.00
13	1.8	6.2	3.3	3.2	4.1	8.0	101	48	9.2	.00	.35	.00
14	1.8	6.9	3.2	3.2	4.5	8.6	128	43	7.6	.00	.27	.00
15	1.8	7.0	3.4	3.2	4.0	8.6	143	40	6.0	.00	.55	.00
16	1.9	5.8	3.4	3.2	3.9	8.2	115	34	4.7	.00	1.6	.00
17	1.9	4.5	3.4	3.3	3.8	8.8	115	31	4.0	.00	1.2	.00
18	1.9	4.4	3.4	3.2	3.7	8.4	135	27	3.7	.00	.66	.00
19	1.9	3.6	4.0	3.1	3.8	8.4	109	26	3.7	.00	4.0	.00
20	2.0	2.8	3.8	3.3	3.7	8.4	77	24	3.3	.00	2.3	.00
21	2.0	5.0	3.7	3.3	4.6	9.4	67	23	2.4	.00	1.1	.00
22	2.0	4.6	3.6	3.4	4.6	11	78	20	2.3	.00	.98	.00
23	2.0	3.2	3.4	3.4	4.7	11	89	20	2.0	.00	.63	.16
24	2.1	3.6	3.4	3.6	4.4	11	103	30	1.6	.00	4.4	.27
25	2.1	3.9	3.5	3.5	4.5	13	134	24	1.1	.00	16	.30
26	2.2	4.2	3.7	3.5	4.5	14	156	19	.93	.00	11	.24
27	2.2	4.3	3.2	3.6	4.7	16	162	18	1.1	.00	7.1	.16
28	2.2	4.1	3.2	3.6	4.7	18	191	20	.84	.00	4.1	.05
29	2.3	4.1	3.2	3.6	4.9	18	198	20	.55	1.2	2.5	.19
30	2.3	3.2	3.4	3.6	---	18	180	25	.45	1.8	1.8	.60
31	2.3	---	3.3	3.7	---	17	---	28	---	1.4	1.5	---
TOTAL	62.1	182.5	108.0	105.2	118.0	303.0	2832	1589	236.47	6.21	68.50	10.51
MEAN	2.00	6.08	3.48	3.39	4.07	9.77	94.4	51.3	7.88	.20	2.21	.35
MAX	3.1	12	4.0	3.8	4.9	18	198	158	24	1.8	16	1.8
MIN	1.6	2.5	3.0	3.0	3.3	5.0	18	18	.45	.00	.00	.00
AC-FT	123	362	214	209	234	601	5620	3150	469	12	136	21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	MEAN	2.92	3.85	2.65	2.24	3.56	15.0	105	145	16.2	2.00	3.04	1.25
MAX	12.0	13.8	8.12	6.00	13.0	63.5	302	508	108	12.0	17.7	4.42	
(WY)	1987	1987	1967	1965	1962	1960	1962	1941	1957	1957	1957	1986	
MIN	.000	1.04	.48	.000	.25	2.50	22.2	4.05	.027	.000	.000	.000	
(WY)	1952	1956	1977	1977	1990	1948	1972	1977	1977	1940	1951	1951	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1940 - 1992
ANNUAL TOTAL	11596.70	5621.49	
ANNUAL MEAN	31.8	15.4	25.5
HIGHEST ANNUAL MEAN			61.8
LOWEST ANNUAL MEAN			3.35
HIGHEST DAILY MEAN	460	198	1050
LOWEST DAILY MEAN	a.00	b.00	.00
ANNUAL SEVEN-DAY MINIMUM	.01	.00	.00
INSTANTANEOUS PEAK FLOW		257	c.1750
INSTANTANEOUS PEAK STAGE		d.2.84	5.38
ANNUAL RUNOFF (AC-FT)	23000	11150	18490
10 PERCENT EXCEEDS	120	49	63
50 PERCENT EXCEEDS	3.4	3.6	3.0
90 PERCENT EXCEEDS	1.4	.03	.00

a-Also occurred Jul 16-20.

b-Also occurred Jul 7-28, and Sep 11-22.

c-From rating curve extended above 1100 ft³/s.

d-Maximum gage height, 3.03 ft, Mar 19, backwater from ice.

08248000 LOS PINOS RIVER NEAR ORTIZ, CO

LOCATION.--Lat 36°58'56", long 106°04'23", on line between secs.26, and 27, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 0.9 mi south of Colorado-New Mexico State line, 2.1 mi southwest of Ortiz, and 2.9 mi upstream from mouth.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--January 1915 to December 1920, October 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,040 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 15, 1955, at site 350 ft upstream at datum 2.52 ft, higher.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 6, Nov. 8, 9, 12, 13, 17, 18, 20-25, and Nov. 30 to Mar. 28. Records good except for estimated daily discharges, which are fair. Diversions upstream from station for irrigation.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	16	18	19	24	23	35	674	252	59	29	43
2	25	18	17	18	24	24	35	671	221	53	25	39
3	22	17	18	18	26	26	37	640	218	49	23	36
4	21	18	22	23	24	28	42	568	215	46	25	32
5	20	20	23	22	22	27	45	558	243	43	26	29
6	19	22	24	24	21	26	46	553	285	38	22	27
7	20	23	24	24	20	28	60	528	263	34	35	25
8	19	20	22	20	22	27	81	525	283	33	33	22
9	19	22	19	20	22	26	104	510	270	31	26	20
10	18	28	22	20	22	25	125	522	228	31	23	19
11	18	31	24	22	24	25	152	397	199	33	24	18
12	17	18	21	21	22	27	187	397	213	35	23	17
13	16	18	19	19	23	29	256	435	215	38	21	16
14	17	26	18	19	25	30	366	457	204	36	23	15
15	17	27	20	19	23	31	370	456	186	33	39	15
16	17	24	20	19	22	29	324	435	165	30	32	19
17	16	21	20	20	21	30	315	434	141	28	28	20
18	16	20	20	18	20	29	328	432	133	27	35	18
19	16	17	25	17	21	29	265	437	130	27	26	18
20	17	16	24	20	20	29	211	485	127	29	30	26
21	16	18	23	20	23	30	191	501	124	28	29	22
22	16	16	22	21	23	31	213	451	116	25	29	21
23	16	16	20	21	23	29	222	425	109	24	58	19
24	17	19	20	23	21	27	275	432	103	28	220	18
25	18	26	21	22	21	28	352	352	99	32	229	17
26	18	35	23	22	21	29	404	338	89	41	138	15
27	17	30	19	23	22	30	459	364	83	47	92	15
28	17	27	19	23	22	31	559	373	80	41	68	16
29	15	24	19	23	23	29	638	325	79	36	56	16
30	15	21	21	23	---	30	647	318	66	31	48	15
31	14	---	20	24	---	33	---	285	---	29	43	---
TOTAL	556	654	647	647	647	875	7344	14278	5139	1095	1558	648
MEAN	17.9	21.8	20.9	20.9	22.3	28.2	245	461	171	35.3	50.3	21.6
MAX	27	35	25	24	26	33	647	674	285	59	229	43
MIN	14	16	17	17	20	23	35	285	66	24	21	15
AC-FT	1100	1300	1280	1280	1280	1740	14570	28320	10190	2170	3090	1290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1992, BY WATER YEAR (WY)

	MEAN	27.9	21.8	15.9	14.4	16.9	33.3	231	611	329	73.6	35.4	24.8
MAX	109	70.1	34.4	26.0	30.0	84.7	610	1341	1022	258	112	101	
(WY)	1987	1987	1987	1987	1962	1971	1936	1952	1957	1957	1929	1927	
MIN	10.1	11.1	5.00	5.00	7.50	13.9	65.9	96.8	25.2	13.2	11.9	7.53	
(WY)	1957	1957	1918	1918	1964	1977	1968	1977	1977	1934	1977	1956	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1915 - 1992
ANNUAL TOTAL	49075	34088	
ANNUAL MEAN	134	93.1	120
HIGHEST ANNUAL MEAN			230
LOWEST ANNUAL MEAN			28.7
HIGHEST DAILY MEAN	1170	May 11	2410
LOWEST DAILY MEAN	a12	Jan 30	b4.0
ANNUAL SEVEN-DAY MINIMUM	13	Jan 28	c3160
INSTANTANEOUS PEAK FLOW			4.71
INSTANTANEOUS PEAK STAGE			5.77
ANNUAL RUNOFF (AC-FT)	97340	67610	86970
10 PERCENT EXCEEDS	449	331	383
50 PERCENT EXCEEDS	28	26	25
90 PERCENT EXCEEDS	16	18	12

a-Also occurred Feb 1 and 2.

b-Minimum observed, 4.0 ft³/s, Dec 17, 1945 (discharge measurement); minimum daily discharge for period of record, also occurred Dec 12-14, 17, 22, 30-31, 1989, and Jan 4-6, 1990, but may have been less during periods of no gage-height record.

c-Site and datum then in use, from rating curve extended above 1600 ft³/s.

08249000 CONEJOS RIVER NEAR LASAUSES, CO

LOCATION.--Lat 37°18'01", long 105°44'47", in SW¹/₄SW¹/₄ sec.2, and SE¹/₄NE¹/₄ 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 Lasasues, and 13 mi southeast of Alamosa.

DRAINAGE AREA.--887 mi².

PERIOD OF RECORD.--March 1921 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to Oct. 1, 1966, published as "near La Sausas."

