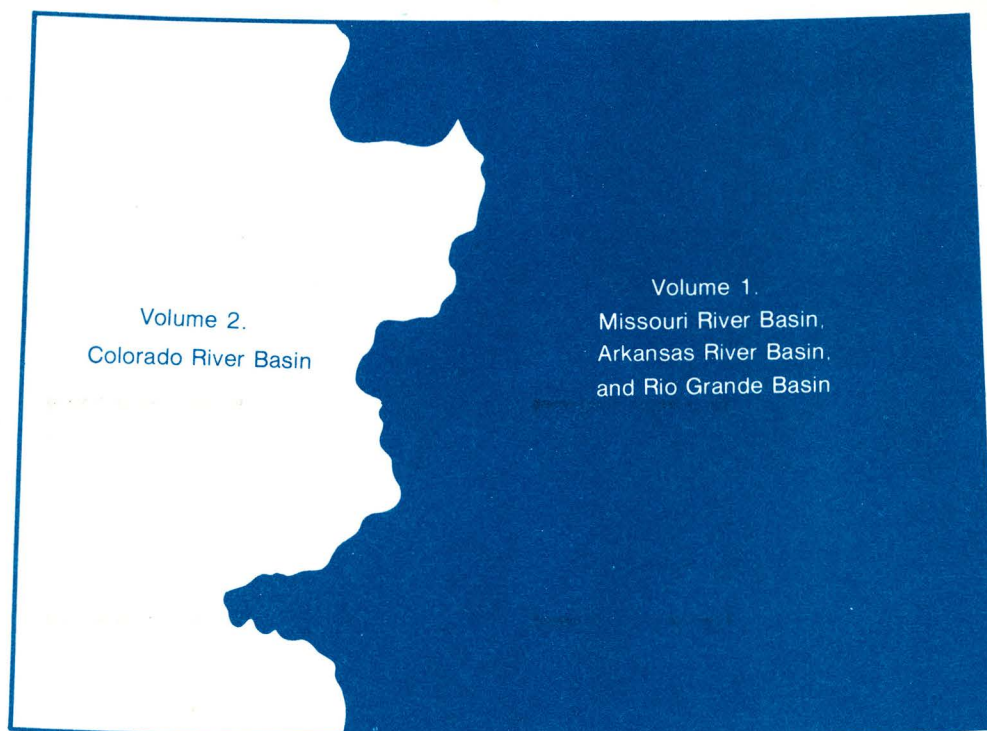




Water Resources Data Colorado Water Year 1988

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-88-1
Prepared in cooperation with the State of Colorado
and with other agencies

CALENDAR FOR WATER YEAR 1988

1987

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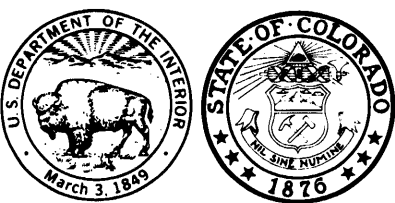
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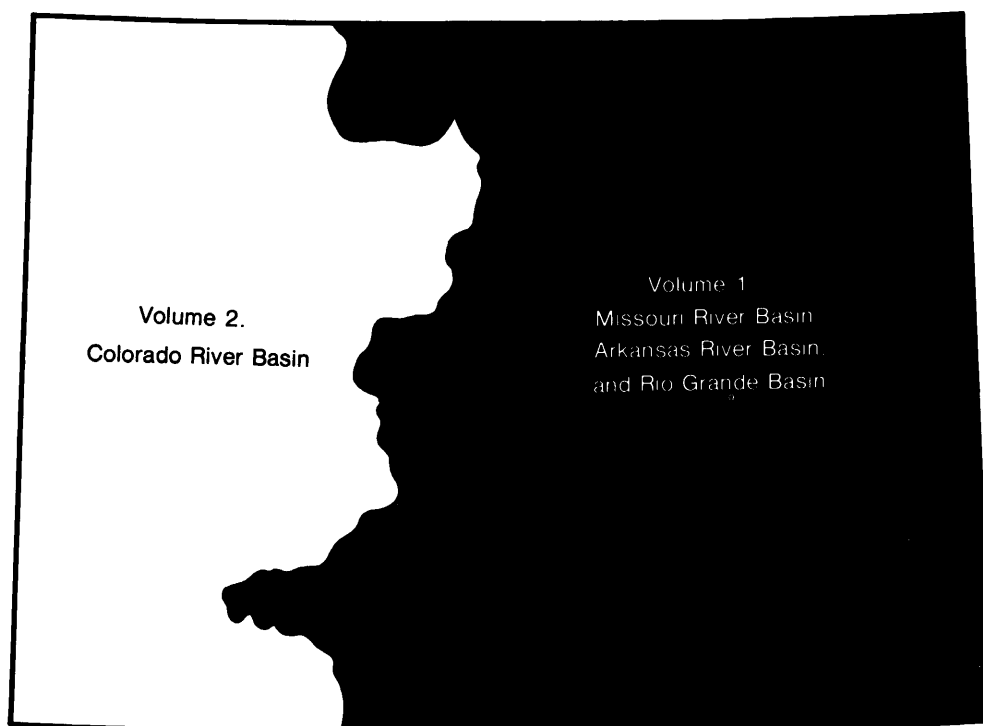
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Water Resources Data Colorado Water Year 1988

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

by R.C. Ugland, B.J. Cochran, J.L. Ebling, and R.D. Steger



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-88-1
Prepared in cooperation with the State of Colorado
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Colorado write to:

District Chief, Water Resources Division
U.S. Geological Survey
Box 25046, Mail Stop 415
Denver Federal Center
Lakewood, CO 80225

1989

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:

| | | | |
|-------------------|-----------------|------------------|----------------|
| W. D. Bemis | Z. D. Hill | R. M. Neam | K. G. Petty |
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| M. J. Haley | J. D. Martinez | H. E. Petsch Jr. | M. J. Werito |

This report was prepared in cooperation with the State of Colorado and with other agencies under the general supervision of C. A. Pascale, District Chief, Colorado.

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| 7. Author(s) R.C. Ugland, B.J. Cochran, J.L. Ebling, and R.D. Steger | | | 6. |
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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 1988 water year consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs. This report (Volumes 1 and 2) contains discharge records for 310 gaging stations, stage and contents of 25 lakes and reservoirs, 5 partial-record low-flow stations, peak flow information for 40 crest-stage partial record stations, and 1 miscellaneous site; water quality for 114 gaging stations, 170 miscellaneous sites, and for 14 observation wells. Four pertinent stations in 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 C.A. Pascale, 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. | | | |
| 17. Document Analysis a. Descriptors *Colorado, *Hydrologic data, *Surface water, *Ground water, *Water quality; Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water analyses. b. Identifiers/Open-Ended Terms c. COSATI Field/Group | | | |
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VI GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

(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, 1988

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

By R. C. Ugland, B. J. Cochran, R. D. Steger, and J. L. Ebling

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 137 streamflow-gaging stations, and peak discharges for 35 partial-record streamflow stations; (2) stage and contents for 14 lakes and reservoirs; (3) water-quality data for 59 streamflow-gaging stations, for 3 reservoirs, for 48 ungaged streamsites, for 49 gaged sites, and for 14 wells. 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 41, Box 25425, Denver, CO 80225.

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

Beginning with the 1971 water year, water data on streamflow, 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-88-1." These water-data reports are for sale, in paper copy or in micro-fiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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

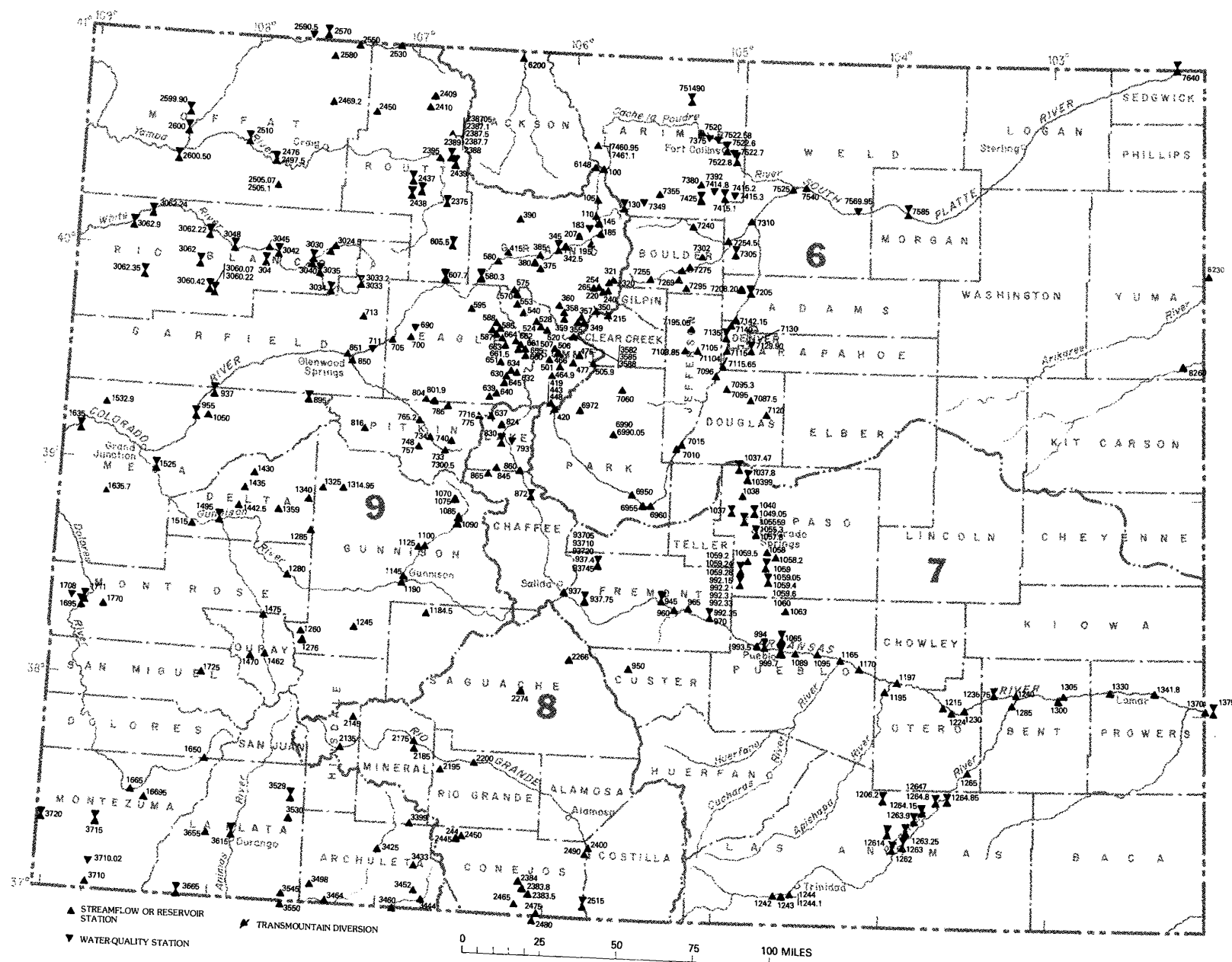


Figure 1.--Map showing locations of lakes and stream-gaging stations and water-quality stations in Colorado.

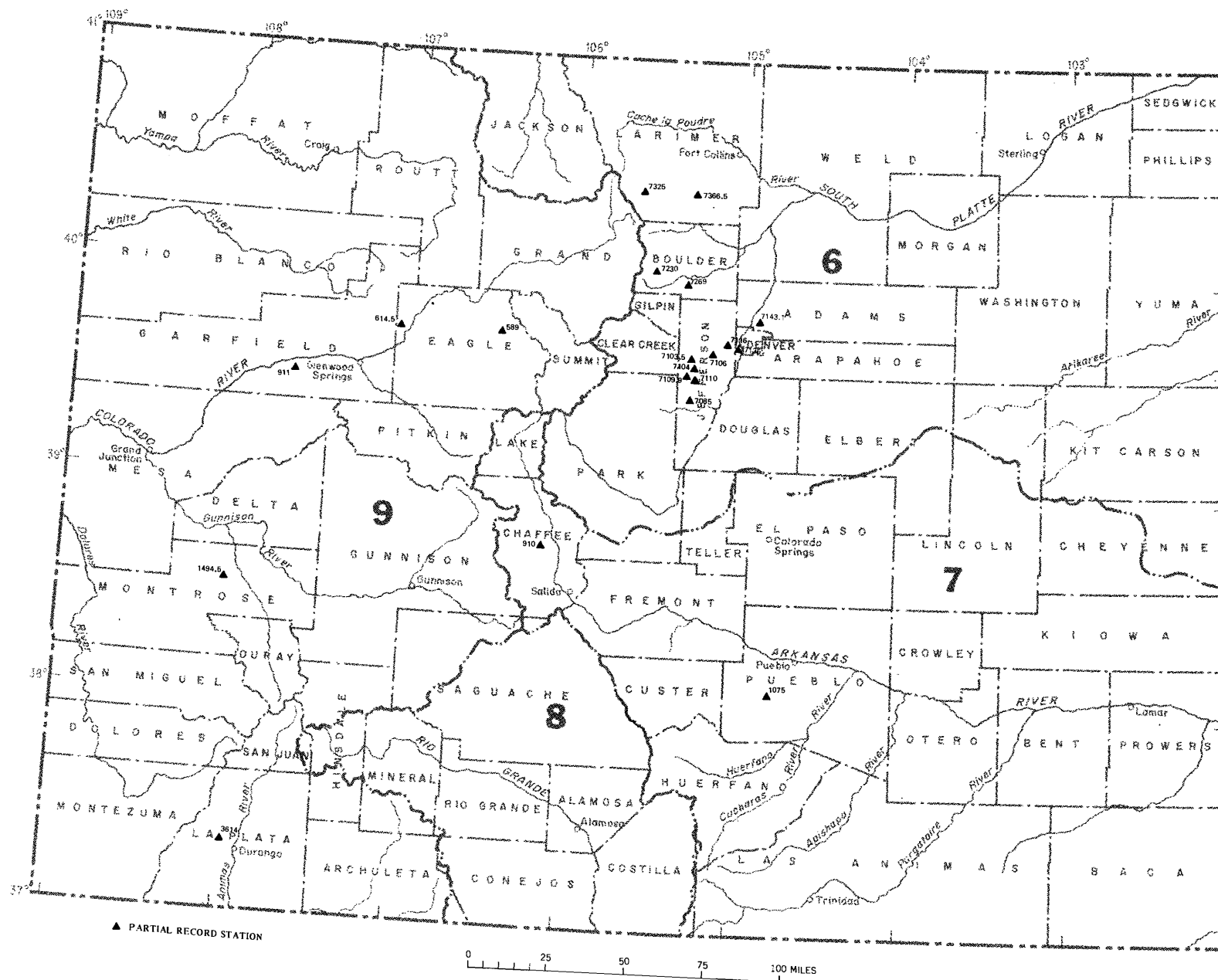


Figure 2.--Map showing locations of crest-stage partial-record stations in Colorado.

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:

Arkansas River Compact Administration, Jim Rodger, Treasurer.
 Bent County Commissioners, Thomas Pointon.
 Boulder County Public Works Department, Tim Feehan, Systems Analyst.
 Castle Pines Metro District, Sherry Ference.
 Castle Pines Northern Metro District, Sherry Ference.
 Chaffee County Commissioners, Jim McFarland.
 Cherokee Water and Sanitation District, F. S. Loosley, Manager.
 Cherry Creek Basin Authority, Rhonda Sandquist.
 City and County of Denver, Board of Water Commissioners, David Little, President.
 City of Arvada, Scott Daniels, City Engineer.
 City of Aspen, James Markalunas, City Manager.
 City of Aurora, Thomas Griswold, acting Director of Utilities.
 City of Boulder, Tim Feehan, City Manager.
 City of Colorado Springs, Gary Bostrom, City Manager.
 City of Englewood, Stewart Fonda, Director, Wastewater Treatment Plant.
 City of Fort Collins, Keith Elmund, Civil Engineer II.
 City of Fruita, Bob Engelke, Mayor.
 City of Glendale, Robert Taylor.
 City of Glenwood Springs, Michael Copp, Manager.
 City of Longmont, Linn Folsom.
 City of Loveland, Richard Leffier.
 City of Steamboat Springs, Harvey Rose.
 City of Thornton, Nancy Vincent, City Clerk.
 City of Westminster, Dan Strietelmeier.
 Colorado Department of Health, Brad Beecam, Executive Director.
 Colorado Department of Natural Resources, David H. Getches, Executive Director.
 Colorado Division of Mined Land Reclamation, James Pendelton, Director.
 Colorado Division of Water Resources, J. A. Danielson, State Engineer.
 Colorado Geological Survey, John Rold, State Geologist.
 Colorado River Water Conservation District, David Merritt, Secretary-Engineer.
 Colorado Springs Department of Public Utilities, J. D. Phillips, Director.
 Colorado Water Conservation Board, David Walker.
 Delta County Board of County Commissioners, Caroline Clemens, Chairman.
 Denver Regional Council of Governments, J. W. Belmear, Executive Director.
 Eagle County Board of Commissioners, Dick Gustafson, Commissioner.
 Evergreen Metropolitan District, G. C. Schulte, General Manager.
 Fountain Valley Authority, J. D. Phillips, Secretary.
 Garfield County, Mark Beam, Director of Administrative Services.
 Grand County, R. Howard Moody, County Manager.
 Larimer-Weld Regional Council of Governments, L. L. Pearson, Executive Director.
 Lost Creek Groundwater Management District, G. H. Bush, Manager.
 Lower Fountain Water-Quality Management Association, Stuart Loosely, President.
 Metropolitan Denver Sewage Disposal District No. 1, William Waggy, Manager.
 Mineral County, Charles Steele, Planning Officer.
 Moffat County, Sheila Cowash, Director.
 North Kiowa-Bijou Ground Water Management District, Donald F. McClary, Attorney.
 North LaJunta Water Conservation District, Mark Korbitz.
 Northern Colorado Water Conservancy District, L. Simpson, Secretary.
 Pikes Peak Area Council of Governments, Maurice Rahimi.
 Pikes Peak Regional Building Department, Dan Bunting.
 Pitkin County Board of County Commissioners, C. Stewart, County Manager.
 Pueblo Board of Water Works, Alan Hamel, Executive Director.
 Pueblo Civil Defense, Betty Jo Hopper, Director.
 Pueblo West Metro Water District, E. M. Zamecki, Manager.
 Purgatoire River Water Conservancy District, C. Latuda, President.
 Rio Blanco County Board of County Commissioners, Terry Lowell.
 Rio Grande Water Conservation District, Ralph Curtis, Manager.
 Southeastern Colorado Water Conservancy District, C. L. Thomson, General Manager.
 Southern Ute Indian Tribe, George Knoll.
 Southwestern Water Conservation District, Edward Searle, Manager.
 St. Charles Mesa Water Association, Lee Simpson, Manager.
 Town of Breckenridge, Gary Roberts, Town Manager.
 Town of Castle Rock, Tom Gallier, Director of Utilities.
 Trinchera Water Conservancy District, Charlotte Sheely, President.
 Uncompahgre Valley Water Users Association, J. Hokit, Manager.
 Upper Arkansas River Water Conservancy District, K. Baker, General Manager.
 Upper Black Squirrel Groundwater Management District, Elvin Henderson, Chairman.
 Upper Eagle Valley Water and Sanitation District, Michail Blair.
 Upper Yampa Water Conservancy District, J. Fetcher.
 Urban Drainage and Flood Control District, L. Scott Tucker, Executive Director.
 Water Users No. 1, Jim Gayler, Associate Manager.
 Yellow Jacket Water Conservancy District, F. G. Cooley, Secretary-Council.

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 Mines, Bureau of Reclamation, National Park Service, U.S. Environmental Protection Agency, U.S. Federal Emergency Management Agency, and U.S. National Weather Service. Organizations that supplied data are acknowledged in station descriptions.

OVERVIEW OF HYDROLOGIC CONDITIONS
[East of the Continental Divide]

Prepared by Harold E. Petsch, Jr.

Precipitation

Precipitation data for water year 1988 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 all divisions except the Arkansas Drainage Basin and was greater than normal for April-September in all divisions except the Platte Drainage Basin. For the year, the Arkansas Drainage Basin was 1 percent less than normal, and the other divisions ranged from 7 to 24 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 1988 were supplemented by data obtained from the Colorado State University, Department of Atmospheric Science, Colorado Climate Center.

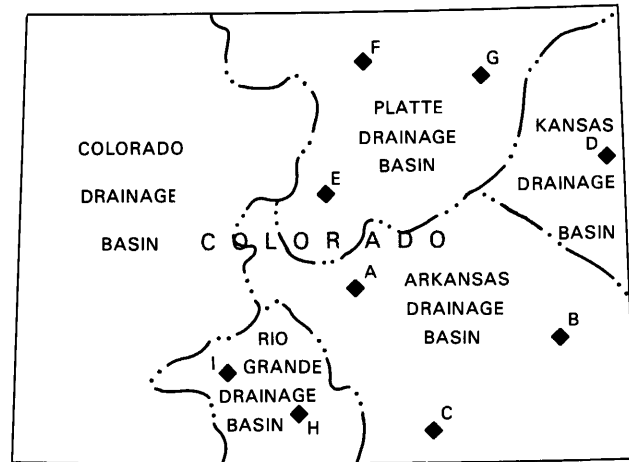
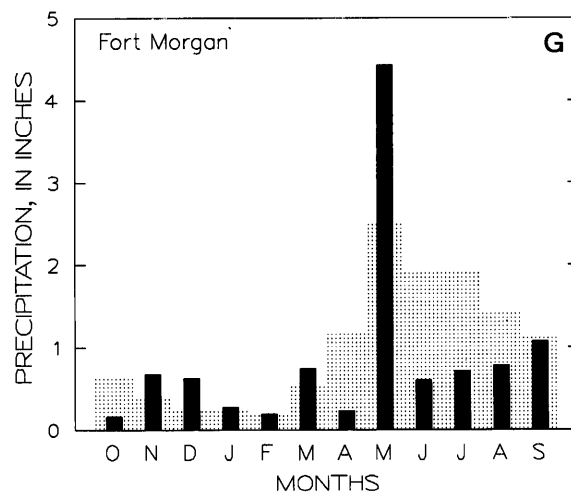
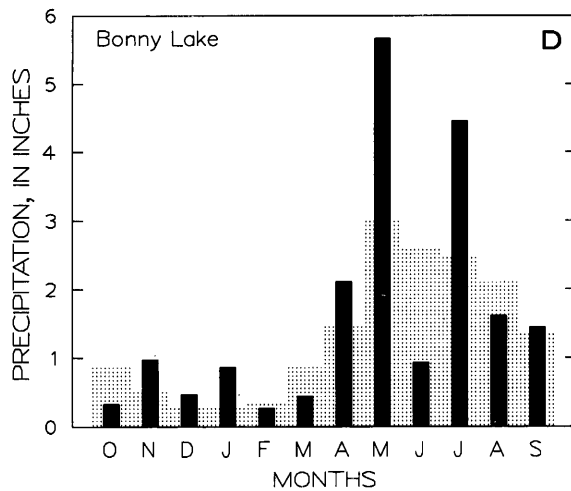
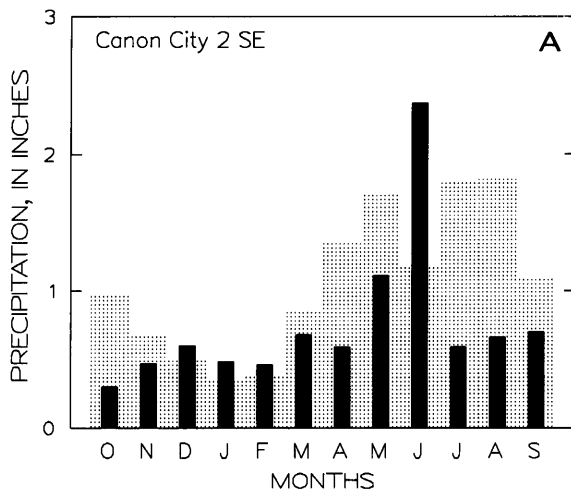
Table 1.--Precipitation during water year 1988 and departures from
normal precipitation (1951-80), in inches

| National Weather Service division | October-March | | April-September | | Water year 1988 | |
|--------------------------------------|---------------|-----------------------|-----------------|-----------------------|-----------------|-----------------------|
| | Precipitation | Departure from normal | Precipitation | Departure from normal | Precipitation | Departure from normal |
| Arkansas Drainage Basin | 3.49 | -0.50 | 10.64 | 0.37 | 14.13 | -0.13 |
| Kansas Drainage Basin | 3.78 | .47 | 13.46 | .67 | 17.24 | 1.14 |
| Platte Drainage Basin | 6.32 | 2.14 | 10.73 | -.10 | 17.05 | 2.04 |
| Rio Grande Drainage Basin | 5.41 | .71 | 9.14 | 2.14 | 14.55 | 2.85 |

Streamflow

Monthly mean discharges during water year 1988 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 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 06756995, South Platte River at Masters (fig. 4, site C), indicate that monthly discharges for water year 1988 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 1988 mean discharge at gaging station 06701500, South Platte River below Cheesman Lake, was 2 percent less than long-term average. The water year 1988 mean discharge at gaging station 06706000, North Fork South Platte River below Geneva Creek, at Grant, was 10 percent greater than long-term average. The water year 1988 mean discharge at gaging station 06756995, South Platte River at Masters, was 51 percent less than long-term average.



EXPLANATION

Monthly precipitation
for water year 1988

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 1988 to normal monthly precipitation for the reference period 1951-80.