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 National Geodetic Vertical Datum of 1929, and on secondary (south) channel is 7,496.89 ft above National Geodetic Vertical Datum of 1929 (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.--Estimated daily discharges: Oct. 31 to Nov. 5, Nov. 23-27, and Nov. 29 to Mar. 27. Records good except for estimated daily discharges, which are fair. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	27	57	57	47	77	231	697	91	5.0	2.5	26
2	59	38	53	51	53	83	226	577	67	3.3	1.7	31
3	46	54	49	49	61	90	211	471	76	4.0	.82	30
4	36	56	51	60	59	96	205	364	92	4.0	.65	25
5	32	53	53	56	55	96	217	262	95	3.9	.73	21
6	41	66	53	58	51	95	221	213	109	4.5	1.4	19
7	36	71	53	66	50	95	220	180	109	4.3	1.9	17
8	33	76	55	53	59	97	253	182	106	10	3.7	16
9	32	76	55	51	57	98	285	227	278	9.0	4.0	14
10	31	81	55	47	57	97	316	216	305	13	2.7	12
11	27	90	66	49	63	97	356	170	219	11	2.4	11
12	23	102	68	58	63	97	408	107	156	13	4.7	11
13	22	90	55	51	63	101	473	82	134	11	4.0	10
14	21	79	49	47	72	107	616	74	105	28	2.4	10
15	19	83	49	47	65	113	785	113	85	33	2.3	11
16	16	96	49	43	68	120	825	92	60	29	2.7	11
17	16	92	57	47	68	130	745	78	69	14	2.4	12
18	16	86	57	45	59	143	730	81	64	8.7	1.4	12
19	15	87	70	45	59	146	756	60	71	5.7	1.7	14
20	14	79	68	45	66	150	617	55	105	4.5	1.6	12
21	14	71	64	45	77	159	480	68	116	4.0	1.2	14
22	16	68	66	42	72	184	437	120	110	2.8	1.2	12
23	19	65	57	40	77	214	453	123	82	2.7	1.6	9.3
24	18	62	57	47	73	224	437	120	72	2.5	2.6	8.8
25	16	58	55	47	77	228	508	119	37	4.7	271	7.1
26	17	59	57	49	75	234	628	89	19	14	512	5.2
27	17	69	55	49	73	254	747	90	11	24	218	7.3
28	17	74	55	47	73	245	634	106	9.5	19	81	8.8
29	18	79	53	47	77	243	697	131	11	12	45	12
30	24	67	53	47	---	257	780	117	8.8	6.4	34	7.2
31	25	---	66	47	---	235	---	114	---	4.4	28	---
TOTAL	781	2154	1760	1532	1869	4605	14497	5498	2872.3	315.4	1241.30	416.7
MEAN	25.2	71.8	56.8	49.4	64.4	149	483	177	95.7	10.2	40.0	13.9
MAX	59	102	70	66	77	257	825	697	305	33	512	31
MIN	14	27	49	40	47	77	205	55	8.8	2.5	.65	5.2
AC-FT	1550	4270	3490	3040	3710	9130	28750	10910	5700	626	2460	827

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1992, BY WATER YEAR (WY)

	MEAN	50.5	87.3	59.5	61.1	77.7	99.1	252	728	567	143	51.3	38.0
MAX	307	424	140	146	185	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1921 - 1992

ANNUAL TOTAL	71390		37541.70										
ANNUAL MEAN	196		103							184			
HIGHEST ANNUAL MEAN										451		1941	
LOWEST ANNUAL MEAN										17.2		1977	
HIGHEST DAILY MEAN	1540	May 22	825	Apr 16						3820	May 15	1941	
LOWEST DAILY MEAN	14	Oct 20	.65	Aug 4						.00	Jun 27	1934	
ANNUAL SEVEN-DAY MINIMUM	15	Oct 16	1.4	Aug 1						.00	Jul 21	1934	
INSTANTANEOUS PEAK FLOW			825	Apr 16						c3890	May 15	1941	
ANNUAL RUNOFF (AC-FT)	141600		74460							133600			
10 PERCENT EXCEEDS	518		237							526			
50 PERCENT EXCEEDS	96		57							56			
90 PERCENT EXCEEDS	42		4.7							1.5			

a-Also occurred Oct 21.

b-Maximum daily discharge.

c-Gage height not determined.

08251500 RIO GRANDE NEAR LOBATOS, CO

LOCATION.--Lat 37°04'43", long 105°45'23", in NE¹/₄NW¹/₄ sec.27, T.33 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank at highway bridge, 5.7 mi north of Colorado-New Mexico State line, 8 mi downstream from Culebra Creek, 11 mi east of Lobatos, and 14 mi east of Antonito.

DRAINAGE AREA.--7,700 mi², approximately, includes 2,940 mi² in closed basin in northern part of San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to current year. Monthly discharge only for some periods, published in WSP 1312.

Published as "at Cenicero" 1899-1901, and as "near Cenicero" 1902-4. Statistical summary computed for 1931 to current year

REVISED RECORDS.--WSP 1312: 1919 (monthly runoff). WSP 210: Drainage area. WDR CO-78-1: 1976.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 7,427.63 ft above National Geodetic Vertical Datum of 1929. Prior to 1910, nonrecording gages at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 1-4, 7, 8, and Nov. 21 to Mar. 21. Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversion for irrigation, and return flow from irrigated areas.

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 1828, that of June 8, 1905.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	92	275	280	230	305	1050	966	520	167	86	129
2	102	140	270	285	210	310	1080	841	496	142	89	118
3	114	220	210	285	190	320	1070	760	450	138	99	117
4	90	250	215	285	230	315	1070	652	454	151	118	115
5	80	278	240	285	235	315	1070	513	435	122	108	110
6	76	282	235	285	255	320	1090	444	450	106	102	107
7	82	294	250	295	255	340	1050	403	465	95	100	110
8	77	370	255	280	255	365	1030	338	520	90	92	104
9	73	371	255	275	265	395	1070	378	643	97	98	97
10	74	331	275	275	265	405	1100	392	824	91	110	87
11	71	330	280	280	270	410	1160	381	774	92	115	72
12	78	350	275	275	280	410	1240	299	720	87	130	67
13	76	350	280	275	285	410	1370	255	760	92	108	63
14	72	306	275	275	290	425	1490	224	685	87	98	59
15	68	278	270	280	285	465	1670	250	568	105	85	60
16	62	281	265	280	290	520	1590	266	506	110	90	58
17	57	296	270	255	290	600	1480	231	435	101	100	54
18	55	310	270	250	290	600	1340	239	385	88	96	50
19	66	310	285	250	280	580	1240	234	355	79	85	60
20	71	298	290	250	285	580	1100	216	374	79	69	73
21	64	298	300	250	290	600	911	216	425	80	60	78
22	60	210	310	230	290	685	787	262	477	69	53	158
23	62	145	310	235	295	806	769	315	457	72	57	190
24	68	190	300	230	300	988	744	325	381	100	71	123
25	62	240	310	230	305	979	740	350	326	121	95	114
26	76	265	305	230	300	975	816	345	300	153	651	107
27	79	280	300	230	300	997	916	390	260	208	744	104
28	82	370	290	230	295	1040	893	390	222	261	455	99
29	85	300	280	230	300	1040	840	478	209	179	267	94
30	82	280	265	230	---	1040	961	508	193	134	189	93
31	76	---	295	230	---	1050	---	490	---	110	152	---
TOTAL	2336	8315	8505	8055	7910	18590	32737	12351	14069	3606	4772	2870
MEAN	75.4	277	274	260	273	600	1091	398	469	116	154	95.7
MAX	114	371	310	295	305	1050	1670	966	824	261	744	190
MIN	55	92	210	230	190	305	740	216	193	69	53	50
AC-FT	4630	16490	16870	15980	15690	36870	64930	24500	27910	7150	9470	5690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1992, BY WATER YEAR (WY)

	MEAN	178	320	283	256	306	411	539	1135	1245	420	157	118
MAX	1401	1199	763	521	595	884	2326	4958	4470	2156	842	779	
(WY)	1942	1942	1942	1986	1986	1987	1985	1987	1941	1986	1957	1982	
MIN	12.9	59.6	61.7	75.7	102	66.0	32.3	42.9	19.8	1.28	3.21	1.91	
(WY)	1957	1955	1964	1957	1957	1957	1935	1963	1977	1951	1956	1956	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1931 - 1992
ANNUAL TOTAL	157240	124116	
ANNUAL MEAN	431	339	a 447
HIGHEST ANNUAL MEAN			1264
LOWEST ANNUAL MEAN			70.9
HIGHEST DAILY MEAN	2010	May 23	b 9110
LOWEST DAILY MEAN	53	Sep 4	c .00
ANNUAL SEVEN-DAY MINIMUM	62	Oct 16	d 11600
INSTANTANEOUS PEAK FLOW		1700	Apr 15
INSTANTANEOUS PEAK STAGE		e 3.25	Apr 15
ANNUAL RUNOFF (AC-FT)	311900	246200	324000
10 PERCENT EXCEEDS	960	818	952
50 PERCENT EXCEEDS	300	275	237
90 PERCENT EXCEEDS	93	77	39

a-Average discharge for 31 years (water years 1900-30), 846 ft³/s; 612900 acre-ft/yr, includes period of extensive development for irrigation.

b-Maximum daily discharge for period of record, 13100 ft³/s, Jun 8, 1905.

c-No flow at times in 1950-51, 1956.

d-Maximum discharge and stage for period of record, 13200 ft³/s, Jun 8, 1905, gage height, 9.1 ft, from rating curve extended above 8000 ft³/s.

e-Maximum gage height, 3.77 ft, Mar 18, backwater from ice.

Water-Quality data for water year 1992 for the following station
will be published in a subsequent report

RIO GRANDE BASIN

08251500 RIO GRANDE NEAR LOBATOS, CO

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO

There are 24 tunnels or ditches, all of which are equipped with water-stage recorders and Parshall flumes or sharp-crested weirs. Records provided by Colorado Division of Water Resources. The locations and diversions of 8 selected diversions are given in the following list.

TO PLATTE RIVER BASIN

09010000 Grand River Ditch diverts water from tributaries of Colorado River to La Poudre Pass Creek (tributary to Cache la Poudre River) in NW¹/₄ sec.21, T.6 N., R.75 W., in Platte River basin. Two collection ditches beginning at headgates located in sec.28, T.5 N., R.76 W., and sec.29, T.6 N., R.75 W., intercept all tributaries upstream on each side of the Colorado River and converge at La Poudre Pass.