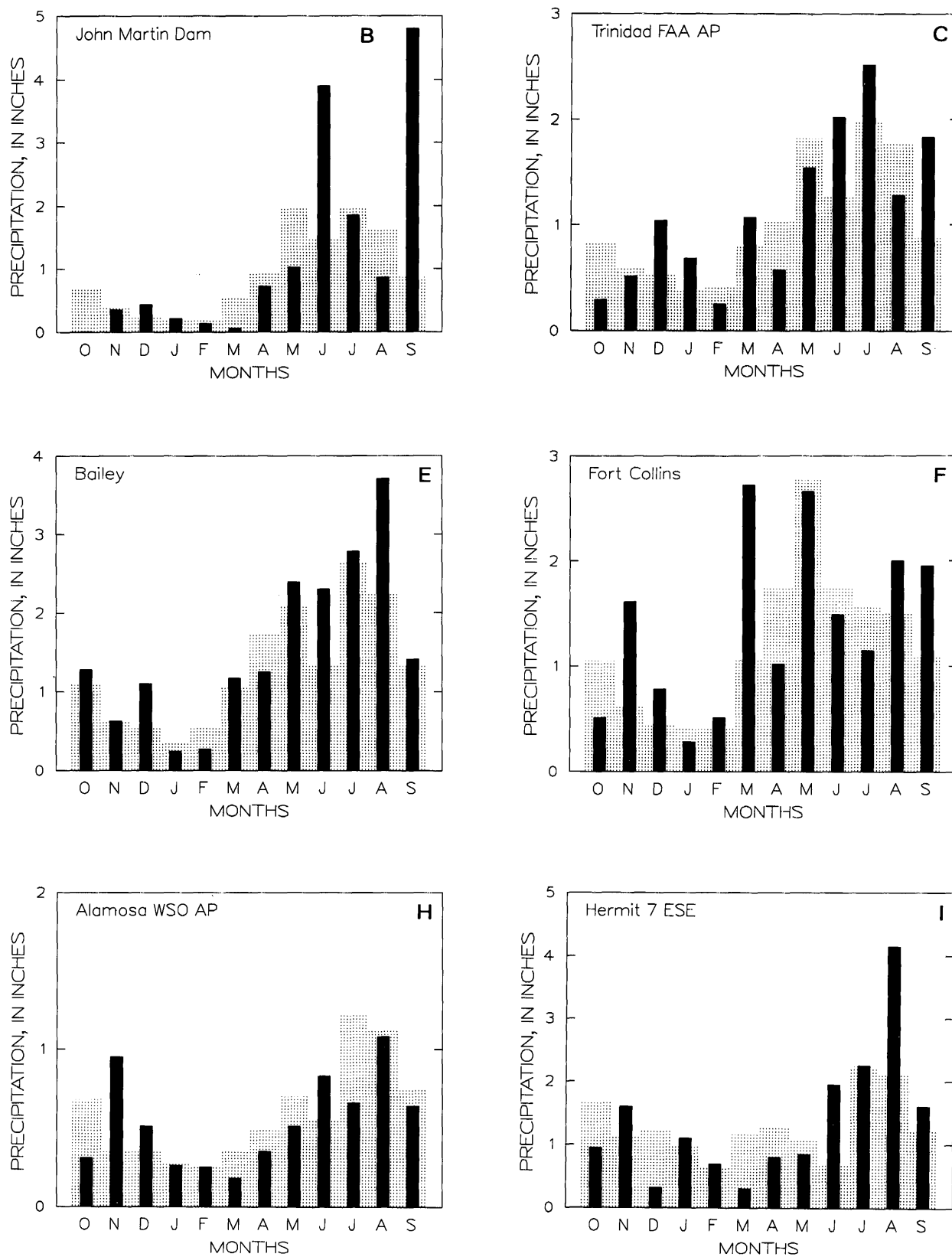
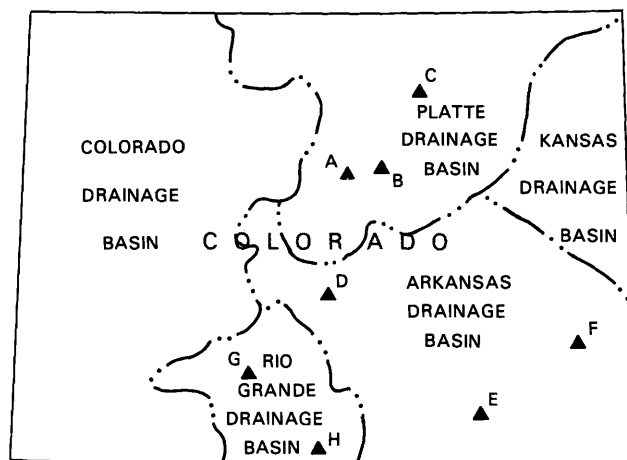
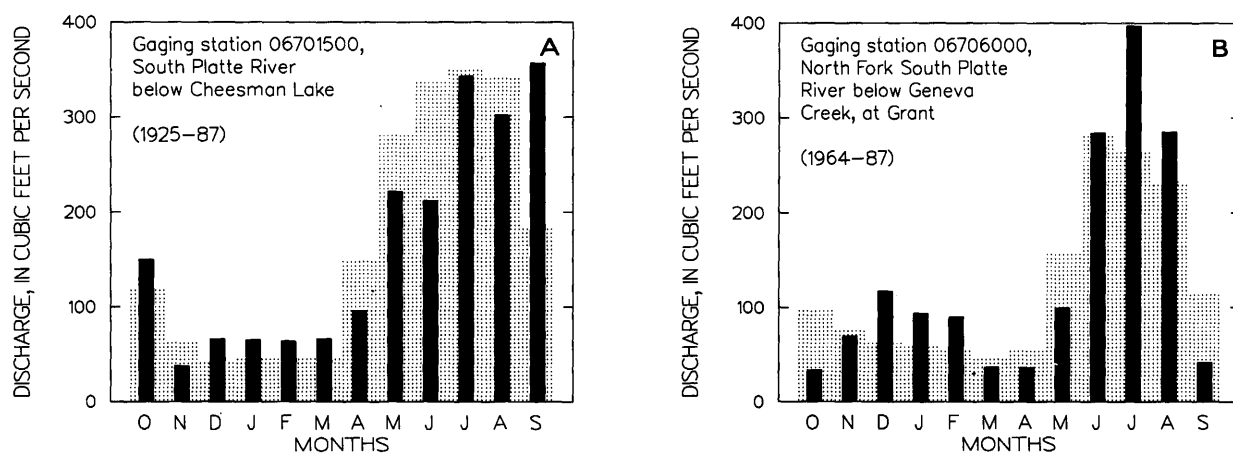


Figure 3.--(continued)



EXPLANATION

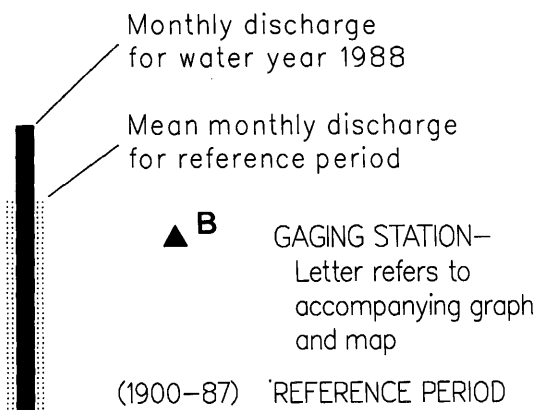


Figure 4.--Comparison of monthly discharges for water year 1988 to mean monthly discharges for the reference periods indicated on the individual graphs.

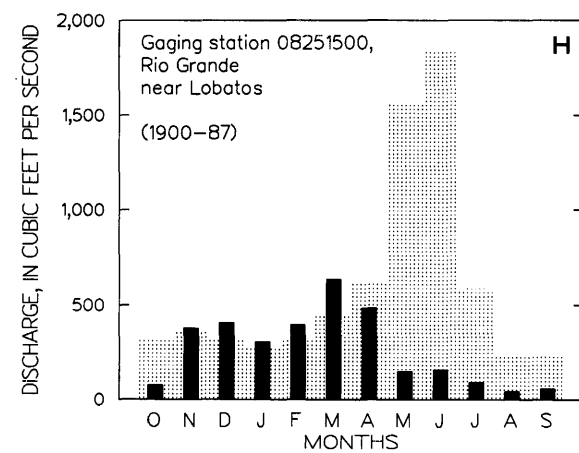
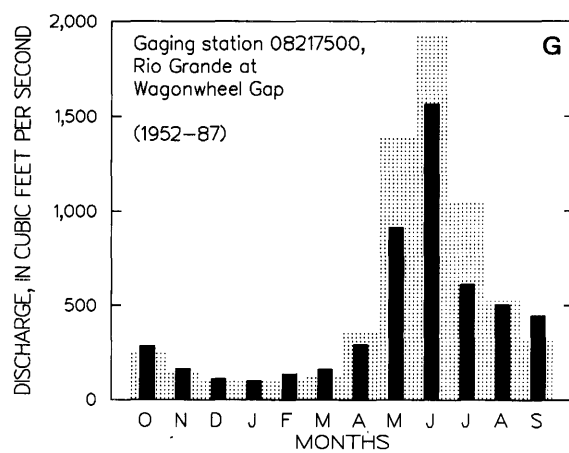
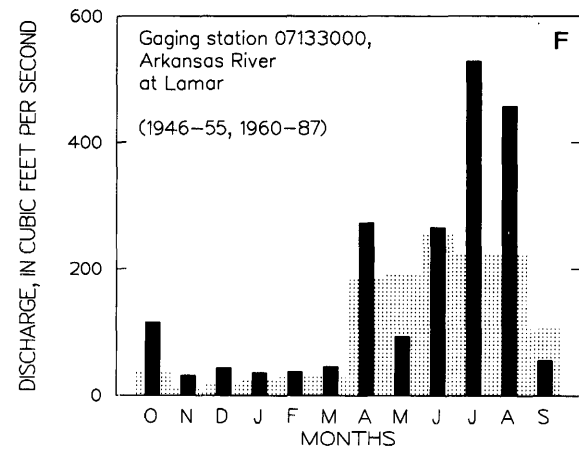
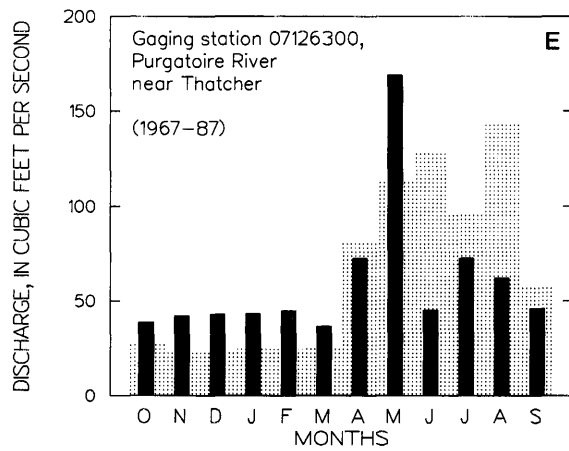
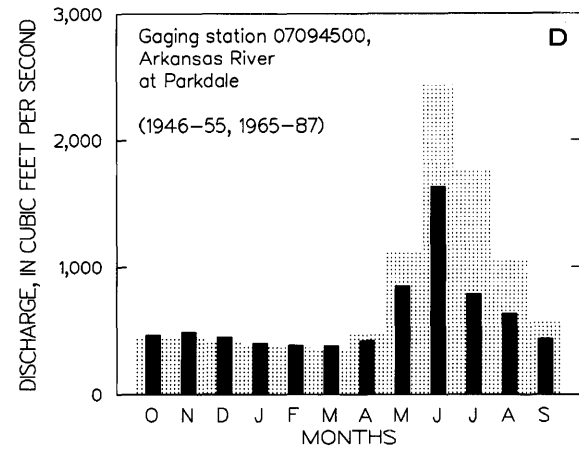
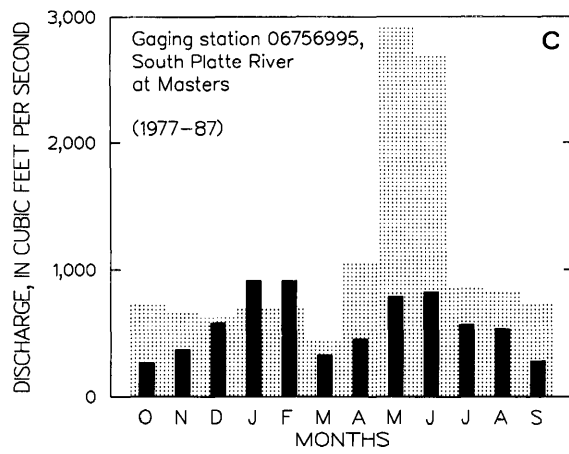


Figure 4.--(continued)

The graph for gaging station 07094500, Arkansas River at Parkdale (fig. 4, site D), indicates that monthly discharges for water year 1988 were consistent with long-term mean monthly discharges. The graphs for gaging stations 07126300, Purgatoire River near Thatcher (fig. 4, site E) and 07133000, Arkansas River at Lamar (fig. 4, site F), indicate that monthly discharges for water year 1988 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 1988 mean discharge at gaging station 07094500, Arkansas River at Parkdale, was 26 percent less than long-term average. The water year 1988 mean discharge at gaging station 07126300, Purgatoire River near Thatcher, was 5 percent less than long-term average. The water year 1988 mean discharge at gaging station 07133000, Arkansas River at Lamar, was 49 percent greater than 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 1988 were consistent with long-term mean monthly discharges. The graph for gaging station 08251500, Rio Grande near Lobatos (fig. 4, site H), indicate that monthly discharges for water year 1988 were not consistent with the long-term mean monthly discharges. The trends in the two discharge graphs were not consistent with precipitation patterns (fig. 3, sites H-I) in the Rio Grande Drainage Basin Division and also 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 1988 mean discharge at gaging station 08217500, Rio Grande at Wagonwheel Gap, was 19 percent less than average. The water year 1988 mean discharge at gaging station 08251500, Rio Grande near Lobatos, was 56 percent less than average.

Peak discharges during water year 1988 and for the period of record for selected gaging stations are listed in table 2. Peak discharges at gaging stations 06620000, North Platte River near Northgate; 06696000, South Platte River near Lake George; 06701500, South Platte River below Cheesman Lake; and 06706000, North Fork South Platte River below Geneva Creek, at Grant were greater than long-term median values but were substantially less than their record maximums. Peak discharges at gaging stations 07109500, Arkansas River near Avondale; 07124000, Arkansas River at Las Animas; and 07128500, Purgatoire River near Las Animas, were near record lows. The peak discharges at most of remaining gaging stations were less than the long-term 25th percentile values.

Chemical Quality of Streamflow

To determine if substantial changes occurred during water year 1988 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 1988 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 1988 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 1988 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 α (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 the Wilcoxon-Mann-Whitney rank sum tests for the six gaging stations are listed in table 3. For five of the stations, 06752280, Cache la Poudre River above Box Elder Creek, near Timnath; 06756995, South Platte River at Masters; 07128500, Purgatoire River near Las Animas; 07133000, Arkansas River at Lamar; and 08217500, Rio Grande at Wagonwheel Gap, the tests indicate the mean specific conductance for water year 1988 and the mean specific conductance for the period of record are not statistically different. For the gaging station 07094500, Arkansas River at Parkdale, the test indicated a difference in the means.

Published data for gaging station 07094500, Arkansas River at Parkdale, indicate an inverse relation between specific conductance and discharge. The mean specific conductance for water year 1988 at this gaging station was greater than the mean specific conductance for 1978-87, the period used for comparison (table 3). For water year 1988, mean discharge at this gaging station was less than the 1978-87 mean discharge by 36 percent; therefore, it is reasonable to expect the mean specific conductance for water year 1988 to be greater than the mean specific conductance for 1978-87.