REVISIONS (WATER YEARS).--WSP 1313: 1912-27.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09010000	0	0	0	0	0	0	91	5,030	9,070	5,320	1,420	425

Water year 1992, 21,360

09013000 Alva B. Adams Tunnel diverts water from Grand Lake and Shadow Mountain Lake in NW¹/₄ sec.9, T.3 N., R.75 W., in Colorado River basin, to Lake Estes (Big Thompson River) in sec.30, T.5 N., R.72 W., in Platte River basin. For daily discharge, see elsewhere in this report.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09013000	7,580	28,400	26,930	26,910	21,200	14,650	5,840	18,170	15,710	11,550	12,880	8,460

Water year 1992, 198,300

09021500 Berthoud Pass Ditch diverts water from tributaries of Fraser River between headgate in sec.33, T.2 S., R.75 W., and Berthoud Pass, in Colorado River basin, to Hoop Creek (tributary to West Fork Clear Creek) in sec.10, T.3 S., R.75 W., in Platte River basin.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09021500	0	0	0	0	0	0	0	108	418	335	118	30

Water year 1992, 1,010

09050590 Harold D. Roberts Tunnel diverts water from Dillon Reservoir (Blue River) in sec.18, T.5 S., R.77 W., in Blue River basin, to North Fork South Platte River (tributary to South Platte, River) in SW¹/₄SW¹/₄ sec.4, T.7 S., R.74 W., in Platte River basin. Figures include a small amount of ground-water inflow between Dillon Reservoir and east portal of tunnel.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09050590	4,310	8,670	6,190	5,980	5,740	4,570	150	2,830	14,930	16,840	10,690	4,640

Water year 1992, 85,530

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO--Continued

TO ARKANSAS RIVER BASIN

09042000 Hoosier Pass Tunnel diverts water from tributaries of Blue River in Colorado River basin to Montgomery Reservoir (Middle Fork South Platte River) in sec.14, T.8 S., R.78 W., in Platte River basin; this water is again diverted to South Catamount Creek (tributary to Catamount Creek) in SE¹/₄ sec.14, T.13 S., R.69 W., in the Arkansas River basin. Collection conduits extending from the right bank of Crystal Creek (tributary to Spruce Creek) in sec.14, T.7 S., R.78 W., right bank of Spruce Creek in sec.23, T.7 S., R.78 W., right bank of McCullough Gulch in sec.26, T.7 S., R.78 W., right bank of Monte Cristo Creek in SW¹/₄NE¹/₄ sec.2, T.8 S., R.78 W., left bank of Bemrose Creek in SW¹/₄SW¹/₄ sec.6, T.8 S., R.77 W., and intercepting intermediate tributaries, transport diversions to north portal of the tunnel.

REVISIONS (WATER YEARS).--WDR CO-86-1, WDR CO-86-2: 1984, 1985.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09042000	14	0	0	0	0	0	76	2,330	3,690	3,410	1,970	165

Water year 1992, 11,650

09063700 Homestake Tunnel diverts water from Homestake Lake (Middle Fork Homestake Creek), in sec.17, T.8 S., R.81 W., in Eagle River basin, to Lake Fork in sec.9, T.9 S., R.81 W., in Arkansas River basin. Water is imported to Homestake Lake from tributaries of Homestake Creek by collection conduits that extend from right bank of French Creek in sec.28, T.7 S., R.81 W., and left bank of East Fork Homestake Creek in sec.9, T.8 S., R.81 W., and intercept intermediate tributaries.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09063700	2,970	4,580	0	0	0	5,900	4,930	0	0	0	2,680	5,840

Water year 1992, 26,910

09077160 Charles H. Bousted Tunnel diverts water from the main stem and tributaries of Fryingpan River (tributary to Roaring Fork River), in Colorado River basin, to Lake Fork in sec.10, T.9 S., R.81 W., in Arkansas River basin. Water is transported to west portal of tunnel (at lat 39°14'44", long 106°31'47"), by a series of collection conduits extending between headgates on right bank of Sawyer Creek at lat 39°15'58", long 106°38'19" and right bank of Fryingpan River at lat 39°14'40", long 106°31'49", and intercepting intermediate tributaries.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09077160	196	160	160	160	172	174	378	21,670	23,840	8,990	910	262

Water year 1992, 57,060

09077500 Busk-Ivanhoe Tunnel diverts water from Ivanhoe Lake (Ivanhoe Creek), tributary to Fryingpan River in sec.13, T.9 S., R.82 W., in Roaring Fork River basin, to Busk Creek (tributary to Lake Fork) in sec. 20, T.9 S., R.81 W., in Arkansas River basin.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09077500	39	0	0	0	0	0	0	2,160	1,930	889	170	24

Water year 1992, 5,210

TRANSMOUNTAIN DIVERSIONS NO LONGER PUBLISHED

Following is a list of Transmountain Diversions no longer being published in this report. Diversions, in acre-feet, for these sites are available from the State of Colorado, Division of Water Resources.

TO PLATTE RIVER BASIN		TO ARKANSAS RIVER BASIN		TO RIO GRANDE BASIN	
09012000	Eureka Ditch	09061500	Columbine Ditch	09118200	Tarbell Ditch
09022500	Moffat Water Tunnel	09062000	Ewing Ditch	09121000	Tabor Ditch
				09341000	Treasure Pass Ditch
09046000	Boreas Pass Ditch	09062500	Wurtz Ditch	09347000	Don LaFont Ditches 1&2
09047300	Vidler Tunnel	09073000	Twin Lakes Tunnel	09348000	Williams Cr- Squaw Pass Ditch
		09115000	Larkspur Ditch	09351000	Pine River- Weminuche Pass Ditch
				09351500	Weminuche Pass Ditch

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 1992 maximum		Period of record maximum			
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
PLATTE RIVER BASIN								
Threemile Creek at Upper Site, near Hartsel, CO (38513810539170)	Lat 38°51'38", long 105°39'17", in NW ¹ / ₄ SE ¹ / ₄ sec.3, T.14 S., R.74 W., Park County.	1991-92	5-27-92	10.07	14			
Threemile Creek at Middle Site, near Hartsel, CO (3854031053833)	Lat 38°54'03", long 105°38'33", in SE ¹ / ₄ SW ¹ / ₄ sec.23, T.13 S., R.74 W., Park County.	1991-92	8-20-91 7-26-92	14.97 15.03	20 22			
Threemile Creek at Lower Site near Hartsel, CO (385800105362200)	Lat 38°58'00", long 105°36'22", in SE ¹ / ₄ NW ¹ / ₄ sec.31, T.12 S., R.73 W., Park County.	1991-92	5-27-92	14.58	c			
Deer Creek near Littleton, CO (06708500)	Lat 39°32'56", long 105°07'59", in NE ¹ / ₄ NE ¹ / ₄ sec.8, T.6 S., R.69 W., Jefferson County, 70 ft upstream from county bridge over Deer Creek, 7.5 mi southwest of Littleton. Drainage area is 26.2 mi ² .	1942-46, 1978-92	3-28-92	5.13	72	^a 1980	6.22	320
Lee Gulch at Littleton, CO (06709740)	Lat 39°35'47", long 105°00'57", in SW ¹ / ₄ SW ¹ / ₄ sec.21, T.5 S., R.68 W., 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.	1980-92	8-24-92	11.56	142	^a 1983	16.00	444
Dutch Creek at Platte Canyon Drive, near Littleton, CO (06709910)	Lat 39°36'01", long 105°02'28", in NW ¹ / ₄ SE ¹ / ₄ sec.19, T.5 S., R.69 W., Arapahoe County, on left bank 150 ft down- stream from bridge on Platte Canyon Road. Drainage area not determined.	1985-92	8-24-92	9.93	374	6- 1-91	11.51	1,090
Littles Creek at Littleton, CO (06709995)	Lat 39°36'44", long 105°01'09", in SE ¹ / ₄ SE ¹ / ₄ sec.17, T.5 S., R.68 W., Arapahoe County, 50 ft upstream from Rapp St., and 150 ft south of W. Alamo St. in Littleton. REVISED RECORDS.--WDR CO-89-1: 1988. Drainage area not determined.	1985-92	8-24-921	10.94	94	7-29-90	13.01	503
Cub Creek at Evergreen, CO (06710400)	Lat 39°37'50", long 105°19'16", in NW ¹ / ₄ SE ¹ / ₄ sec.10, T.5 S., R.71 W., Jefferson County, 0.1 mi upstream from confluence with Bear Creek. Drainage area is 22.2 mi ² .	1978-92	5-27-92	46.75	79	^a 1980	b7.41	244

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name and number	Location and drainage area	Period of record	Water year 1992 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
PLATTE RIVER BASIN--Continued								
Mt. Vernon Creek near Morrison, CO (06710600)	Lat 39°40'49", long 105°11'50", in NW ¹ / ₄ NW ¹ / ₄ sec.26, T.4 S., R.70 W., Jefferson County, 1.9 mi north of Morrison, Drainage area is 7.58 mi ² . REVISED RECORDS.--WDR CO-91-1: 1990. Drainage area is 7.58 mi ² .	1978-92	6-01-92	8.66	45	7-22-91	9.09	121
Paramalee Gulch at mouth at Indian Hills, CO (06710990)	Lat 39°36'57", long 105°13'54", in NW ¹ / ₄ SE ¹ / ₄ sec.16, T.5 S., R.70 W., Jefferson County, 20 ft upstream from box type culvert beneath U.S. Highway 285. Drainage area is 5.80 mi ² .	1978-92	e	e	e	^a 1984	9.62	100
Turkey Creek near Morrison, CO (06711000)	Lat 39°37'22", long 105°11'13", in NE ¹ / ₄ NE ¹ / ₄ sec.14, T.5 S., R.70 W., Jefferson County, 2.2 mi southwest of Morrison. Drainage area is 48.0 mi ² .	1942-53, 1969, 1978-92	4-17-92	39.57	125	5- 7-69	c	2,730
Weaver Creek near Lakewood, CO (06711305)	Lat 39°38'13", long 105°07'47", in NE ¹ / ₄ NE ¹ / ₄ sec.8, T.5 S., R.69 W., Jefferson County, 500 ft upstream from Simms St., and 700 ft south of West Quincy Ave. Drainage area not determined.	1982-92	8-24-92	^f 10.48	^f 30	6- 2-91	12.50	305
Little Dry Creek near Arapahoe Road, CO (06711515)	Lat 39°35'38", long 104°54'23", in NE ¹ / ₄ NE ¹ / ₄ sec.29, T.5 S., R.67 W., Arapahoe County, on right bank, 800 ft downstream from Quebec St. (formerly published as Inflow to Holly Reservoir, 1985-86). Drainage area not determined.	1985-92	7-12-92	8.64	202	^a 1985	10.52	800
Willow Creek at Dry Creek Road, near Englewood, CO (06711535)	Lat 39°34'49", long 104°54'42", in NW ¹ / ₄ NE ¹ / ₄ sec.32, T.5 S., R.67 W., Arapahoe County, on left bank, upstream wingwall of bridge on Dry Creek Road over Willow Creek. Drainage area not determined.	1985-92	6-01-92	11.33	1810	^a 1985	14.28	3,470
Little Dry Creek above Englewood, CO (06711555)	Lat 39°38'57", long 104°58'42", in SE ¹ / ₄ NE ¹ / ₄ sec.3, T.5 S., R.68 W., Arapahoe County, on right bank 250 ft downstream from bridge on Clarkson St., and 800 ft south of Hampton Ave., in Cherry Hills Village. Drainage area not determined. Prior to April 2, 1992, gage was located at a site 300 feet upstream from the present location.	1982-92	8-24-92	7.16	c	^a 1983	15.64	1,060
Harvard Gulch at Colorado Blvd. at Denver, CO (06711570)	Lat 39°40'08", long 104°56'32", in SE ¹ / ₄ SE ¹ / ₄ sec.25, T.4 S., R.67 W., Denver County, on left bank, 100 ft upstream from S. Jackson St., and 400 ft north of E. Yale Ave. Drainage area not determined.	1979-92	7-20-92	13.50	750	8- 4-88	14.02	597
Harvard Gulch below University Blvd. at Denver, CO (06711572)	Lat 39°40'10", long 104°57'33", in SE ¹ / ₄ SE ¹ / ₄ 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. Drainage area not determined.	1979-92 (1989-91 revised)	7-20-92 5-15-89 7-10-90 7-20-91	14.46 12.56 13.09 13.67	907 162 323 549	a1983	13.75	780