Table 2.--Peak discharges for water year 1988 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 1988 Peak discharge | | Period of record Peak discharge | | Remarks on 1988 peak discharge |
|---|--|--|--------------------------------------|----------------------|---------------------------------------|----------------------|--|
| | | | Date | (ft ³ /s) | Date | (ft ³ /s) | |
| 06620000 North Platte River near Northgate | 1,431 | 1904, 1915-87 | 4/16 | 3,550 | 6/11/23 | 6,720 | Greater than median |
| 06696000 South Platte River near Lake George | 963 | 1930-87 | 4/26 | 510 | 4/28/70 | 3,000 | Greater than median |
| 06701500 South Platte River below Cheesman Lake | 1,752 | 1926-87 | 7/1 | 1,460 | 4/29/70 | 4,640 | Greater than 75th percentile |
| 06706000 North Fork South Platte River below Geneva Creek, at Grant | 127 | 1/1964-87 | 7/9 | 578 | 6/29/78 | 825 | Greater than median |
| 06752500 Cache la Poudre River near Greeley | 1,877 | 1903, 1916-17, 1919, 1924-87 | 7/8 | 1,540 | 6/14/83 | 6,360 | Less than median |
| 06756995 South Platte River at Masters | 12,165 | 1977-80, 1982-87 | 5/21 | 4,880 | 5/2/80 | 15,100 | Less than median |
| 07094500 Arkansas River at Parkdale | 2,548 | 1946-55, 1965-87 | 6/5 | 2,550 | 6/26/83 | 6,310 | Less than 25th percentile |
| 07106500 Fountain Creek at Pueblo | 926 | 1921-22, 1924-25, 1935, 1941-65, 1971-87 | 8/5 | 1,980 | 6/17/65 | 47,000 | Less than 25th percentile |
| 07109500 Arkansas River near Avondale | 6,327 | 1939-51, 1965-87 | 8/5 | 3,270 | 6/18/65 | 50,000 | Less than 25th percentile (4th lowest) |
| 07124000 Arkansas River at Las Animas | 14,417 | 1939-87 | 4/3 | 522 | 5/20/55 | 44,000 | Less than 25th percentile (2d lowest) |
| 07126300 Purgatoire River near Thatcher | 1,791 | 1965-87 | 8/9 | 2,690 | 6/18/65 | 47,700 | Less than 25th percentile (4th lowest) |
| 07128500 Purgatoire River near Las Animas | 3,318 | 1922-31, 1949-87 | 5/22 | 1,460 | 5/20/55 | 70,000 | Less than 25th percentile (2d lowest) |
| 07133000 Arkansas River at Lamar | 19,780 | 1913, 1915, 1919-55, 1960-87 | 9/15 | 1,750 | 6/5/21 | 130,000 | Less than median |
| 08220000 Rio Grande near Del Norte | 1,320 | 1890-1987 | 6/7 | 3,440 | 10/5/11 | 18,000 | Less than 25th percentile |
| 08240000 Rio Grande above mouth of Trinchera Creek, near Lasasuses | 5,740 | 1936-62, 1964-80, 1982-87 | 3/30 | 595 | 6/21/49 | 5,470 | Less than median |
| 08246500 Conejos River near Mogote | 282 | 1903-5, 1912-87 | 6/7 | 1,490 | 10/5/11 | 9,000 | Less than 25th percentile |
| 08251500 Rio Grande near Lobatos | 7,700 | 1900-87 | 4/10 | 848 | 6/8/05 | 13,200 | Less than 25th percentile |

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

Table 3.--Results of Wilcoxon-Mann-Whitney rank sum tests comparing mean specific conductance of discharge for water year 1988 with mean for the period of record at selected gaging stations

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

| Gaging station identification | Specific conductance | | | | | | Wilcoxon-Mann-Whitney rank sum test | | | |
|---|------------------------|-------|----------------------------|------------------------|-------|----------------------------|-------------------------------------|----------------|------------------|-----------------|
| | Water year 1988 | | | Period of record | | | Period used (water years) | t _R | t _{tab} | Hypoth- esis |
| | Number of values | Mean | Standard devia- tion | Number of values | Mean | Standard devia- tion | | | | |
| 06752280 Cache la Poudre River above Box Elder Creek, near Timnath----- | 11 | 1,419 | 584 | 95 | 1,154 | 755 | 1980-87 | 0.95 | 1.99 | A |
| 06756995 South Platte River at Masters----- | 12 | 1,358 | 169 | 133 | 1,354 | 286 | 1978-87 | -.47 | 1.98 | A |
| 07094500 Arkansas River at Parkdale----- | 12 | 295 | 65.5 | 105 | 250 | 71.5 | 1978-87 | 2.24 | 1.98 | R |
| 07128500 Purgatoire River near Las Animas----- | 12 | 3,520 | 678 | 163 | 3,172 | 1,524 | 1978-87 | 1.12 | 1.98 | A |
| 07133000 Arkansas River at Lamar----- | 12 | 3,062 | 1,005 | 145 | 3,387 | 1,433 | 1978-87 | -.73 | 1.98 | A |
| 08217500 Rio Grande at Wagonwheel Gap----- | 11 | 88.6 | 23.0 | 97 | 99.2 | 36.9 | 1978-87 | -.69 | 1.98 | A |

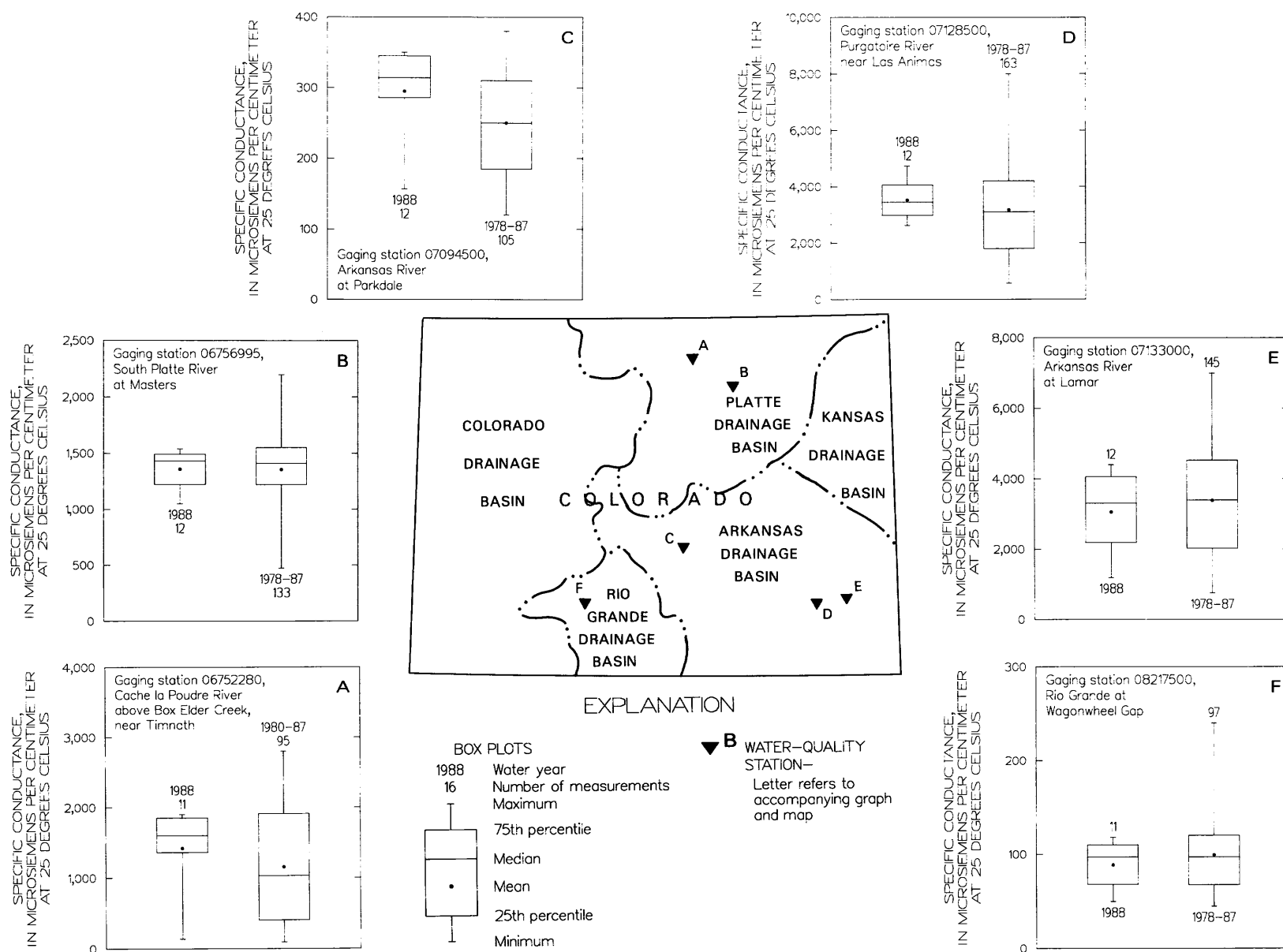


Figure 5.--Comparison of range and distribution of specific conductance measured during water year 1988 to long-term values.

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 1988 water year that began on October 1, 1987, and ended September 30, 1988. 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 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.

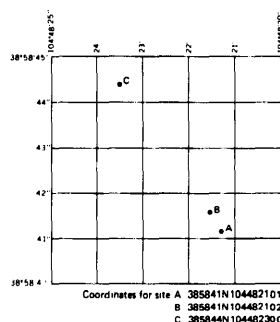
Downstream Order System

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 has 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 (township and range).

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 records that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. 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

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; 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 gage 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 records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, 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 statement 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 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.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

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.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listed may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

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 to determine if the published records were ever revised after the station was discontinued. Of course, if the data 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.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the 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 are 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.

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.

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 at short intervals on a paper tape. 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.

On-site 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 published to the nearest 0.1 degree Celsius, but is usually accurate to the nearest 0.5 degrees 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, Colo., 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.

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 National Water Data Storage and Retrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's District offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

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 $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of 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 $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

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

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

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

Cubic foot per second (ft^3/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 ($\text{ft}^3/\text{s}/\text{mi}^2$) 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.

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

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

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

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

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

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

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

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

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

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

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

National Stream Quality Accounting Network (NASQAN) 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 (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, 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 ($7Q_{10}$) 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 plexiglass 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 planimetered. All areas shown are those for the stage when the planimetered 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 hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

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Kingdom..... Animal
Phylum..... Arthropoda
Class..... Insecta
Order..... Ephemeroptera
Family..... Ephemeridae
Genus..... Hexagenia
Species..... Hexagenia limbata

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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.

EXPLANATION OF OMITTED DATA

Omitted data, water year 1988

Data for some stations operated during water year 1988 are not included in this report. The data for these stations, listed in table 4, was omitted for various technical reasons. These data will be published in a subsequent report.

Omitted data, previous water years

Data for some stations omitted from previous water year publications are included in this report. These stations are listed in table 5.

Table 4.--Stations with data omitted from this reportARKANSAS RIVER BASIN

07084500 Lake Creek above Twin Lakes Reservoir--1988, streamflow
07086500 Clear Creek above Clear Creek Reservoir--1988, streamflow
07095000 Grape Creek near Westcliffe--1987-88, streamflow
07117000 Arkansas River near Nepesta--1988, streamflow
07119700 Arkansas River at Catlin Dam near Fowler--1988, streamflow
07123000 Arkansas River at La Junta--1988, streamflow
07126500 Purgatoire River at Ninemile Dam near Higbee--1988, streamflow

Table 5.--Stations with previous water year data included in this reportPLATTE RIVER BASIN

06695000 South Platte River above Elevenmile Canyon Reservoir near Hartsel--1987, streamflow
06720500 South Platte River at Henderson--1986-87, streamflow
06724000 St Vrain Creek at Lyons--1987, streamflow
06727000 Boulder Creek near Orodell--1987, streamflow
06729500 South Boulder Creek near Eldorado Springs--1987, streamflow
06733000 Big Thompson River at Estes Park--1987, streamflow
06738000 Big Thompson River at mouth of Canyon, near Drake--1986, streamflow
06752000 Cache la Poudre River at mouth of Canyon near Fort Collins--1987, streamflow
06754000 South Platte River near Kersey--1986-87, streamflow
06758500 South Platte River near Weldona--1986-87, streamflow
06764000 South Platte River at Julesburg--1987, streamflow

ARKANSAS RIVER BASIN

07084500 Lake Creek above Twin Lakes Reservoir--1986-87, streamflow
07086000 Arkansas River at Granite--1986-87, streamflow
07086500 Clear Creek above Clear Creek Reservoir--1987, streamflow
07093700 Arkansas River near Wellsville--1986-87, streamflow
07095000 Grape Creek near Westcliffe--1987, streamflow
07117000 Arkansas River near Nepesta--1987, streamflow
07119700 Arkansas River at Catlin Dam near Fowler--1987, streamflow
07123000 Arkansas River at La Junta--1987, streamflow
07126500 Purgatoire River at Ninemile Dam near Higbee--1986-87, streamflow

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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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HYDROLOGIC-DATA STATION RECORDS

31

PLATTE RIVER BASIN

06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO

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

DRAINAGE AREA.--1.53 mi².

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

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

REMARKS.--Estimated daily discharges: Nov. 15, 16, Dec. 4-15, and Jan 15 to Mar. 9. Records good except for estimated daily discharges, and winter period, which are poor. No diversion upstream from station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 3.09 ft³/s; 2,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64 ft³/s, June 30, 1984, gage height, 3.28 ft; maximum gage height, 3.53 ft, June 18, 1974; minimum daily discharge, 0.12 ft³/s, Jan. 12, 13, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33 ft³/s at 1530 June 10, gage height, 3.38 ft; minimum daily, 0.31 ft³/s, Dec. 17, Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|
| 1 | .70 | .71 | .59 | .59 | .52 | .42 | .42 | .86 | 12 | 11 | 2.2 | .45 |
| 2 | .66 | .78 | .59 | .59 | .52 | .42 | .42 | .75 | 11 | 10 | 2.2 | .41 |
| 3 | .64 | .74 | .54 | .58 | .52 | .41 | .40 | .67 | 14 | 9.7 | 2.1 | .40 |
| 4 | .63 | .71 | .50 | .56 | .52 | .41 | .38 | .62 | 19 | 9.2 | 2.0 | .36 |
| 5 | .60 | .70 | .50 | .56 | .50 | .41 | .37 | .60 | 21 | 9.0 | 1.8 | .36 |
| 6 | .60 | .69 | .50 | .56 | .50 | .40 | .37 | .74 | 23 | 8.6 | 1.8 | .35 |
| 7 | .60 | .65 | .50 | .56 | .50 | .40 | .38 | .67 | 24 | 7.6 | 2.0 | .34 |
| 8 | .59 | .62 | .50 | .54 | .50 | .39 | .39 | .61 | 25 | 6.9 | 1.9 | .33 |
| 9 | .57 | .57 | .50 | .53 | .50 | .39 | .38 | .57 | 25 | 6.0 | 1.5 | .31 |
| 10 | .56 | .55 | .50 | .55 | .49 | .39 | .37 | .53 | 27 | 5.5 | 1.4 | .33 |
| 11 | .55 | .58 | .50 | .56 | .48 | .40 | .37 | .54 | 27 | 5.2 | 1.3 | .42 |
| 12 | .56 | .45 | .50 | .56 | .48 | .44 | .36 | .80 | 26 | 4.6 | 1.4 | .58 |
| 13 | .60 | .47 | .50 | .58 | .47 | .47 | .38 | 1.7 | 23 | 4.5 | 1.2 | .64 |
| 14 | .63 | .50 | .50 | .59 | .47 | .47 | .39 | 3.3 | 21 | 4.2 | 1.1 | .71 |
| 15 | .69 | .52 | .50 | .60 | .47 | .47 | .39 | 4.3 | 21 | 3.9 | 1.0 | .74 |
| 16 | .66 | .56 | .38 | .60 | .46 | .47 | .41 | 5.6 | 22 | 3.5 | 1.0 | .72 |
| 17 | .66 | .59 | .31 | .60 | .46 | .46 | .50 | 7.0 | 23 | 3.2 | 1.1 | .71 |
| 18 | .66 | .59 | .40 | .60 | .46 | .44 | .48 | 8.3 | 23 | 3.0 | 1.0 | .64 |
| 19 | .63 | .58 | .34 | .58 | .46 | .42 | .57 | 7.9 | 23 | 2.8 | .89 | .54 |
| 20 | .58 | .56 | .34 | .58 | .45 | .39 | .53 | 5.4 | 23 | 2.5 | .87 | .54 |
| 21 | .53 | .56 | .34 | .58 | .45 | .37 | .53 | 4.4 | 24 | 2.3 | .93 | .51 |
| 22 | .54 | .56 | .35 | .58 | .45 | .37 | .53 | 3.7 | 24 | 2.1 | .88 | .52 |
| 23 | .56 | .56 | .38 | .56 | .44 | .35 | .52 | 3.3 | 22 | 2.0 | .77 | .51 |
| 24 | .58 | .54 | .42 | .56 | .44 | .34 | .49 | 4.0 | 21 | 1.9 | .73 | .50 |
| 25 | .64 | .55 | .44 | .56 | .43 | .34 | .47 | 4.9 | 20 | 1.9 | .66 | .49 |
| 26 | .65 | .56 | .44 | .56 | .43 | .37 | .47 | 6.4 | 20 | 1.9 | .63 | .44 |
| 27 | .65 | .56 | .45 | .54 | .43 | .39 | .44 | 9.9 | 17 | 2.1 | .63 | .45 |
| 28 | .65 | .56 | .49 | .54 | .42 | .39 | .44 | 12 | 15 | 2.2 | .57 | .45 |
| 29 | .66 | .58 | .55 | .54 | .42 | .41 | .44 | 14 | 13 | 2.0 | .55 | .47 |
| 30 | .68 | .59 | .59 | .54 | --- | .42 | .54 | 13 | 12 | 2.1 | .49 | .53 |
| 31 | .70 | --- | .59 | .54 | --- | .42 | --- | 14 | --- | 2.2 | .47 | --- |
| TOTAL | 19.21 | 17.74 | 14.53 | 17.57 | 13.64 | 12.64 | 13.13 | 141.06 | 621 | 143.6 | 37.07 | 14.75 |
| MEAN | .62 | .59 | .47 | .57 | .47 | .41 | .44 | 4.55 | 20.7 | 4.63 | 1.20 | .49 |
| MAX | .70 | .78 | .59 | .60 | .52 | .47 | .57 | 14 | 27 | 11 | 2.2 | .74 |
| MIN | .53 | .45 | .31 | .53 | .42 | .34 | .36 | .53 | 11 | 1.9 | .47 | .31 |
| AC-FT | 38 | 35 | 29 | 35 | 27 | 25 | 26 | 280 | 1230 | 285 | 74 | 29 |
| CAL YR 1987 | TOTAL | 910.24 | MEAN | 2.49 | MAX | 24 | MIN | .23 | AC-FT | 1810 | | |
| WTR YR 1988 | TOTAL | 1065.94 | MEAN | 2.91 | MAX | 27 | MIN | .31 | AC-FT | 2110 | | |

PLATTE RIVER BASIN

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO

LOCATION.--Lat 40°56'15", long 106°20'16", in NE¼SW¼SE¼ sec.11, T.11 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 350 ft downstream from bridge on State Highway 125, 0.8 mi upstream from Camp Creek, 4.2 mi northwest of Northgate, and 4.4 mi south of Colorado-Wyoming State line.

DRAINAGE AREA.--1,431 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 7,810.39 ft above National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to Apr. 8, 1918. Apr. 8, 1918, to Aug. 21, 1961, water-stage recorder, at site 0.8 mi downstream at datum 3.36 ft, lower. Aug. 22, 1961, to Sept. 18, 1984, at site 650 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 3 to Nov. 2, Nov. 14 to Apr. 14, and May 21-25. Records good except those prior to Apr. 14, which are poor, and those for Apr. 15 to May 25, which are fair. Diversions for irrigation of about 130,000 acres of hay meadows upstream from station. Transbasin diversions upstream from station to Cache la Poudre River basin.

AVERAGE DISCHARGE.--73 years, 444 ft³/s; 321,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,720 ft³/s, June 11, 1923, gage height, 6.24 ft, site and datum, then in use; maximum gage height recorded, 9.65 ft, Apr. 25, 1980, (ice jam); minimum daily discharge, 19 ft³/s, July 17-19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,550 ft³/s, Apr. 16, gage height, 5.99 ft, maximum gage height, 8.30 ft, Apr. 13 (backwater from ice); minimum daily discharge, 31 ft³/s, Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|--------|--------------|-------|-------|-------|-------|------|------|
| 1 | 57 | 113 | 74 | 70 | 89 | 98 | 135 | 1380 | 1340 | 682 | 230 | 54 |
| 2 | 61 | 118 | 79 | 69 | 88 | 100 | 140 | 1520 | 1190 | 569 | 230 | 52 |
| 3 | 64 | 119 | 87 | 70 | 88 | 100 | 148 | 1450 | 998 | 510 | 212 | 52 |
| 4 | 65 | 119 | 92 | 68 | 90 | 100 | 190 | 1220 | 940 | 485 | 204 | 48 |
| 5 | 66 | 107 | 96 | 70 | 92 | 105 | 255 | 1130 | 1120 | 478 | 192 | 46 |
| 6 | 66 | 101 | 98 | 68 | 90 | 106 | 340 | 1130 | 1500 | 454 | 176 | 46 |
| 7 | 67 | 103 | 96 | 70 | 92 | 100 | 460 | 1170 | 1660 | 436 | 165 | 40 |
| 8 | 67 | 95 | 92 | 70 | 92 | 100 | 580 | 1120 | 1660 | 407 | 168 | 36 |
| 9 | 68 | 85 | 87 | 68 | 91 | 105 | 485 | 956 | 1610 | 384 | 157 | 34 |
| 10 | 69 | 78 | 92 | 72 | 92 | 100 | 375 | 884 | 1660 | 373 | 139 | 31 |
| 11 | 69 | 79 | 89 | 72 | 93 | 94 | 360 | 900 | 1620 | 390 | 123 | 33 |
| 12 | 70 | 79 | 83 | 70 | 91 | 90 | 680 | 869 | 1620 | 395 | 113 | 40 |
| 13 | 75 | 78 | 79 | 74 | 89 | 94 | 1300 | 908 | 1520 | 357 | 110 | 68 |
| 14 | 84 | 76 | 75 | 76 | 94 | 96 | 2000 | 1140 | 1420 | 310 | 107 | 101 |
| 15 | 95 | 72 | 73 | 78 | 88 | 98 | 2860 | 1340 | 1290 | 295 | 92 | 113 |
| 16 | 100 | 58 | 72 | 76 | 84 | 98 | 3430 | 1520 | 1220 | 280 | 87 | 110 |
| 17 | 97 | 62 | 76 | 74 | 84 | 98 | 3300 | 1630 | 1150 | 305 | 97 | 92 |
| 18 | 91 | 59 | 74 | 74 | 89 | 100 | 3010 | 1770 | 1140 | 285 | 101 | 79 |
| 19 | 87 | 63 | 72 | 72 | 94 | 110 | 2380 | 2080 | 1090 | 266 | 98 | 68 |
| 20 | 82 | 68 | 68 | 70 | 100 | 120 | 2420 | 2440 | 1150 | 261 | 95 | 64 |
| 21 | 80 | 75 | 68 | 68 | 96 | 120 | 2370 | 2100 | 1100 | 266 | 84 | 61 |
| 22 | 81 | 78 | 70 | 70 | 92 | 120 | 2210 | 1600 | 1050 | 238 | 81 | 59 |
| 23 | 84 | 75 | 68 | 71 | 96 | 130 | 1810 | 1400 | 1030 | 212 | 79 | 59 |
| 24 | 87 | 74 | 65 | 72 | 100 | 145 | 1430 | 1150 | 1030 | 204 | 76 | 62 |
| 25 | 97 | 72 | 63 | 74 | 104 | 160 | 1190 | 1110 | 973 | 204 | 68 | 64 |
| 26 | 98 | 72 | 61 | 78 | 110 | 175 | 1050 | 1100 | 924 | 204 | 61 | 61 |
| 27 | 98 | 70 | 63 | 84 | 107 | 175 | 948 | 1130 | 820 | 204 | 57 | 61 |
| 28 | 98 | 69 | 68 | 87 | 103 | 160 | 924 | 1200 | 796 | 200 | 54 | 61 |
| 29 | 99 | 67 | 70 | 90 | 103 | 145 | 965 | 1250 | 916 | 212 | 53 | 64 |
| 30 | 104 | 67 | 72 | 94 | --- | 135 | 1130 | 1330 | 812 | 238 | 53 | 68 |
| 31 | 110 | --- | 72 | 92 | --- | 132 | --- | 1430 | --- | 230 | 54 | --- |
| TOTAL | 2536 | 2451 | 2394 | 2311 | 2721 | 3609 | 38875 | 41357 | 36349 | 10334 | 3616 | 1827 |
| MEAN | 81.8 | 81.7 | 77.2 | 74.5 | 93.8 | 116 | 1296 | 1334 | 1212 | 333 | 117 | 60.9 |
| MAX | 110 | 119 | 98 | 94 | 110 | 175 | 3430 | 2440 | 1660 | 682 | 230 | 113 |
| MIN | 57 | 58 | 61 | 68 | 84 | 90 | 135 | 869 | 796 | 200 | 53 | 31 |
| AC-FT | 5030 | 4860 | 4750 | 4580 | 5400 | 7160 | 77110 | 82030 | 72100 | 20500 | 7170 | 3620 |
| CAL YR 1987 | TOTAL | 86902 | MEAN 238 | MAX 1090 | MIN 52 | AC-FT 172400 | | | | | | |
| WTR YR 1988 | TOTAL | 148380 | MEAN 405 | MAX 3430 | MIN 31 | AC-FT 294300 | | | | | | |

33

LOCATION.--Lat 38°58'03", long 105°34'51", in NE¼ sec.32, T.12 S., R.73 W., Park County, Hydrologic Unit 101900001, 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.

GAGE.--Water-stage recorder 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.

AVERAGE DISCHARGE.--42 years, (water years 1940-81), 77.3 ft³/s; 56,000 acre-ft/yr, prior to completion of Spinney Mountain Dam; 6 years, (water years 1982-87), 118 ft³/s; 85,490 acre-ft/yr, 7 years, (water years 1982-88), 115 ft³/s; 83,320 acre-ft/yr, subsequent to completion of Spinney Mountain Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum instantaneous discharge, not determined, occurred Apr. 28, 1970, gage height, 7.60 ft, from floodmarks; maximum daily discharge, 3,970 ft³/s, Apr. 27, 1970; minimum daily, 0.20 ft³/s, Oct. 25, 1981.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 627 ft³/s at 1830 Apr. 18, gage height, 3.32 ft; minimum daily, 35 ft³/s, Apr. 21.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 459 ft³/s at 0700 July 3, gage height, 2.72 ft; minimum daily, 14 ft³/s, May 25.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|------|------|------|------|------|-------|-------|--------|-------|------|
| 1 | 128 | 95 | 65 | 50 | 60 | 60 | 62 | 187 | 269 | 421 | 230 | 84 |
| 2 | 120 | 80 | 65 | 50 | 60 | 60 | 63 | 226 | 320 | 329 | 230 | 77 |
| 3 | 130 | 103 | 66 | 50 | 60 | 60 | 64 | 253 | 306 | 320 | 226 | 79 |
| 4 | 141 | 98 | 66 | 50 | 60 | 60 | 65 | 251 | 269 | 264 | 215 | 81 |
| 5 | 141 | 101 | 66 | 50 | 60 | 60 | 65 | 228 | 280 | 183 | 203 | 118 |
| 6 | 137 | 98 | 66 | 50 | 60 | 60 | 66 | 201 | 308 | 146 | 187 | 114 |
| 7 | 135 | 118 | 66 | 50 | 60 | 60 | 66 | 199 | 384 | 148 | 189 | 110 |
| 8 | 135 | 127 | 66 | 50 | 60 | 60 | 66 | 191 | 469 | 146 | 197 | 110 |
| 9 | 149 | 104 | 66 | 50 | 60 | 60 | 66 | 189 | 564 | 149 | 211 | 109 |
| 10 | 158 | 77 | 65 | 50 | 60 | 60 | 68 | 195 | 597 | 151 | 232 | 107 |
| 11 | 144 | 77 | 65 | 50 | 60 | 60 | 77 | 238 | 576 | 148 | 234 | 104 |
| 12 | 137 | 77 | 65 | 50 | 60 | 60 | 87 | 308 | 478 | 148 | 223 | 96 |
| 13 | 130 | 77 | 65 | 50 | 60 | 60 | 74 | 415 | 397 | 135 | 213 | 95 |
| 14 | 122 | 79 | 65 | 50 | 60 | 60 | 70 | 437 | 387 | 125 | 197 | 148 |
| 15 | 110 | 79 | 65 | 50 | 60 | 60 | 93 | 434 | 356 | 125 | 168 | 211 |
| 16 | 107 | 79 | 60 | 50 | 60 | 60 | 217 | 483 | 379 | 115 | 157 | 197 |
| 17 | 110 | 79 | 50 | 50 | 60 | 60 | 223 | 540 | 374 | 92 | 139 | 195 |
| 18 | 106 | 76 | 50 | 50 | 60 | 60 | 354 | 509 | 374 | 92 | 127 | 199 |
| 19 | 104 | 69 | 50 | 50 | 60 | 60 | 364 | 434 | 387 | 101 | 118 | 170 |
| 20 | 114 | 68 | 50 | 50 | 60 | 60 | 212 | 475 | 421 | 107 | 117 | 205 |
| 21 | 117 | 69 | 50 | 50 | 60 | 60 | 35 | 514 | 349 | 93 | 118 | 148 |
| 22 | 118 | 74 | 50 | 50 | 60 | 60 | 38 | 472 | 181 | 74 | 134 | 114 |
| 23 | 110 | 73 | 50 | 50 | 60 | 60 | 46 | 426 | 158 | 92 | 168 | 114 |
| 24 | 106 | 73 | 50 | 50 | 60 | 60 | 46 | 408 | 215 | 201 | 211 | 112 |
| 25 | 104 | 70 | 50 | 50 | 60 | 60 | 41 | 356 | 273 | 197 | 230 | 110 |
| 26 | 102 | 66 | 50 | 50 | 60 | 60 | 40 | 418 | 276 | 195 | 211 | 96 |
| 27 | 101 | 66 | 50 | 60 | 60 | 60 | 38 | 374 | 287 | 197 | 209 | 86 |
| 28 | 165 | 66 | 50 | 60 | 60 | 60 | 38 | 276 | 327 | 215 | 181 | 86 |
| 29 | 172 | 66 | 50 | 60 | --- | 60 | 160 | 243 | 308 | 228 | 134 | 87 |
| 30 | 117 | 66 | 50 | 60 | --- | 60 | 217 | 207 | 392 | 230 | 98 | 87 |
| 31 | 106 | --- | 50 | 60 | --- | 60 | --- | 213 | --- | 230 | 90 | --- |
| TOTAL | 3876 | 2450 | 1792 | 1600 | 1680 | 1860 | 3121 | 10300 | 10661 | 5397 | 5597 | 3649 |
| MEAN | 125 | 81.7 | 57.8 | 51.6 | 60.0 | 60.0 | 104 | 332 | 355 | 174 | 181 | 122 |
| MAX | 172 | 127 | 66 | 60 | 60 | 60 | 364 | 540 | 597 | 421 | 234 | 211 |
| MIN | 101 | 66 | 50 | 50 | 60 | 60 | 35 | 187 | 158 | 74 | 90 | 77 |
| AC-FT | 7690 | 4860 | 3550 | 3170 | 3330 | 3690 | 6190 | 20430 | 21150 | 10700 | 11100 | 7240 |
| CAL YR 1986 | TOTAL | 43543 | MEAN | 119 | MAX | 344 | MIN | 24 | AC-FT | 86370 | | |
| WTR YR 1987 | TOTAL | 51983 | MEAN | 142 | MAX | 597 | MIN | 35 | AC-FT | 103100 | | |