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name and number	Location and drainage area	Period of record	Water year 1992 maximum		Period of record maximum		Gage height (ft)	Dis- charge (ft ³ /s)
			Date	Gage height (ft)	Date	Dis- charge (ft ³ /s)		
PLATTE RIVER BASIN--Continued								
Harvard Gulch at Harvard Park at Denver, CO (06711575)	Lat 39°40'21", long 104°58'35", in NW ¹ / ₄ SW ¹ / ₄ sec.26, T.4 S., R.68 W., Denver County, on left bank, 200 ft north of E. Harvard Ave. and 300 ft west of S. Ogden St., directly north of Porter Hospital. Drainage area not determined.	1979-92	7-20-92	15.57	807	a1981	15.61	785
Sanderson Gulch tributary at Lakewood, CO (06711600)	Lat 39°41'19", long 105°04'54", in NE ¹ / ₄ NW ¹ / ₄ 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 ² .	1969-92	7-12-92	13.01	68	6- 6-77	4.91	422
Sanderson Gulch at Mouth at Navajo St. at Denver, CO (06711609)	Lat. 39°41'33", long 105°00'12", in SW ¹ / ₄ NE ¹ / ₄ sec.21, T.4 S., R.68 W., Denver County, 200 ft south of Louisiana Ave., at Navajo St. Drainage area not determined.	1985-92	8-24-92	10.95	310	6- 1-91	11.87	501
Weir Gulch upstream from 1st Avenue, at Denver, CO (06711618)	Lat 39°43'03", long 105°02'30", in NW ¹ / ₄ SE ¹ / ₄ sec.7, T.4 S., R.68 W., Denver County, 250 ft upstream from 1st Ave., in Denver. Drainage area not determined.	1985-92	8-24-92	10.06	120	8- 1-91	11.91	523
Dry Gulch at Denver, CO (06711770)	Lat 39°44'03", long 105°02'20", in SW ¹ / ₄ NE ¹ / ₄ sec.6, T.4 S., R.68 W., Denver County, 800 ft upstream from confluence with Lakewood Gulch, north of West 10th Ave., at Perry St., in Denver. Drainage area not determined.	1980-92	8-24-92	12.20	173	a1981	16.00	445
Lakewood Gulch at Denver, CO (06711700)	Lat 39°44'06", long 105°01'54", in SW ¹ / ₄ NW ¹ / ₄ 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.	1980-92	8-24-92	13.15	465	a1984	17.24	930
Sloans Lake, south Tributary at Denver, CO (06711820)	Lat 39°44'44", long 105°03'28", in NW ¹ / ₄ SE ¹ / ₄ sec.36, T.3 S., R.69 W., Jefferson County, 50 ft south of 18th Ave., at Depew St. REVISED RECORDS.--WDR CO-90-1: 1985-89. Drainage area not determined.	1985-92	8-24-92	2.62	40	6- 1-91	4.00	451
Westerly Creek at Aurora, CO (06714260)	Lat 39°44'43", long 104°52'48", in NW ¹ / ₄ SW ¹ / ₄ sec.34, T.3 S., R.67 W., Adams County, 50 ft upstream from footbridge. 800 ft upstream from Montview Blvd., and 100 ft east of Boston St., in Aurora. REVISED RECORDS.--WDR CO-90-1: 1983-85, 1987-88. Drainage area not determined.	1982-92	7-15-92	12.45	501	a1983	14.45	1,530

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name and number	Location and drainage area	Period of record	Water year 1992 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
PLATTE RIVER BASIN--Continued								
Sand Creek tributary at Denver, CO (06714310)	Lat 39°47'07", long 104°50'31", in SW ¹ / ₄ SW ¹ / ₄ sec.13, T.3 S., R.67 W., Denver County, in median of Andrews Drive Parkway, 50 ft downstream from Troy St. in Denver. Drainage area is 0.29 mi ² .	1971-92	7-15-92	13.93	462	^a 1985	c	800
Lena Gulch at Upper Site, at Golden, CO (06719535)	Lat 39°43'21", long 105°11'46", in NE ¹ / ₄ NW ¹ / ₄ sec.11, T.4 S., R.70 W., Jefferson County, 60 ft north of US 40, and 2,200 ft southwest of US 6, in Golden. Drainage area not determined.	1985-92	3-28-92	11.49	b	^a 1987	10.92	373
Lena Gulch at Lakewood, (06719560)	Lat 39°44'27", long 105°08'49", in SE ¹ / ₄ SE ¹ / ₄ sec.31, T.3 S., R.69 W., Jefferson County on right bank 200 ft north of West 15th Drive at Arbutus. Prior to July 6, 1988, at site approx. 500 ft downstream, (formerly published as Lena Gulch at Alkire at Golden, CO, 1986-87). Drainage area is approximately 9.0 mi ² .	1974-79, 1986-92	8-24-92	11.69	227	7-20-75	14.41	641
Hidden Lake Outflow at 65th Ave near Arvada, CO (06719775)	Lat 39°48'53", long 105°10'03", in SE ¹ / ₄ SE ¹ / ₄ sec.6, T.3 S., R.68 W., Adams County, 30 ft downstream from 65th Ave. at Lowell Blvd. May 1985 to Aug. 1987 at site 200 ft downstream. Drainage area not determined.	1985-92	8-24-92	^f 2.16	^f 2.8	7-22-91	2.50	22
Little Dry Creek at Westminster, CO (06719840)	Lat 39°49'34", long 105°02'25", in NW ¹ / ₄ NE ¹ / ₄ sec.6, T.3 S., R.68 W., Adams County, 400 ft downstream from 72nd Ave. in Westminster. REVISED RECORDS.--WDR CO-89-1: 1986. Drainage area not determined.	1982-92	8-24-92	11.41	1,280	6- 1-91	13.09	1,280
Middle Fork St. Vrain Creek near Allens Park, CO (06723000)	Lat 40°10'07", long 105°26'27", in SW ¹ / ₄ NW ¹ / ₄ sec.3, T.2 N., R.72 W., Boulder County, 1.4 mi northeast from Raymond. REVISED RECORDS.--WDR CO-89-1: 1983-87. Drainage area is 28.0 mi ² .	1925-30, 1978-92	5-09-92	96.63	717	6-12-90	97.31	892
Fourmile Creek near Crisman, CO (06727400)	Lat 40°02'44", long 105°22'02", in SE ¹ / ₄ SW ¹ / ₄ sec.17, T.1 N., R.71 W., Boulder county, on right bank 0.65 mile below junction of Gold Run Road. Drainage area not determined.	1985-92	4-18-92	10.62	42	6- 3-91	11.45	b145
Sunshine Creek at Boulder, CO (06728010)	Lat 40°01'15", long 104°17'47", in NW ¹ / ₄ SW ¹ / ₄ sec.25, T.1 N., R.71 W., Boulder County, on right bank 0.2 mile past Hospital at Open Space Park, 125 ft upstream from footbridge. REVISED RECORDS.--WDR CO-90-1: 1989. Drainage area not determined.	1986-92	4-18-92	1.50	5.4	6- 9-89	2.12	22

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name and number	Location and drainage area	Period of record	Water year 1992 maximum		Period of record maximum				
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)	
PLATTE RIVER BASIN--Continued									
Fall River at Estes Park, CO (06732500)	Lat 40°22'40", long 105°31'56", in NW ¹ / ₄ NW ¹ / ₄ sec.25, T.5 N., R.73 W., Larimer County, 100 ft upstream from State bridge 34 and 0.7 mi upstream from mouth. Destroyed by flood, 7-82. Drainage area is 39.5 mi ² .	1947-53, 1978-92	6-28-92	92.23	140	7-15-82	^b 11.10	6,550	
Cedar Creek at Cedar Cove, CO (06736650)	Lat 40°25'08", long 105°15'53", NW ¹ / ₄ NW ¹ / ₄ sec.8, T.5 N., R.70 W., Larimer County, 0.2 mi north of Cedar Cove and 4.1 mi south-east of Drake. Drainage area is 18.9 mi ² .	1978-92	4-16-92	84.95	6.6	^a 1980	^b 13.80	1,590	
ARKANSAS RIVER BASIN									
Chalk Creek near Nathrop, CO (07091000)	Lat 38°44'01", long 106°09'34", in SE1/4NW1/4 sec.19, T.15 S., R.78 W., Chaffee County 4 mi west of Nathrop. Drainage area is 97.0 mi ² .	1910, 1949-56, 1978-92	4-28-92	2.85	725	^a 1986	3.55	1,400	
Badger Creek above Cals Fork Gulch near Howard, CO (07093705)	Lat 38°45'25", long 105°50'52", in NW1/4SW1/4 sec.12, T.15 S., R.76 W., Park County, 1.0 mi upstream from Cals Fork Gulch, and 21 mi north of Howard. Drainage area is 18.0 mi ² .	1986-1992	no peaks during year		^a 1987	6.34	183		
St. Charles River at Burnt Mill, CO (07107500)	Lat 38°03'06", long 104°47'35", in NE1/4NE1/4 sec.17, T.23 S., R.66 W., Pueblo County, 5.9 mi downstream from North St. Charles River. Drainage area is 166 mi ² .	1923-33, 1978-92	7-14-92	6.34	3,530	7-22-25	22.13	21,800	
Big Arroyo near Thatcher, CO (07120620)	Lat 37°33'17", long 104°01'15", in NW1/4NW1/4 sec.4, T.29 S., R.59 W., Las Animas County, 2.4 mi from U.S. Route 350, 4.8 mi east of Thatcher, and 3.2 mi upstream from mouth. Drainage area is 15.5 mi ² .	1983-90 d 6- 7-92		4.54	1,070	7-28-85	4.86	1,500	
Red Rock Canyon Creek at mouth, near Thatcher, CO (07126415)	Lat 37°30'54", long 103°43'25", in NW1/4SE1/4 sec.18, T.29 S., R.56 W., Las Animas County, 200 ft downstream from Welsh Canyon, 0.3 mi upstream from mouth, and 21 mi east of Thatcher. Drainage area is 48.8 mi ² .	1983-90 ^d	^a	5.98	28	5-22-87	10.09	1,530	
Bent Canyon Creek at mouth near Timpas, CO (07126480)	Lat 37°35'19", long 103°38'51", in SE1/4SE1/4 sec.23, T.28 S., R.65 W., Las Animas County 0.5 mi upstream from mouth, 0.6 mi southwest of Rourke Ranch house, 0.9 mi upstream from Iron Canyon, and 17 mi southeast of Timpas. Drainage area is 56.2 mi ² .	1983-90 d 1991-92	no peaks during year		8-21-84	12.56	2,640		

a Month or day of occurrence is unknown or not exact.

b At different datum.

c Not determined.

d Previously operated as a continuous-record gaging station.

e Station out of operation for 1992, highway construction.

f Maximum observed.

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO (LAT 40 29 46N LONG 105 51 52W)									
OCT 1991					APR 1992				
07...	1440	0.51	53	7.5	13...	1258	0.41	58	1.0
NOV					JUN				
13...	1330	0.36	54	3.5	25...	1015	13.2	36	4.0
JAN 1992					JUL				
15...	1400	0.22	54	1.0	24...	0950	3.64	43	7.5
FEB					SEP				
27...	1445	0.25	56	1.5	10...	1540	0.92	54	10.5
06699005 TARRYALL CREEK BELOW ROCK CREEK NEAR JEFFERSON, CO (LAT 39 17 13N LONG 105 41 43W)									
OCT 1991					JUN 1992				
11...	1215	19.5	124	6.0	16...	1145	53.2	170	11.0
NOV					JUL				
19...	1130	17.4	170	0.0	14...	1515	42.8	183	10.0
DEC					31...	1445	E42	103	19.0
17...	1030	7.49	148	0.0	AUG				
JAN 1992					19...	1810	35.7	114	18.0
28...	1000	--	165	0.0	SEP				
MAR					17...	1530	17.9	140	14.5
05...	1000	--	172	0.0					
MAY									
01...	0835	32.5	189	6.0					
12...	1130	35.0	195	6.5					
28...	1000	82.1	216	9.0					
06709000 PLUM CREEK NEAR SEDALIA, CO (LAT 39 26 19N LONG 104 58 56W)									
DEC 1991					MAY 1992				
13...	1100	12.5	467	0.5	21...	1455	19.2	289	22.0
JAN 1992					JUN				
31...	1100	13.6	376	2.0	29...	1030	40.9	258	20.5
MAR					AUG				
11...	1630	40.0	299	11.0	03...	1130	3.0	370	23.5
APR					03...	1420	2.36	205	25.0
13...	1235	140	183	16.0	SEP				
15...	1440	182	157	16.0	28...	1420	4.97	293	--
06709530 PLUM CREEK AT TITAN ROAD NEAR LOUVIERS, CO (LAT 39 30 27N LONG 105 01 23W)									
DEC 1991					JUL 1992				
13...	1230	23.4	424	0.5	15...	0945	12.7	325	20.0
JAN 1992					21...	1150	11.0	375	24.0
31...	1402	20.1	377	0.5	29...	1200	1.83	371	20.5
MAY					AUG				
20...	1415	16.4	290	24.5	25...	1245	51.1	330	20.5
JUL					SEP				
06...	1200	19.0	295	25.5	23...	1445	0.54	404	21.0
06710245 SOUTH PLATTE RIVER AT UNION AVENUE AT ENGLEWOOD, CO (LAT 39 37 52N LONG 105 00 50W)									
DEC 1991					JUN 1992				
02...	1425	27.2	824	2.5	11...	1330	139	395	22.0
09...	1400	19.5	1410	8.5	JUL				
JAN 1992					09...	1330	57.5	479	26.5
23...	1145	68.8	474	2.5	AUG				
MAR					07...	1100	45.6	493	21.0
12...	1400	127	456	11.5	SEP				
APR					08...	1510	30.1	--	23.0
07...	1155	116	432	11.0	25...	1130	27.4	683	17.5
MAY									
26...	1330	197	104	20.5					
06710385 BEAR CREEK ABOVE EVERGREEN, CO (LAT 39 37 58N LONG 105 19 59W)									
OCT 1991					APR 1992				
15...	1205	26.2	56	6.0	14...	1205	56.9	79	5.5
NOV					MAY				
13...	1150	30.0	63	2.0	18...	1100	67.4	55	9.5
DEC					JUN				
17...	1115	17.5	66	1.0	09...	1115	57.2	56	8.5
JAN 1992					JUL				
31...	1055	14.0	72	0.0	07...	0930	41.7	51	13.0
FEB					AUG				
28...	1230	17.5	79	0.0	04...	0800	26.3	55	11.0
MAR					SEP				
17...	1330	25.8	90	2.0	21...	1230	20.5	59	12.0
20...	1330	32.0	93	1.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
06710605 BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO (LAT 39 39 08N LONG 105 10 23W)									
OCT 1991					MAY 1992				
21...	1315	19.2	136	8.0	19...	0945	48.5	117	12.5
NOV					JUN				
13...	0845	25.7	154	2.0	12...	1315	67.4	110	16.5
DEC					JUL				
17...	1225	19.2	214	1.0	06...	1105	27.8	120	17.0
JAN 1992					AUG				
17...	1400	15.6	223	1.0	04...	1015	7.89	163	16.0
MAR					SEP				
02...	1055	16.6	230	4.5	22...	1045	0.86	329	13.0
APR									
13...	1045	67.5	160	6.0					
06712000 CHERRY CREEK NEAR FRANKTOWN, CO (LAT 39 21 21N LONG 104 45 46W)									
DEC 1991					MAY 1992				
26...	1230	4.23	224	0.0	26...	1440	4.44	240	19.5
JAN 1992					JUN				
02...	1400	3.98	--	0.0	29...	1305	6.08	219	22.5
FEB					JUL				
04...	1130	5.80	200	1.5	20...	1415	2.72	--	23.5
MAR					AUG				
03...	1230	22.9	200	4.5	20...	1220	2.09	203	22.0
APR					SEP				
20...	1430	11.3	244	10.5	28...	1225	2.11	147	--
06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO (LAT 39 39 12N LONG 104 51 41W)									
MAR 1992					AUG 1992				
24...	1400	46.3	905	7.0	03...	1135	11.8	874	22.0
APR					SEP				
22...	1040	10.8	832	11.5	03...	1535	0.13	863	27.5
MAY					22...	1145	0.01	912	22.5
29...	1230	0.35	860	21.0					
JUL									
01...	1340	0.25	844	24.5					
15...	1525	10.7	885	21.0					
17...	1300	10.9	900	22.5					
393109104464500 CHERRY CREEK NEAR PARKER, CO (LAT 39 31 09N LONG 104 46 45W)									
DEC 1991					APR 1992				
03...	1125	1.48	575	7.5	24...	1150	13.6	390	16.0
JAN 1992					JUN				
21...	1445	5.58	476	4.5	11...	1125	8.53	389	21.5
FEB					JUL				
25...	1055	17.8	374	5.0	23...	1445	2.35	548	23.5
27...	1020	13.6	377	7.0	AUG				
MAR					20...	1455	1.66	548	20.5
03...	1345	24.3	294	10.5					
12...	1155	26.9	305	10.0					
26...	1155	35.9	297	15.0					
06713300 CHERRY CREEK AT GLENDALE, CO (LAT 39 42 22N LONG 104 56 15W)									
OCT 1991					MAY 1992				
23...	1415	6.17	1380	14.0	20...	1400	81.5	944	21.0
DEC					29...	1150	17.7	897	17.0
03...	1345	6.36	1600	6.0	JUL				
JAN 1992					01...	1150	15.8	1040	18.0
21...	1145	5.83	1700	5.5	27...	1500	31	981	24.5
FEB					AUG				
25...	1450	3.96	1560	9.0	17...	1150	8.09	1270	19.5
MAR					SEP				
25...	1200	52.6	967	10.5	08...	1525	13.8	1030	21.5
APR					22...	1320	7.16	1370	19.5
22...	1325	18.3	960	13.0					
06713500 CHERRY CREEK AT DENVER, CO (LAT 39 44 58N LONG 105 00 08W)									
OCT 1991					JUN 1992				
22...	1000	15.4	1240	12.0	02...	1130	69.5	584	16.0
DEC					JUL				
09...	1207	11.2	1310	9.5	17...	1055	40.7	570	19.0
JAN 1992					28...	0845	29	1070	17.5
27...	1015	11.5	1320	6.0	AUG				
FEB					27...	1635	19.8	1040	22.0
26...	1255	12.0	1160	11.5	SEP				
MAR					03...	1650	20.1	1350	21.0
24...	1115	50.0	1050	10.0					
APR									
23...	1200	24.5	1070	15.0					