PLATTE RIVER BASIN

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|---------|--------|--------------|------|------|------|------|-------|------|------|
| 1 | 88 | 57 | 92 | 50 | 50 | 48 | 84 | 37 | 38 | 402 | 219 | 136 |
| 2 | 108 | 56 | 94 | 50 | 50 | 48 | 73 | 37 | 29 | 445 | 230 | 146 |
| 3 | 126 | 57 | 93 | 50 | 50 | 48 | 74 | 37 | 26 | 410 | 249 | 152 |
| 4 | 123 | 57 | 93 | 50 | 50 | 48 | 74 | 37 | 26 | 312 | 254 | 146 |
| 5 | 123 | 54 | 95 | 50 | 57 | 50 | 64 | 37 | 25 | 234 | 211 | 135 |
| 6 | 129 | 55 | 95 | 50 | 60 | 55 | 70 | 37 | 25 | 194 | 149 | 130 |
| 7 | 130 | 57 | 93 | 50 | 61 | 55 | 77 | 36 | 54 | 177 | 133 | 128 |
| 8 | 127 | 56 | 95 | 50 | 61 | 55 | 105 | 36 | 62 | 167 | 127 | 132 |
| 9 | 112 | 54 | 92 | 50 | 61 | 55 | 121 | 36 | 90 | 146 | 122 | 135 |
| 10 | 90 | 60 | 92 | 50 | 61 | 55 | 118 | 36 | 179 | 131 | 121 | 132 |
| 11 | 87 | 65 | 92 | 50 | 61 | 54 | 114 | 36 | 181 | 104 | 104 | 129 |
| 12 | 87 | 69 | 92 | 50 | 61 | 55 | 80 | 35 | 162 | 116 | 149 | 138 |
| 13 | 89 | 95 | 92 | 50 | 61 | 55 | 85 | 35 | 109 | 123 | 162 | 146 |
| 14 | 107 | 112 | 92 | 50 | 61 | 55 | 92 | 35 | 36 | 154 | 154 | 129 |
| 15 | 110 | 110 | 92 | 50 | 62 | 55 | 98 | 35 | 45 | 177 | 147 | 111 |
| 16 | 113 | 112 | 90 | 50 | 62 | 55 | 101 | 68 | 44 | 177 | 153 | 105 |
| 17 | 113 | 110 | 90 | 50 | 62 | 55 | 95 | 113 | 38 | 191 | 173 | 98 |
| 18 | 107 | 110 | 90 | 50 | 64 | 55 | 102 | 143 | 36 | 195 | 213 | 92 |
| 19 | 108 | 108 | 90 | 50 | 62 | 55 | 92 | 117 | 36 | 183 | 211 | 80 |
| 20 | 108 | 99 | 90 | 50 | 62 | 55 | 76 | 57 | 44 | 162 | 203 | 173 |
| 21 | 84 | 76 | 90 | 50 | 61 | 55 | 61 | 41 | 90 | 153 | 175 | 189 |
| 22 | 61 | 75 | 90 | 50 | 51 | 55 | 59 | 40 | 197 | 144 | 144 | 186 |
| 23 | 47 | 76 | 60 | 50 | 44 | 56 | 51 | 41 | 305 | 127 | 125 | 204 |
| 24 | 48 | 77 | 50 | 50 | 40 | 54 | 44 | 35 | 352 | 108 | 124 | 202 |
| 25 | 45 | 77 | 50 | 50 | 28 | 59 | 41 | 14 | 320 | 122 | 114 | 201 |
| 26 | 45 | 77 | 50 | 50 | 38 | 76 | 38 | 22 | 261 | 153 | 133 | 196 |
| 27 | 45 | 77 | 50 | 50 | 48 | 80 | 38 | 43 | 223 | 149 | 142 | 194 |
| 28 | 44 | 77 | 50 | 50 | 48 | 90 | 37 | 43 | 191 | 168 | 136 | 196 |
| 29 | 43 | 77 | 50 | 50 | 48 | 95 | 36 | 44 | 230 | 177 | 138 | 196 |
| 30 | 43 | 85 | 50 | 50 | --- | 93 | 38 | 44 | 341 | 215 | 139 | 197 |
| 31 | 50 | --- | 50 | 50 | --- | 93 | --- | 45 | --- | 225 | 136 | --- |
| TOTAL | 2740 | 2327 | 2484 | 1550 | 1585 | 1872 | 2238 | 1452 | 3795 | 5941 | 4990 | 4534 |
| MEAN | 88.4 | 77.6 | 80.1 | 50.0 | 54.7 | 60.4 | 74.6 | 46.8 | 126 | 192 | 161 | 151 |
| MAX | 130 | 112 | 95 | 50 | 64 | 95 | 121 | 143 | 352 | 445 | 254 | 204 |
| MIN | 43 | 54 | 50 | 50 | 28 | 48 | 36 | 14 | 25 | 104 | 104 | 80 |
| AC-FT | 5430 | 4620 | 4930 | 3070 | 3140 | 3710 | 4440 | 2880 | 7530 | 11780 | 9900 | 8990 |
| CAL YR 1987 | TOTAL 51416 | MEAN 141 | MAX 597 | MIN 35 | AC-FT 102000 | | | | | | | |
| WTR YR 1988 | TOTAL 35508 | MEAN 97.0 | MAX 445 | MIN 14 | AC-FT 70430 | | | | | | | |

PLATTE RIVER BASIN

35

06696000 SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO

LOCATION.--Lat 38°54'19", long 105°28'22", in SW¼ 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 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.--No estimated daily discharges. 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.

AVERAGE DISCHARGE.--59 years, 78.0 ft³/s; 56,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 3,000 ft³/s, Apr. 28, 1970, gage height, 8.34 ft, from floodmarks, by computation of outflow from Elevenmile Canyon Reservoir; no flow at times in January 1930, February 1931, and November 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 510 ft³/s at 1230 Apr. 26, gage height, 3.94 ft; minimum daily, 15 ft³/s, May 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|------|------|------|------|------|------|-------|--------|-------|-------|
| 1 | 85 | 38 | 52 | 67 | 58 | 55 | 91 | 24 | 20 | 351 | 178 | 118 |
| 2 | 83 | 60 | 59 | 66 | 57 | 54 | 89 | 23 | 18 | 383 | 184 | 143 |
| 3 | 86 | 67 | 62 | 64 | 59 | 54 | 87 | 24 | 18 | 429 | 194 | 162 |
| 4 | 88 | 67 | 65 | 64 | 57 | 53 | 87 | 18 | 18 | 433 | 204 | 161 |
| 5 | 90 | 67 | 69 | 63 | 58 | 52 | 87 | 17 | 20 | 298 | 222 | 169 |
| 6 | 244 | 67 | 73 | 63 | 60 | 52 | 83 | 20 | 18 | 238 | 219 | 164 |
| 7 | 357 | 66 | 76 | 63 | 61 | 53 | 83 | 18 | 17 | 190 | 201 | 156 |
| 8 | 372 | 66 | 78 | 63 | 62 | 52 | 83 | 18 | 20 | 172 | 187 | 143 |
| 9 | 372 | 62 | 82 | 63 | 62 | 54 | 88 | 18 | 24 | 161 | 172 | 138 |
| 10 | 364 | 52 | 84 | 62 | 62 | 56 | 95 | 18 | 36 | 131 | 162 | 136 |
| 11 | 327 | 49 | 84 | 62 | 64 | 56 | 164 | 18 | 49 | 123 | 153 | 133 |
| 12 | 23 | 50 | 85 | 62 | 65 | 57 | 222 | 18 | 62 | 101 | 148 | 133 |
| 13 | 24 | 50 | 89 | 62 | 64 | 59 | 224 | 18 | 72 | 91 | 145 | 171 |
| 14 | 24 | 50 | 91 | 61 | 63 | 59 | 208 | 18 | 64 | 95 | 213 | 188 |
| 15 | 24 | 62 | 92 | 60 | 64 | 59 | 198 | 18 | 63 | 103 | 210 | 180 |
| 16 | 24 | 53 | 92 | 59 | 64 | 59 | 193 | 15 | 61 | 112 | 213 | 169 |
| 17 | 60 | 54 | 92 | 60 | 65 | 60 | 188 | 15 | 58 | 121 | 222 | 161 |
| 18 | 83 | 44 | 94 | 60 | 65 | 59 | 182 | 16 | 54 | 130 | 167 | 158 |
| 19 | 83 | 36 | 95 | 62 | 64 | 59 | 176 | 16 | 51 | 133 | 169 | 152 |
| 20 | 74 | 33 | 95 | 62 | 64 | 58 | 154 | 16 | 48 | 136 | 174 | 149 |
| 21 | 64 | 34 | 98 | 61 | 65 | 59 | 140 | 17 | 48 | 139 | 178 | 149 |
| 22 | 50 | 36 | 96 | 60 | 64 | 60 | 122 | 17 | 55 | 136 | 176 | 172 |
| 23 | 42 | 37 | 94 | 61 | 62 | 62 | 88 | 17 | 77 | 133 | 167 | 186 |
| 24 | 30 | 29 | 90 | 60 | 62 | 63 | 103 | 19 | 113 | 128 | 158 | 194 |
| 25 | 30 | 26 | 88 | 56 | 61 | 64 | 138 | 19 | 148 | 119 | 147 | 197 |
| 26 | 27 | 33 | 85 | 58 | 60 | 61 | 122 | 18 | 264 | 123 | 139 | 197 |
| 27 | 22 | 37 | 84 | 57 | 58 | 65 | 41 | 18 | 332 | 129 | 133 | 225 |
| 28 | 23 | 39 | 80 | 57 | 58 | 68 | 41 | 16 | 335 | 133 | 130 | 320 |
| 29 | 23 | 43 | 77 | 57 | 57 | 76 | 28 | 20 | 339 | 143 | 127 | 389 |
| 30 | 23 | 47 | 74 | 58 | --- | 80 | 23 | 20 | 325 | 152 | 124 | 262 |
| 31 | 26 | --- | 69 | 57 | --- | 89 | --- | 19 | --- | 172 | 121 | --- |
| TOTAL | 3247 | 1454 | 2544 | 1890 | 1785 | 1867 | 3628 | 566 | 2827 | 5438 | 5337 | 5375 |
| MEAN | 105 | 48.5 | 82.1 | 61.0 | 61.6 | 60.2 | 121 | 18.3 | 94.2 | 175 | 172 | 179 |
| MAX | 372 | 67 | 98 | 67 | 65 | 89 | 224 | 24 | 339 | 433 | 222 | 389 |
| MIN | 22 | 26 | 52 | 56 | 57 | 52 | 23 | 15 | 17 | 91 | 121 | 118 |
| AC-FT | 6440 | 2880 | 5050 | 3750 | 3540 | 3700 | 7200 | 1120 | 5610 | 10790 | 10590 | 10660 |
| CAL YR 1987 | TOTAL | 53492 | MEAN | 147 | MAX | 510 | MIN | 22 | AC-FT | 106100 | | |
| WTR YR 1988 | TOTAL | 35958 | MEAN | 98.2 | MAX | 433 | MIN | 15 | AC-FT | 71320 | | |

PLATTE RIVER BASIN

06697200 FRENCH CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 39°23'21", long 105°38'07", unsurveyed, Park County, Hydrologic Unit 10190001, on left bank 150 ft upstream from culverts under Forest Service road, 0.4 mi upstream from confluence with Michigan Creek, and 8.4 mi northwest of Jefferson.

DRAINAGE AREA.--4.63 mi².

PERIOD OF RECORD.--April 1986 to current year (irrigation season only).