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
06714215 SOUTH PLATTE RIVER AT 64TH AVENUE COMMERCE CITY, CO (LAT 39 48 44N LONG 104 57 28W)									
OCT 1991					JUN 1992				
29...	1240	18.9	1460	10.0	29...	1110	25.0	871	21.0
DEC					JUL				
10...	1135	10.2	1450	5.5	14...	1330	218	650	24.0
MAR 1992					AUG				
30...	0900	250	851	9.5	07...	1330	29.5	880	23.0
MAY									
14...	1420	160	640	20.0					
06720820 BIG DRY CREEK AT WESTMINSTER, CO (LAT 39 54 20N LONG 105 02 04W)									
NOV 1991					MAY 1992				
01...	1210	9.00	1460	1.5	29...	1220	11.1	248	10.0
JAN 1992					JUN				
30...	1200	2.13	1400	2.5	30...	0945	30.2	366	19.0
FEB					AUG				
26...	1300	1.01	1800	7.5	11...	1115	27.6	354	19.0
MAR					SEP				
05...	1215	16.6	831	8.0	28...	1430	2.68	1170	19.0
APR									
09...	1030	2.33	1500	10.5					
06720990 BIG DRY CREEK AT MOUTH NEAR FORT LUPTON, CO (LAT 40 04 09N LONG 104 49 52W)									
NOV 1991					APR 1992				
08...	1515	23.3	--	9.0	15...	1215	131	1140	15.0
DEC					JUN				
31...	1130	22.2	360	2.0	03...	1225	82.3	1010	18.0
FEB 1992					29...	1350	57.2	780	22.0
04...	1030	21.8	1560	2.0	AUG				
26...	1025	17.2	1530	4.0	03...	1135	40.5	974	21.0
MAR					SEP				
05...	1350	80.0	1020	8.5	04...	1310	2.64	1330	19.5
06...	1300	43.2	1330	11.0					
12...	1200	79.6	1110	8.5					
20...	1250	41.0	1560	9.5					
06721500 NORTH ST. VRAIN CREEK NEAR ALLENS PARK, CO (LAT 40 13 07N LONG 105 31 57W)									
OCT 1991					MAY 1992				
01...	1050	20.0	26	7.5	12...	1045	70.2	19	4.5
07...	1052	16.0	22	5.0	JUN				
NOV					02...	1300	100	20	7.5
20...	0900	9.71	24	0.0	18...	0930	106	17	5.5
DEC					JUL				
10...	0830	7.96	26	0.0	14...	0945	86.4	16	9.5
JAN 1992					26...	0945	45.3	19	7.5
28...	0810	6.46	27	0.0	SEP				
MAR					16...	1030	19	21	10.5
06...	1230	4.64	27	2.5					
APR									
01...	1000	9.36	28	0.5					
06725450 ST. VRAIN CREEK BELOW LONGMONT, CO (LAT 40 09 29N LONG 105 00 53W)									
NOV 1991					APR 1992				
06...	1430	53.9	1420	7.0	09...	1410	53.4	1640	11.0
DEC					JUN				
19...	1230	50.8	1410	4.0	02...	1050	135	1050	19.0
23...	1115	40.0	1480	5.0	30...	1150	208	750	19.0
JAN 1992					AUG				
23...	1020	31.6	1540	2.0	21...	1035	152	1390	22.5
FEB					SEP				
25...	1115	34.0	1400	6.5	22...	0805	67.2	672	18.0
MAR									
17...	1310	88.1	675	10.0					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
06726900 BUMMERS GULCH NEAR EL VADO, CO (LAT 40 00 42N LONG 105 20 53W)									
NOV 1991					MAY 1992				
05...	0950	0.38	498	3.0	18...	1450	0.61	419	14.0
DEC					JUL				
11...	1445	0.45	462	2.0	23...	1130	31.0	467	14.0
JAN 1992					AUG				
24...	1315	0.20	484	0.0	26...	0940	0.74	472	10.0
MAR					27...	0940	0.74	472	10.0
16...	1400	1.37	427	7.0	SEP				
APR					04...	1355	0.31	494	14.0
07...	1530	2.11	367	8.0					
20...	1515	1.41	388	9.0					
06727500 FOURMILE CREEK AT ORODELL, CO (LAT 40 01 06N LONG 105 19 33W)									
NOV 1991					MAY 1992				
05...	1130	1.48	297	1.0	18...	1255	11.8	110	12.5
DEC					JUN				
11...	1315	2.16	345	0.5	24...	1030	4.22	139	15.0
JAN 1992					JUL				
24...	1200	0.85	362	0.5	23...	0950	0.83	222	15.0
MAR					AUG				
16...	1200	8.62	333	6.0	26...	1211	2.43	249	13.0
APR					SEP				
07...	1300	18.0	237	6.0	04...	1150	0.73	282	14.5
13...	1135	25.3	176	6.5					
20...	1330	33.7	140	6.0					
06730200 BOULDER CREEK AT NORTH 75TH STREET NEAR BOULDER, CO (LAT 40 03 06N LONG 105 10 42W)									
NOV 1991					MAY 1992				
05...	1400	39.9	698	13.5	19...	1205	142	372	17.0
DEC					JUN				
11...	1205	34.8	727	--	23...	0930	143	545	19.0
JAN 1992					AUG				
24...	0930	37.4	876	9.5	20...	1250	114	391	21.0
MAR					SEP				
17...	1440	91.6	564	9.5	01...	1240	56.8	743	20.5
APR					10...	1320	51.6	517	20.0
13...	1445	60.0	496	15.0					
06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO (LAT 40 32 24N LONG 105 52 56W)									
OCT 1991					JUN 1992				
08...	1200	2.33	63	4.5	25...	1200	22.2	36	6.5
NOV					JUL				
14...	0940	1.45	75	0.0	23...	1125	16.4	48	9.0
JAN 1992					SEP				
16...	0950	0.35	76	0.0	11...	0850	4.38	58	3.5
FEB									
27...	1100	0.65	81	0.0					
06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO (LAT 40 33 43N LONG 105 52 09W)									
OCT 1991					JUN 1992				
08...	1020	0.91	44	2.0	25...	1305	9.59	38	6.0
NOV					25...	1340	9.59	38	6.0
14...	1000	0.55	45	0.5	JUL				
JAN 1992					23...	1335	28.2	42	6.0
16...	1110	0.62	51	0.0	23...	1345	28.2	42	6.0
FEB					SEP				
28...	1000	0.50	54	0.5	11...	1045	13.1	46	9.5
APR									
14...	1024	0.64	57	1.0					
07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO (LAT 38 39 25N LONG 105 48 45W)									
OCT 1991					JUN 1992				
02...	1240	0.65	422	14.0	09...	1050	1.0	414	12.0
29...	1200	0.54	432	0.0	JUL				
APR 1992					22...	0955	0.26	409	13.0
07...	1145	15	256	3.5	AUG				
23...	1220	2.0	407	12.0	11...	1320	3.7	393	19.0
MAY					SEP				
05...	1020	1.3	418	9.0	01...	1145	1.8	396	10.5
22...	1135	0.53	400	13.5					

MISCELLANEOUS STATION ANALYSES

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07099060 BEAVER CREEK ABOVE HIGHWAY 115 NEAR PENROSE, CO (LAT 38 29 21N LONG 104 59 49W)									
NOV 1991					MAY 1992				
13...	1002	9.1	152	3.0	20...	1055	31	100	13.0
MAR 1992					JUN				
27...	1240	6.9	146	7.5	15...	1305	94	89	15.0
APR					SEP				
14...	1310	81	138	10.0	10...	1205	8.4	108	13.5
07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO. (LAT 38 27 37N LONG 104 49 19W)									
JAN 1992					JUN 1992				
10...	1145	0.39	--	6.5	29...	1220	4.8	630	19.0
MAR					AUG				
02...	1345	0.43	990	12.0	06...	0940	0.66	782	16.0
APR					SEP				
21...	1100	1.7	904	8.5	03...	0950	0.58	800	12.5
MAY									
29...	1030	3.6	715	10.5					
07103703 CAMP CREEK AT GARDEN OF THE GODS, CO (LAT 38 52 37N LONG 104 52 20W)									
MAY 1992					AUG 1992				
20...	1230	0.26	228	19.5	11...	1435	0.02	325	23.0
27...	1315	0.23	252	8.0	24...	1525	0.20	197	14.0
JUN					SEP				
02...	1530	0.63	257	20.0	04...	1310	0.14	350	19.5
11...	1150	2.0	215	13.0	16...	1200	0.24	345	17.5
18...	1210	0.80	242	17.5	28...	1225	0.01	335	14.0
24...	1335	0.63	249	20.0					
JUL									
01...	1330	0.77	262	19.0					
09...	1215	0.33	290	20.0					
20...	1310	0.12	315	16.5					
07103800 WEST MONUMENT CREEK AT AIR FORCE ACADEMY, CO (LAT 38 58 14N LONG 104 54 08W)									
OCT 1991					APR 1992				
01...	1115	0.27	99	9.5	02...	1110	0.50	76	3.0
NOV					30...	1505	2.5	68	10.0
12...	1115	0.14	98	3.5	JUN				
12...	1225	0.13	92	3.5	02...	1205	1.2	78	8.0
DEC					JUL				
17...	1015	0.07	89	0.0	06...	1305	0.08	92	15.5
JAN 1992									
21...	1045	0.09	89	0.0					
07103980 COTTONWOOD CREEK AT WOODMAN ROAD NEAR COLORADO SPRINGS, CO (LAT 38 56 22N LONG 104 44 26W)									
MAY 1992					AUG 1992				
20...	1100	0.46	530	20.5	11...	1335	0.22	570	28.0
28...	1020	0.84	525	7.5	21...	1330	0.18	560	28.0
JUN					24...	1405	34	108	15.0
02...	1320	0.89	520	23.5	SEP				
11...	1045	0.71	514	22.5	04...	1155	0.46	590	16.5
18...	1055	0.18	562	20.5	16...	1110	0.26	600	21.0
24...	1215	0.29	525	24.5	28...	1135	0.36	605	16.0
JUL									
01...	1210	0.33	595	25.0					
09...	1110	0.59	565	22.0					
20...	1210	0.49	540	16.5					
07105000 BEAR CREEK NEAR COLORADO SPRINGS, CO (LAT 38 49 21N LONG 104 53 17W)									
MAY 1992					AUG 1992				
20...	1355	0.24	100	12.0	12...	1225	0.38	105	12.5
27...	1215	3.8	74	6.0	21...	1520	0.14	118	15.5
JUN					24...	1605	8.6	72	10.5
03...	1245	0.31	97	9.5	SEP				
11...	1250	0.33	103	9.5	04...	1410	0.05	135	14.0
18...	1250	0.35	104	12.0	16...	1320	0.54	111	13.0
24...	1450	0.26	106	12.0	28...	1320	0.19	120	10.5
JUL									
01...	1415	2.7	79	14.0					
09...	1325	0.26	105	14.0					
20...	1410	2.2	83	11.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
07105490 CHEYENNE CREEK AT EVANS AVE AT COLORADO SPRINGS, CO (LAT 38 47 26N LONG 104 51 49W)									
MAY 1992					JUL 1992				
20...	1515	16	68	13.0	09...	1415	2.0	83	15.0
27...	1020	22	71	6.5	20...	1500	0.89	113	13.5
JUN					AUG				
03...	1400	12	69	11.0	12...	1350	1.0	105	14.5
10...	1515	9.3	74	12.5	21...	1600	0.74	117	18.0
18...	1340	2.8	89	14.0	24...	1625	34	101	12.0
26...	1030	6.3	85	11.5	SEP				
30...	1535	4.4	96	17.0	04...	1520	3.9	114	14.0
					16...	1435	0.74	120	15.5
					28...	1410	0.94	112	12.0
07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO (LAT 38 48 59N LONG 104 49 20W)									
OCT 1991					MAY 1992				
03...	1005	32	610	12.0	07...	1150	75	422	16.0
29...	1205	22	760	0.5	27...	1150	109	358	9.0
NOV					JUN				
07...	1325	67	645	7.5	10...	1010	75	278	11.5
20...	1035	30	700	1.0	26...	1415	56	450	21.0
DEC					29...	1425	66	430	23.0
13...	1105	32	700	0.5	JUL				
JAN 1992					08...	1135	38	510	18.0
02...	1000	9.9	--	0.0	23...	1525	43	548	25.0
23...	1140	16	--	1.5	31...	1105	30	620	20.5
FEB					AUG				
25...	1050	35	665	4.0	13...	1235	55	485	20.5
MAR					20...	1030	29	615	19.0
05...	1505	73	--	10.0	25...	1220	146	420	12.5
10...	1140	36	662	6.0	27...	1240	97	470	18.5
APR					SEP				
07...	1045	79	--	9.0	02...	1430	52	520	18.5
15...	1140	165	268	12.0	15...	0955	45	450	15.0
					24...	0935	25	730	12.0
07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO (LAT 38 41 04N LONG 104 41 17W)									
OCT 1991					APR 1992				
23...	1315	2.8	2170	15.5	13...	1615	1.2	2730	22.0
NOV					MAY				
26...	1250	2.2	2640	12.5	13...	1515	2.3	2330	22.5
DEC					JUN				
17...	0935	2.0	2550	3.0	10...	1035	2.6	2300	17.0
JAN 1992					JUL				
24...	1350	2.1	2490	10.0	10...	1210	1.8	2770	19.5
FEB					AUG				
27...	1510	2.0	2610	12.0	13...	1230	2.5	2260	19.5
MAR					SEP				
20...	1315	1.9	2600	17.0	10...	1100	1.1	2900	15.0
07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO (LAT 38 42 26N LONG 104 50 47W)									
OCT 1991					APR 1992				
23...	1135	0.45	136	9.0	13...	1320	7.7	85	9.0
NOV					MAY				
26...	1345	0.95	133	2.5	13...	1230	3.2	106	12.0
DEC					JUN				
17...	1115	0.67	131	1.5	10...	1215	3.0	122	12.5
JAN 1992					JUL				
24...	1210	0.39	133	0.5	09...	1530	0.73	143	19.0
FEB					AUG				
27...	1315	0.48	132	5.0	13...	1050	0.76	148	15.0
MAR					SEP				
20...	1015	3.1	114	2.0	09...	1225	1.1	152	14.0

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
07105950 ROCK CREEK NEAR FORT CARSON, CO (LAT 38 41 49N LONG 104 49 39W)									
MAR 1992					JUN 1992				
20...	1125	1.0	172	8.0	10...	1335	0.06	221	13.0
APR					SEP				
13...	1440	6.0	104	12.0	09...	1400	0.26	219	14.0
MAY									
13...	1400	0.26	176	12.5					
07108900 ST. CHARLES RIVER AT VINELAND, CO (LAT 38 14 44N LONG 104 29 09W)									
NOV 1991					MAY 1992				
12...	1350	10	2360	10.0	18...	1430	39	1050	25.5
JAN 1992					21...	1410	15	1490	24.5
06...	1205	20	1680	4.5	JUN				
FEB					10...	0935	115	617	--
20...	1230	8.4	2180	8.0	JUL				
APR					15...	1415	16	1420	24.0
07...	1215	6.1	2340	16.5	AUG				
16...	0850	84	635	12.5	18...	1510	147	727	20.5
24...	1145	35	1030	13.5	SEP				
					10...	1330	35	1590	20.0
07116500 HUERFANO RIVER NEAR BOONE, CO (LAT 38 13 33N LONG 104 15 40W)									
NOV 1991					MAY 1992				
12...	1200	23	1190	11.0	18...	1230	0.45	5500	31.5
DEC					JUN				
17...	1000	--	3120	0.0	08...	1330	22	1680	24.0
JAN 1992					16...	1610	--	3280	24.0
06...	1405	9.4	3570	9.0	AUG				
24...	1130	11	2400	0.0	18...	0730	--	5250	15.5
FEB					18...	1335	205	965	21.5
20...	1040	3.7	5110	5.0	SEP				
MAR					10...	1540	0.58	4490	28.0
13...	1105	6.2	4910	15.0					
APR									
07...	1045	3.8	4820	16.5					
24...	1000	2.8	5720	14.5					
28...	1610	--	5570	28.0					
07119500 APISHAPA RIVER NEAR FOWLER, CO (LAT 38 05 28N LONG 103 58 52W)									
DEC 1991					MAY 1992				
23...	1615	4.0	2970	8.5	05...	1550	5.1	1960	23.0
FEB 1992					JUN				
25...	1450	2.7	3020	9.0	16...	1320	17	1180	20.5
MAR					JUL				
06...	0800	--	2940	--	05...	1405	26	1480	24.0
23...	1130	13	1400	11.5	SEP				
APR					02...	1600	43	1160	21.0
17...	1330	13	1230	18.0					
07121500 TIMPAS CREEK AT MOUTH NEAR SWINK, CO (LAT 38 00 10N LONG 103 39 18W)									
OCT 1991					APR 1992				
03...	1240	37	2180	17.0	16...	1100	55	1700	16.0
NOV					MAY				
07...	1145	22	2870	9.0	14...	1225	45	1780	20.0
DEC					JUN				
06...	1100	18	3180	7.5	11...	1700	108	1350	22.5
JAN 1992					JUL				
15...	1640	12	3230	4.5	16...	1500	170	1050	23.0
FEB					AUG				
20...	1145	12	3230	9.0	13...	1230	45	2070	21.0
MAR					SEP				
06...	0945	--	2210	--	11...	1035	89	1550	16.0
13...	1435	27	2350	14.0					
07122400 CROOKED ARROYO NEAR SWINK, CO (LAT 37 58 56N LONG 103 35 52W)									
OCT 1991					APR 1992				
03...	1440	4.3	3030	18.5	16...	1200	9.7	2160	16.0
NOV					MAY				
07...	1320	5.2	3020	12.5	14...	1415	10	1820	21.0
DEC					JUN				
06...	1230	5.0	2950	9.0	11...	1440	16	1680	21.0
JAN 1992					JUL				
15...	1515	3.4	3210	6.5	16...	1330	16	1330	19.5
FEB					AUG				
20...	1315	2.6	3210	10.5	13...	1435	8.4	1840	23.0
MAR					SEP				
13...	1155	4.9	2830	12.0	11...	1325	11	2260	19.0

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
07124200 PURGATOIRE RIVER AT MADRID, CO (LAT 37 07 46N LONG 104 38 20W)									
OCT 1991					JUN 1992				
09...	1035	40	382	10.0	01...	1400	265	230	12.0
DEC					JUL				
18...	1250	26	455	0.0	09...	1130	99	283	18.0
FEB 1992					30...	1320	95	--	22.0
27...	1410	18	449	11.0	AUG				
APR					27...	1535	117	340	21.0
02...	1230	28	460	11.5	SEP				
MAY					18...	1230	35	407	18.0
14...	1010	66	277	13.5					
07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO (LAT 37 08 37N LONG 104 32 49W)									
OCT 1991					JUL 1992				
09...	1300	11	342	12.5	09...	1445	16	274	18.0
DEC					30...	1605	58	276	18.0
18...	1435	0.06	380	0.0	SEP				
APR 1992					18...	1030	131	353	17.0
02...	1430	6.4	425	8.0					
MAY									
14...	1330	266	405	14.0					
07133000 ARKANSAS RIVER AT LAMAR, CO (LAT 38 06 24N LONG 102 37 04W)									
OCT 1991					APR 1992				
02...	1020	29	3550	15.0	13...	1800	39	3080	20.0
NOV					MAY				
06...	1100	40	4160	8.5	13...	1140	58	2930	19.0
DEC					JUN				
10...	1635	27	4210	8.0	10...	1030	10	3510	18.5
JAN 1992					JUL				
15...	1200	20	4500	0.5	15...	1120	433	1680	23.5
FEB					AUG				
19...	1145	18	4450	7.0	18...	1825	29	3090	22.0
MAR					SEP				
18...	1040	12	4450	7.0	22...	1830	6.8	4010	21.0
07134180 ARKANSAS RIVER NEAR GRANADA, CO (LAT 38 05 44N LONG 102 18 37W)									
OCT 1991					APR 1992				
02...	0800	6.4	5100	12.0	13...	1600	5.0	5220	23.0
NOV					MAY				
06...	0830	88	3940	5.5	13...	0915	3.8	5010	15.0
DEC					JUN				
11...	0950	99	4190	4.0	10...	0820	4.8	4900	15.0
JAN 1992					JUL				
15...	0850	80	4350	0.0	15...	0830	403	1790	24.0
FEB					AUG				
19...	0855	73	4400	3.0	19...	0900	52	3480	17.5
MAR					SEP				
18...	0835	60	4370	7.5	23...	0920	4.8	5250	15.0
08217500 RIO GRANDE AT WAGON WHEEL GAP, CO (LAT 37 46 01N LONG 106 49 51W)									
OCT 1991					APR 1992				
08...	1340	285	90	11.0	01...	1320	127	98	6.0
NOV					29...	1340	794	67	11.0
13...	1400	112	115	3.5	JUN				
DEC					03...	1440	1390	54	10.5
18...	1305	113	115	0.0	JUL				
JAN 1992					09...	1425	842	67	16.0
29...	1445	96	117	0.0	AUG				
MAR					18...	1520	294	83	19.0
12...	1345	116	112	0.0	SEP				
					30...	1100	234	91	9.0

EL PASO COUNTY

384056104415601 - SC01606505CCB - FOUNTAIN NO. 3

LOCATION.--Lat 38°40'56", long 104°41'56" in NW¹/4SW¹/4 sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003

AQUIFER.--Fountain Creek Alluvial Aquifer.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in, depth 53 ft, screened 38 to 53 ft.