GAGE.--Water-stage recorder. Elevation of gage is 10,190 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1 to May 12. Records good except for estimated daily discharges, which are poor. No diversions upstream from station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--Maximum discharge, 64 ft³/s, June 28, 1988, gage height, 2.34 ft; minimum daily, 1.0 ft³/s, Apr. 1-9, 1988.

EXTREMES FOR CURRENT SEASON.--Maximum discharge, 64 ft³/s at 1600 June 28, gage height, 2.34 ft; minimum daily, 1.0 ft³/s, Apr. 1-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|-----|------|-------|------|-------|-------|------|
| 1 | --- | --- | --- | --- | --- | --- | 1.0 | 3.9 | 20 | 31 | 7.0 | 4.2 |
| 2 | --- | --- | --- | --- | --- | --- | 1.0 | 3.6 | 22 | 28 | 6.6 | 4.0 |
| 3 | --- | --- | --- | --- | --- | --- | 1.0 | 3.5 | 25 | 26 | 6.5 | 3.8 |
| 4 | --- | --- | --- | --- | --- | --- | 1.0 | 3.3 | 31 | 24 | 6.2 | 3.6 |
| 5 | --- | --- | --- | --- | --- | --- | 1.0 | 3.1 | 35 | 22 | 12 | 3.5 |
| 6 | --- | --- | --- | --- | --- | --- | 1.0 | 3.0 | 37 | 21 | 16 | 3.4 |
| 7 | --- | --- | --- | --- | --- | --- | 1.0 | 2.9 | 36 | 20 | 13 | 3.2 |
| 8 | --- | --- | --- | --- | --- | --- | 1.0 | 2.8 | 35 | 18 | 12 | 3.1 |
| 9 | --- | --- | --- | --- | --- | --- | 1.0 | 2.6 | 38 | 16 | 12 | 3.1 |
| 10 | --- | --- | --- | --- | --- | --- | 1.1 | 2.5 | 41 | 15 | 11 | 3.1 |
| 11 | --- | --- | --- | --- | --- | --- | 1.1 | 2.4 | 39 | 14 | 11 | 3.1 |
| 12 | --- | --- | --- | --- | --- | --- | 1.1 | 4.0 | 37 | 12 | 11 | 3.5 |
| 13 | --- | --- | --- | --- | --- | --- | 1.1 | 5.1 | 34 | 12 | 9.9 | 3.6 |
| 14 | --- | --- | --- | --- | --- | --- | 1.1 | 6.0 | 31 | 11 | 9.2 | 3.5 |
| 15 | --- | --- | --- | --- | --- | --- | 1.1 | 7.4 | 30 | 11 | 8.6 | 3.1 |
| 16 | --- | --- | --- | --- | --- | --- | 1.1 | 9.7 | 30 | 10 | 8.9 | 2.9 |
| 17 | --- | --- | --- | --- | --- | --- | 1.1 | 12 | 29 | 9.7 | 9.1 | 2.7 |
| 18 | --- | --- | --- | --- | --- | --- | 1.2 | 13 | 30 | 9.2 | 8.1 | 2.5 |
| 19 | --- | --- | --- | --- | --- | --- | 1.2 | 13 | 32 | 9.0 | 7.2 | 2.4 |
| 20 | --- | --- | --- | --- | --- | --- | 1.2 | 11 | 32 | 8.4 | 7.2 | 2.4 |
| 21 | --- | --- | --- | --- | --- | --- | 1.2 | 9.1 | 35 | 7.7 | 7.2 | 2.4 |
| 22 | --- | --- | --- | --- | --- | --- | 1.2 | 8.2 | 35 | 7.2 | 6.7 | 2.4 |
| 23 | --- | --- | --- | --- | --- | --- | 1.2 | 7.5 | 33 | 6.9 | 6.2 | 2.3 |
| 24 | --- | --- | --- | --- | --- | --- | 1.2 | 8.3 | 32 | 6.6 | 5.8 | 2.3 |
| 25 | --- | --- | --- | --- | --- | --- | 1.2 | 9.2 | 31 | 6.3 | 5.6 | 2.2 |
| 26 | --- | --- | --- | --- | --- | --- | 1.5 | 11 | 31 | 6.6 | 5.7 | 2.2 |
| 27 | --- | --- | --- | --- | --- | --- | 1.9 | 14 | 32 | 6.1 | 5.5 | 2.2 |
| 28 | --- | --- | --- | --- | --- | --- | 2.3 | 16 | 38 | 6.5 | 5.2 | 2.1 |
| 29 | --- | --- | --- | --- | --- | --- | 3.0 | 20 | 43 | 6.6 | 4.9 | 2.1 |
| 30 | --- | --- | --- | --- | --- | --- | 3.7 | 21 | 36 | 7.2 | 4.6 | 2.1 |
| 31 | --- | --- | --- | --- | --- | --- | --- | 20 | --- | 7.6 | 4.4 | --- |
| TOTAL | --- | --- | --- | --- | --- | --- | 39.8 | 259.1 | 990 | 402.6 | 254.3 | 87.0 |
| MEAN | --- | --- | --- | --- | --- | --- | 1.33 | 8.36 | 33.0 | 13.0 | 8.20 | 2.90 |
| MAX | --- | --- | --- | --- | --- | --- | 3.7 | 21 | 43 | 31 | 16 | 4.2 |
| MIN | --- | --- | --- | --- | --- | --- | 1.0 | 2.4 | 20 | 6.1 | 4.4 | 2.1 |
| AC-FT | --- | --- | --- | --- | --- | --- | 79 | 514 | 1960 | 799 | 504 | 173 |

SOUTH PLATTE RIVER BASIN

37

06699000 ROCK CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 35°17'29", long 105°41'43", in NE¼NE¼, Sec. 7, T.9 S., R.14 W., Park County, Hydrologic Unit 10190001, on left bank 80 ft downstream from Park County Road 77, 1,000 ft upstream from mouth and 8.5 mi southeast of Jefferson, Colorado.

DRAINAGE AREA.--45.5 mi².

PERIOD OF RECORD.--May 1986 to current year. (Irrigation season only; Apr. through Sept. 1988.)

GAGE.--Water-stage recorder. Elevation of gage is 9,037 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1 to May 12, and June 8-29. Records good except for estimated daily discharges, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF SEASONAL RECORD.--Maximum discharge, 147 ft³/s, June 9, 1987, gage height, 5.56 ft; minimum daily, 1.4 ft³/s, Apr. 1, 1987.

EXTREMES FOR CURRENT SEASON.--Maximum discharge, 137 ft³/s at 1300 Aug. 4, gage height, 5.49 ft; minimum daily, 5.7 ft³/s, Apr. 1, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|-----|-------|-------|------|-------|------|-------|
| 1 | --- | --- | --- | --- | --- | --- | 5.7 | 7.1 | 10 | 21 | 18 | 11 |
| 2 | --- | --- | --- | --- | --- | --- | 6.1 | 7.2 | 11 | 18 | 11 | 11 |
| 3 | --- | --- | --- | --- | --- | --- | 6.5 | 7.3 | 11 | 17 | 14 | 10 |
| 4 | --- | --- | --- | --- | --- | --- | 6.9 | 7.4 | 11 | 17 | 79 | 10 |
| 5 | --- | --- | --- | --- | --- | --- | 7.4 | 7.5 | 12 | 15 | 23 | 10 |
| 6 | --- | --- | --- | --- | --- | --- | 7.9 | 7.7 | 12 | 17 | 15 | 10 |
| 7 | --- | --- | --- | --- | --- | --- | 8.4 | 7.8 | 11 | 18 | 15 | 9.8 |
| 8 | --- | --- | --- | --- | --- | --- | 9.0 | 7.9 | 12 | 18 | 17 | 9.7 |
| 9 | --- | --- | --- | --- | --- | --- | 9.6 | 8.0 | 16 | 17 | 14 | 9.6 |
| 10 | --- | --- | --- | --- | --- | --- | 10 | 8.1 | 21 | 15 | 13 | 9.4 |
| 11 | --- | --- | --- | --- | --- | --- | 11 | 8.2 | 19 | 15 | 12 | 9.5 |
| 12 | --- | --- | --- | --- | --- | --- | 10 | 8.4 | 17 | 13 | 20 | 13 |
| 13 | --- | --- | --- | --- | --- | --- | 9.2 | 11 | 16 | 12 | 14 | 12 |
| 14 | --- | --- | --- | --- | --- | --- | 8.4 | 12 | 14 | 11 | 12 | 12 |
| 15 | --- | --- | --- | --- | --- | --- | 7.6 | 12 | 16 | 12 | 11 | 10 |
| 16 | --- | --- | --- | --- | --- | --- | 7.0 | 11 | 14 | 12 | 12 | 9.6 |
| 17 | --- | --- | --- | --- | --- | --- | 6.4 | 9.2 | 13 | 11 | 21 | 9.3 |
| 18 | --- | --- | --- | --- | --- | --- | 6.6 | 9.3 | 14 | 10 | 29 | 8.9 |
| 19 | --- | --- | --- | --- | --- | --- | 6.2 | 12 | 16 | 11 | 15 | 8.5 |
| 20 | --- | --- | --- | --- | --- | --- | 6.0 | 11 | 17 | 12 | 13 | 8.4 |
| 21 | --- | --- | --- | --- | --- | --- | 6.1 | 9.2 | 19 | 11 | 13 | 8.3 |
| 22 | --- | --- | --- | --- | --- | --- | 6.2 | 9.2 | 21 | 9.3 | 14 | 8.2 |
| 23 | --- | --- | --- | --- | --- | --- | 6.3 | 9.0 | 18 | 9.0 | 12 | 8.1 |
| 24 | --- | --- | --- | --- | --- | --- | 6.4 | 11 | 17 | 9.3 | 12 | 7.8 |
| 25 | --- | --- | --- | --- | --- | --- | 6.5 | 12 | 17 | 9.0 | 11 | 7.6 |
| 26 | --- | --- | --- | --- | --- | --- | 6.5 | 11 | 21 | 8.9 | 11 | 7.3 |
| 27 | --- | --- | --- | --- | --- | --- | 6.6 | 13 | 31 | 9.1 | 11 | 7.1 |
| 28 | --- | --- | --- | --- | --- | --- | 6.7 | 12 | 48 | 12 | 12 | 7.0 |
| 29 | --- | --- | --- | --- | --- | --- | 6.9 | 11 | 46 | 11 | 12 | 6.9 |
| 30 | --- | --- | --- | --- | --- | --- | 7.0 | 11 | 34 | 14 | 11 | 7.0 |
| 31 | --- | --- | --- | --- | --- | --- | --- | 10 | --- | 11 | 11 | --- |
| TOTAL | --- | --- | --- | --- | --- | --- | 221.1 | 298.5 | 555 | 405.6 | 508 | 277.0 |
| MEAN | --- | --- | --- | --- | --- | --- | 7.37 | 9.63 | 18.5 | 13.1 | 16.4 | 9.23 |
| MAX | --- | --- | --- | --- | --- | --- | 11 | 13 | 48 | 21 | 79 | 13 |
| MIN | --- | --- | --- | --- | --- | --- | 5.7 | 7.1 | 10 | 8.9 | 11 | 6.9 |
| AC-FT | --- | --- | --- | --- | --- | --- | 439 | 592 | 1100 | 805 | 1010 | 549 |

PLATTE RIVER BASIN

06699005 TARRYALL CREEK BELOW ROCK CREEK, NEAR JEFFERSON, CO

LOCATION.--Lat 39°27'13", long 105°41'43", in NW¼NW¼ 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. Elevation of gage is 9,020 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 5 to Apr. 14, May 29 to June 1, June 11-13, June 28-29, and Sept. 6-13. Records good, except for estimated daily discharges, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 53.7 ft³/s; 38,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654 ft³/s, Apr. 19, 1987, gage height, 7.00 ft, from floodmarks; minimum daily, 3.0 ft³/s, Jan. 3-29, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|--------|------|-----------------------------------|---------------------|
| June 10 | 1700 | 250 | 4.40 | | | | |
| June 28 | 1000 | *422 | *5.55 | Aug. 6 | 1300 | 298 | 4.74 |