DATUM.--Elevation of land surface is 5,540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	0916	1020	7.0	13.0	<0.01	1.4	0.01	0.02
FEB 21...	0805	984	7.2	12.5	<0.01	1.2	<0.01	0.01
MAY 11...	0810	970	7.2	12.0	<0.01	1.4	0.03	0.01
AUG 24...	1005	1040	7.3	13.0	<0.01	1.7	0.05	0.01

384108104420701 - SC01606506DAA - FOUNTAIN NO. 2

LOCATION.--Lat 38°41'08", long 104°42'07", NE¹/4NE¹/4SE¹/4 sec.6, T.16 S., R.65 W., in El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Creek Alluvial Aquifer.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in, depth 57 ft, screened 42 to 57 ft.

DATUM.--Elevation of land surface is 5,550 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	0938	1170	--	12.0	<0.01	2.6	<0.01	0.02
FEB 21...	0825	1220	7.1	11.5	<0.01	3.0	<0.01	0.02
MAY 11...	0835	1250	7.2	12.5	<0.01	3.1	0.02	0.02
AUG 24...	1030	1230	7.3	12.5	<0.01	3.3	0.02	0.02

EL PASO COUNTY

384313104431801 - SC01506625AAD - WIDEFIELD NO. 14.

LOCATION.--Lat 38°43'13", long 104°43'18", in SE¹/4NE¹/4 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 18 in, depth 48 ft, screened 37 to 48 ft.

DATUM.--Elevation of land surface is 5,620 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1100	1240	6.9	13.5	<0.01	9.7	<0.01	0.03
FEB 19...	1300	1330	7.0	13.5	<0.01	9.9	<0.01	0.03
MAY 11...	1320	1260	7.4	13.5	<0.01	8.9	0.02	0.04
AUG 25...	1345	1350	7.3	13.5	<0.01	11	0.02	0.03

384318104475301 - SC01506629AAB1 - GOLF COURSE NO. 19

LOCATION.--Lat 38°43'18", long 104°47'53", in NW¹/4NE¹/4 sec.29, T.15 S, R.66 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation.

AQUIFER.--Piney Creek Alluvium.

WELL CHARACTERISTICS.--Observation well, diameter 2 in, depth 13.9 ft, screened 9.5 to 13.5 ft.

DATUM.--Elevation of land surface is 5,880 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--April to October 1981; September 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)
NOV 19...	1400	3.15	2490	7.5	12.0	<0.01	3.2	<0.01	0.2

384328104481101 - SC01506620CDD1 - GOLF COURSE NO. 14

LOCATION.--Lat 38°43'28", long 104°48'11", in SE¹/4SE¹/4SW¹/4 sec.20, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation.

AQUIFER.--Piney Creek Alluvium.

WELL CHARACTERISTICS.--Observation well, diameter 2 in, depth 12.2 ft, screened 8 to 12 ft.

DATUM.--Elevation of land surface is 5,920 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--April 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)
NOV 19...	1330	7.79	4800	7.4	11.5	0.01	4.3	0.02	0.5

EL PASO COUNTY

384331104473401 - SC01506621CCB - GOLF COURSE NO. 22

LOCATION.--Lat 38°43'31", long 104°47'34", in NW¹/4SW¹/4 sec.21, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation.

AQUIFER.--Piney Creek Alluvium.

WELL CHARACTERISTICS.--Observation well, diameter 2 in, depth 18.2 ft, screened 14 to 18 ft.

DATUM.--Elevation of land surface is 5,850 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--September 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)
NOV 19...	1420	7.83	2550	7.6	13.0	0.04	4.2	<0.01	0.2

384407104434801 - SC01506624BAD1 WIDEFIELD NO. 4.

LOCATION.--Lat 38°44'07", long 104°43'48", in SE¹/4NE¹/4NE¹/4 sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--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 is 5,680.7 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1035	641	--	13.0	<0.01	6.7	<0.01	0.01
FEB 21...	0915	650	7.1	12.5	<0.01	6.5	<0.01	0.02
MAY 11...	1120	647	7.3	13.0	<0.01	6.4	0.01	0.02
AUG 26...	1500	634	7.1	13.0	<0.01	6.8	0.02	0.01

384458104442601 - SC01506614AAD - SECURITY NO. 2.

LOCATION.--Lat 38°44'58", long 104°44'26", in SE¹/4NE¹/4NE¹/4 sec.14, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 24 in, depth 78 ft, screened 43 to 78 ft.

DATUM.--Elevation of land-surface is 5,717 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1210	477	6.9	13.0	<0.01	8.0	0.01	0.02
FEB 21...	1125	503	7.1	13.5	<0.01	7.8	<0.01	0.02
MAY 11...	0920	477	7.2	13.0	<0.01	8.2	0.01	0.02
AUG 25...	0800	476	7.2	13.0	<0.01	8.2	0.02	0.01

EL PASO COUNTY

384535104450801 - SC01506611BCD2 VENETUCCI NO. 3.

LOCATION.--Lat 38°45'35", long 104°45'08", in SE¹/4SW¹/4NW¹/4 sec.11, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Irrigation well, diameter 24 in, depth 80 ft, screening unknown.

DATUM.--Elevation of land surface is 5,750.0 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1305	384	7.1	13.5	<0.01	8.2	<0.01	0.05
FEB 19...	1330	396	6.8	13.5	<0.01	8.2	<0.01	0.05
MAY 11...	1357	410	7.2	13.5	<0.01	8.1	0.01	0.06
AUG 21...	1200	409	6.9	13.5	<0.01	8.6	0.02	0.06

384610104453501 - SC01506603DDB SECURITY NO. 14.

LOCATION.--Lat 38°46'10", long 104°45'35", in NW¹/4SE¹/4SE¹/4 sec.14, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 24 in, depth 80 ft, screened 39 to 80 ft.

DATUM.--Elevation of land-surface is 5,779.2 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1241	621	7.2	13.5	<0.01	7.3	0.01	0.05
FEB 21...	1150	633	7.4	13.5	<0.01	6.9	<0.01	0.05
MAY 11...	1000	638	7.5	13.0	<0.01	6.7	<0.01	0.05
AUG 25...	0930	620	7.6	12.5	<0.01	6.9	0.01	0.05

EL PASO COUNTY

384617104455901 - SC01506603CAD STRATMOOR HILLS NO. 4.

LOCATION.--Lat 38°46'17", long 104°45'59", in SE¹/4NE¹/4SW¹/4 sec.3, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in, depth 49 ft, screened 29 to 49 ft.

DATUM.--Elevation of land surface is 5,775.4 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1359	812	7.0	13.0	<0.01	8.0	0.01	0.02
FEB 21...	1300	892	7.3	13.0	<0.01	6.9	<0.01	0.02
MAY 11...	1224	898	7.3	13.0	<0.01	6.7	0.01	0.02
AUG 24...	1230	--	7.2	13.0	<0.01	6.3	0.02	0.02

384639104461401 - SC01506603BAC1 - MARS GAS

LOCATION.--Lat 38°46'39", long 104°46'14", in SW¹/4NE¹/4NW¹/4 sec.3, T.15 S., R.66 W., El Paso County, Hydrologic Unit 1102003

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 is 5,820 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1429	1020	7.0	12.0	<0.01	7.9	<0.01	0.02
FEB 19...	1400	962	6.9	12.5	<0.01	6.9	<0.01	<0.01
MAY 11...	1425	999	7.2	12.5	<0.01	8.8	0.02	0.02
AUG 25...	1425	1040	7.2	13.0	<0.01	10	0.02	<0.01

EL PASO COUNTY

384718104463701 - SC01406633DAA - BARNES WELL

LOCATION.--Lat 38°47'18", long 104°46'37", in NE¹/₄NE¹/₄SE¹/₄ sec.33, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Creek Alluvial Aquifer.

WELL CHARACTERISTICS.--Domestic well, diameter 6 in, depth 72 ft, screening unknown.

DATUM.--Elevation of land surface is 5,830 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 26...	1457	1380	7.0	12.5	<0.01	15	<0.01	0.02
FEB 20...	1336	1250	7.2	13.0	<0.01	12	<0.01	0.01
MAY 28...	1148	1340	7.3	13.0	<0.01	12	0.01	0.02
AUG 27...	1020	1330	7.2	13.5	<0.01	13	0.01	0.01

385323104224001 - SC01306230ACC1

LOCATION.--Lat 38°53'23", long 104°22'40", in SW¹/₄SW¹/₄NE¹/₄ sec.30, T.13 S., R.62 W., El Paso County, Hydrologic Unit 11020004.

AQUIFER.--Black Squirrel Alluvial Aquifer.

WELL CHARACTERISTICS.--Public-supply well, diameter 16 in, depth 176 ft, screened 116 to 176 ft.

DATUM.--Elevation of land surface is 6,160 ft above National Geodetic Vertical Datum of 1929, from topographic map

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 22...	1030	409	7.2	11.5	<0.01	6.6	<0.01	0.04
FEB 21...	1030	404	7.2	12.0	<0.01	7.4	0.02	0.04
MAY 15...	1020	400	7.1	12.5	<0.01	8.0	0.01	0.05
AUG 21...	1030	393	7.2	13.0	<0.01	7.6	0.01	0.04

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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