Minimum daily discharge, 3.0 ft³/s, Jan. 3-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|------|-------|-------|------|------|------|------|------|------|
| 1 | 25 | 24 | 7.8 | 3.2 | 3.3 | 8.0 | 31 | 37 | 73 | 152 | 101 | 62 |
| 2 | 25 | 22 | 7.6 | 3.1 | 3.4 | 8.2 | 32 | 28 | 66 | 132 | 81 | 62 |
| 3 | 25 | 20 | 7.4 | 3.0 | 3.5 | 8.6 | 34 | 24 | 72 | 122 | 83 | 58 |
| 4 | 23 | 18 | 7.4 | 3.0 | 3.7 | 8.8 | 36 | 29 | 99 | 135 | 131 | 54 |
| 5 | 22 | 17 | 7.2 | 3.0 | 3.8 | 9.2 | 37 | 30 | 112 | 118 | 92 | 53 |
| 6 | 17 | 16 | 7.0 | 3.0 | 3.9 | 9.4 | 39 | 28 | 128 | 109 | 210 | 50 |
| 7 | 15 | 16 | 6.8 | 3.0 | 4.0 | 9.6 | 41 | 22 | 124 | 115 | 165 | 49 |
| 8 | 14 | 15 | 6.8 | 3.0 | 4.1 | 10 | 43 | 24 | 127 | 117 | 152 | 48 |
| 9 | 14 | 14 | 6.6 | 3.0 | 4.3 | 10 | 45 | 23 | 138 | 100 | 134 | 47 |
| 10 | 14 | 14 | 6.4 | 3.0 | 4.5 | 11 | 47 | 23 | 209 | 90 | 117 | 46 |
| 11 | 13 | 13 | 6.2 | 3.0 | 4.6 | 11 | 50 | 21 | 185 | 81 | 106 | 46 |
| 12 | 12 | 12 | 6.0 | 3.0 | 4.7 | 12 | 52 | 24 | 161 | 68 | 139 | 70 |
| 13 | 12 | 12 | 6.0 | 3.0 | 4.9 | 13 | 54 | 28 | 138 | 59 | 117 | 90 |
| 14 | 22 | 12 | 5.8 | 3.0 | 5.0 | 13 | 56 | 34 | 118 | 60 | 111 | 89 |
| 15 | 25 | 11 | 5.6 | 3.0 | 5.2 | 14 | 57 | 37 | 138 | 91 | 110 | 73 |
| 16 | 20 | 11 | 5.4 | 3.0 | 5.4 | 15 | 59 | 38 | 128 | 88 | 110 | 63 |
| 17 | 16 | 11 | 5.2 | 3.0 | 5.4 | 15 | 61 | 56 | 123 | 81 | 135 | 58 |
| 18 | 15 | 11 | 5.0 | 3.0 | 5.6 | 16 | 50 | 78 | 139 | 73 | 159 | 53 |
| 19 | 14 | 10 | 4.9 | 3.0 | 5.8 | 17 | 68 | 89 | 161 | 74 | 122 | 50 |
| 20 | 11 | 10 | 4.8 | 3.0 | 6.0 | 18 | 58 | 98 | 156 | 98 | 108 | 49 |
| 21 | 10 | 9.8 | 4.7 | 3.0 | 6.2 | 18 | 53 | 78 | 154 | 74 | 103 | 48 |
| 22 | 12 | 9.6 | 4.6 | 3.0 | 6.4 | 19 | 45 | 69 | 210 | 63 | 99 | 43 |
| 23 | 12 | 9.4 | 4.4 | 3.0 | 6.6 | 20 | 39 | 64 | 178 | 57 | 88 | 37 |
| 24 | 15 | 9.2 | 4.2 | 3.0 | 6.8 | 21 | 33 | 56 | 163 | 56 | 79 | 35 |
| 25 | 15 | 9.0 | 4.1 | 3.0 | 7.0 | 22 | 28 | 56 | 166 | 52 | 74 | 33 |
| 26 | 16 | 8.8 | 4.0 | 3.0 | 7.4 | 23 | 27 | 56 | 166 | 52 | 73 | 31 |
| 27 | 15 | 8.6 | 3.9 | 3.0 | 7.6 | 24 | 32 | 65 | 218 | 57 | 74 | 31 |
| 28 | 13 | 8.4 | 3.8 | 3.0 | 7.8 | 26 | 34 | 68 | 367 | 58 | 73 | 29 |
| 29 | 16 | 8.2 | 3.6 | 3.0 | 7.8 | 27 | 36 | 76 | 306 | 77 | 69 | 28 |
| 30 | 21 | 8.0 | 3.4 | 3.1 | --- | 28 | 35 | 76 | 201 | 85 | 67 | 28 |
| 31 | 35 | --- | 3.3 | 3.2 | --- | 29 | --- | 76 | --- | 92 | 65 | --- |
| TOTAL | 534 | 378.0 | 169.9 | 93.6 | 154.7 | 493.8 | 1312 | 1511 | 4724 | 2686 | 3347 | 1513 |
| MEAN | 17.2 | 12.6 | 5.48 | 3.02 | 5.33 | 15.9 | 43.7 | 48.7 | 157 | 86.6 | 108 | 50.4 |
| MAX | 35 | 24 | 7.8 | 3.2 | 7.8 | 29 | 68 | 98 | 367 | 152 | 210 | 90 |
| MIN | 10 | 8.0 | 3.3 | 3.0 | 3.3 | 8.0 | 27 | 21 | 66 | 52 | 65 | 28 |
| AC-FT | 1060 | 750 | 337 | 186 | 307 | 979 | 2600 | 3000 | 9370 | 5330 | 6640 | 3000 |

CAL YR 1987 TOTAL 18255.0 MEAN 50.0 MAX 540 MIN 3.3 AC-FT 36210
WTR YR 1988 TOTAL 16917.0 MEAN 46.2 MAX 367 MIN 3.0 AC-FT 33550

RESERVOIRS IN SOUTH PLATTE RIVER BASIN

06695500 ELEVENMILE CANYON RESERVOIR.--Lat 38°54'19", long 105°28'30", in N½SW¼ 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, 101,300 acre-ft, Aug. 4, 5, elevation, 8,598.04 ft; minimum observed, 96,330 acre-ft, Sept. 30, elevation, 8,596.57 ft.

06701000 CHEESMAN LAKE.--Lat 39°12'26", long 105°16'18", in NW¼SW¼ 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, 78,780 acre-ft, Aug. 19, gage height, 211.67 ft; minimum observed, 45,130 acre-ft, Oct. 7, gage height, 166.47 ft.

MONTHEND ELEVATION IN FEET AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| 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..... | 8,597.62 | 99,900 | - | 169.30 | 46,920 | - |
| Oct. 31..... | 8,596.97 | 97,680 | -2,220 | 170.43 | 47,640 | +720 |
| Nov. 30..... | 8,597.41 | 99,180 | +1,500 | 174.90 | 50,570 | +2,930 |
| Dec. 31..... | 8,597.53 | 99,590 | +410 | 178.84 | 53,240 | +2,670 |
| CAL YR 1987.... | - | - | +380 | - | - | +5,120 |
| Jan. 31..... | 8,597.46 | 99,350 | -240 | 180.21 | 54,180 | +940 |
| Feb. 29..... | 8,597.48 | 99,420 | +70 | 181.79 | 55,290 | +1,110 |
| Mar. 31..... | 8,597.54 | 99,620 | +200 | 185.33 | 57,810 | +2,520 |
| Apr. 30..... | 8,596.72 | 96,830 | -2,790 | 196.85 | 66,500 | +8,690 |
| May 31..... | 8,597.15 | 98,290 | +1,460 | 193.05 | 63,550 | -2,950 |
| June 30..... | 8,597.78 | 100,400 | +2,110 | 205.95 | 73,890 | +10,340 |
| July 31..... | 8,597.88 | 100,800 | +400 | 207.99 | 75,610 | +1,720 |
| Aug. 31..... | 8,597.72 | 100,200 | -600 | 210.24 | 77,540 | +1,930 |
| Sept. 30..... | 8,596.57 | 96,330 | -3,870 | 202.39 | 70,940 | -6,600 |
| WTR YR 1988.... | - | - | -3,570 | - | - | +24,020 |

a National Geodetic Vertical Datum of 1929.

PLATTE RIVER BASIN

06701500 SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO

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

DRAINAGE AREA.--1,752 mi².

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

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

GAGE.--Water-stage recorder 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.

AVERAGE DISCHARGE.--64 years, 169 ft³/s; 122,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,640 ft³/s, Apr. 29, 1970, gage height, 13.4 ft, from floodmarks, by computation of outflow from Cheesman Lake; minimum daily determined, 1.6 ft³/s, Apr. 8-14, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,460 ft³/s at 1600 July 1, gage height, 4.95 ft; minimum daily, 29 ft³/s, Apr. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|------|------|-------|-------|--------|-------|-------|
| 1 | 374 | 154 | 31 | 66 | 64 | 36 | 52 | 329 | 103 | 1340 | 459 | 374 |
| 2 | 359 | 97 | 32 | 65 | 64 | 32 | 52 | 329 | 101 | 1280 | 459 | 377 |
| 3 | 289 | 40 | 31 | 65 | 65 | 32 | 52 | 327 | 187 | 1140 | 456 | 374 |
| 4 | 262 | 32 | 31 | 65 | 64 | 32 | 52 | 327 | 335 | 977 | 456 | 365 |
| 5 | 262 | 31 | 32 | 66 | 64 | 33 | 52 | 332 | 351 | 652 | 353 | 365 |
| 6 | 261 | 32 | 32 | 66 | 64 | 34 | 53 | 332 | 295 | 277 | 153 | 394 |
| 7 | 259 | 32 | 32 | 66 | 65 | 34 | 43 | 332 | 187 | 94 | 106 | 450 |
| 8 | 254 | 33 | 32 | 66 | 64 | 34 | 30 | 330 | 140 | 64 | 105 | 450 |
| 9 | 252 | 33 | 32 | 66 | 65 | 34 | 31 | 329 | 200 | 36 | 104 | 450 |
| 10 | 249 | 31 | 48 | 66 | 66 | 34 | 31 | 386 | 214 | 36 | 105 | 450 |
| 11 | 246 | 30 | 64 | 66 | 66 | 68 | 31 | 390 | 111 | 36 | 200 | 450 |
| 12 | 243 | 30 | 64 | 66 | 64 | 110 | 31 | 343 | 46 | 39 | 300 | 393 |
| 13 | 204 | 31 | 65 | 65 | 63 | 110 | 31 | 369 | 47 | 39 | 299 | 292 |
| 14 | 107 | 30 | 64 | 66 | 63 | 110 | 31 | 385 | 52 | 41 | 300 | 250 |
| 15 | 69 | 31 | 63 | 65 | 63 | 109 | 31 | 383 | 52 | 41 | 340 | 251 |
| 16 | 50 | 31 | 93 | 65 | 63 | 112 | 29 | 385 | 52 | 43 | 374 | 250 |
| 17 | 38 | 31 | 115 | 65 | 63 | 113 | 67 | 336 | 50 | 44 | 328 | 250 |
| 18 | 39 | 31 | 115 | 65 | 63 | 112 | 123 | 256 | 50 | 97 | 297 | 250 |
| 19 | 40 | 31 | 115 | 65 | 63 | 111 | 86 | 188 | 51 | 210 | 298 | 249 |
| 20 | 41 | 30 | 115 | 65 | 63 | 111 | 79 | 78 | 52 | 212 | 358 | 262 |
| 21 | 41 | 31 | 115 | 64 | 63 | 110 | 77 | 35 | 52 | 212 | 400 | 348 |
| 22 | 38 | 31 | 116 | 65 | 63 | 84 | 77 | 35 | 98 | 212 | 374 | 430 |
| 23 | 32 | 31 | 87 | 64 | 64 | 56 | 81 | 35 | 82 | 214 | 344 | 382 |
| 24 | 30 | 31 | 68 | 65 | 65 | 49 | 82 | 35 | 56 | 214 | 335 | 290 |
| 25 | 30 | 31 | 67 | 65 | 66 | 50 | 94 | 34 | 92 | 313 | 306 | 290 |
| 26 | 30 | 31 | 66 | 65 | 66 | 50 | 203 | 33 | 259 | 459 | 287 | 310 |
| 27 | 30 | 31 | 66 | 65 | 66 | 51 | 305 | 33 | 420 | 462 | 292 | 390 |
| 28 | 73 | 31 | 67 | 65 | 67 | 52 | 327 | 32 | 571 | 462 | 292 | 456 |
| 29 | 134 | 31 | 66 | 65 | 58 | 52 | 324 | 32 | 894 | 459 | 287 | 457 |
| 30 | 156 | 31 | 66 | 64 | --- | 52 | 324 | 32 | 1160 | 459 | 282 | 399 |
| 31 | 155 | --- | 66 | 64 | --- | 52 | --- | 67 | --- | 459 | 324 | --- |
| TOTAL | 4647 | 1131 | 2056 | 2021 | 1857 | 2059 | 2881 | 6869 | 6360 | 10623 | 9373 | 10698 |
| MEAN | 150 | 37.7 | 66.3 | 65.2 | 64.0 | 66.4 | 96.0 | 222 | 212 | 343 | 302 | 357 |
| MAX | 374 | 154 | 116 | 66 | 67 | 113 | 327 | 390 | 1160 | 1340 | 459 | 457 |
| MIN | 30 | 30 | 31 | 64 | 58 | 32 | 29 | 32 | 46 | 36 | 104 | 249 |
| AC-FT | 9220 | 2240 | 4080 | 4010 | 3680 | 4080 | 5710 | 13620 | 12620 | 21070 | 18590 | 21220 |
| CAL YR 1987 | TOTAL | 111858 | MEAN | 306 | MAX | 1440 | MIN | 26 | AC-FT | 221900 | | |
| WTR YR 1988 | TOTAL | 60575 | MEAN | 166 | MAX | 1340 | MIN | 29 | AC-FT | 120200 | | |

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LOCATION.--Lat 39°27'26", long 105°39'29", in NW¼ sec.10, T.7 S., R.74 W., Park County, Hydrologic Unit 101900002, 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.

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.

GAGE.--Water-stage recorder 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: Mar. 11-19, 21, 22, Mar. 24 to Apr. 2, Apr. 4-6, and Apr. 9-11. Records good except for estimated daily discharges, which are poor. 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). Several observations of 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.

AVERAGE DISCHARGE.--51 years (water years 1909-13, 1943-88), 70.7 ft³/s; 51,220 acre-ft/yr, adjusted for inflow from Harold D. Roberts tunnel since 1964.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 990 ft³/s, June 7, 8, 1912, gage height, 3.30 ft, site and datum then in use, from rating curve extended above 530 ft³/s; maximum gage height, 4.72 ft, site and datum then in use, Feb. 11, 1952 (backwater from ice); minimum daily discharge, 6.5 ft³/s, Nov. 27, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 578 ft³/s at 0130 July 9, gage height, 1.92 ft; minimum daily, 15 ft³/s, Mar. 13, 29, Apr. 1.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|------|----------|---------|--------|-------------|------|------|-------|-------|-------|------|
| 1 | 36 | 34 | 115 | 94 | 94 | 73 | 15 | 58 | 130 | 413 | 287 | 44 |
| 2 | 34 | 34 | 127 | 94 | 91 | 70 | 18 | 47 | 146 | 399 | 276 | 44 |
| 3 | 33 | 33 | 127 | 94 | 88 | 70 | 24 | 42 | 188 | 392 | 287 | 41 |
| 4 | 33 | 31 | 130 | 94 | 88 | 70 | 21 | 45 | 225 | 391 | 270 | 41 |
| 5 | 33 | 30 | 130 | 94 | 88 | 70 | 23 | 50 | 230 | 372 | 270 | 39 |
| 6 | 33 | 33 | 127 | 94 | 91 | 70 | 26 | 47 | 217 | 372 | 283 | 39 |
| 7 | 33 | 30 | 127 | 94 | 94 | 70 | 39 | 44 | 250 | 359 | 287 | 39 |
| 8 | 33 | 31 | 127 | 94 | 97 | 70 | 39 | 44 | 240 | 478 | 282 | 37 |
| 9 | 30 | 42 | 124 | 93 | 95 | 73 | 28 | 44 | 255 | 562 | 281 | 37 |
| 10 | 30 | 37 | 127 | 91 | 97 | 70 | 17 | 45 | 304 | 562 | 276 | 37 |
| 11 | 30 | 92 | 127 | 91 | 97 | 45 | 23 | 44 | 270 | 554 | 268 | 39 |
| 12 | 30 | 51 | 127 | 91 | 97 | 21 | 39 | 61 | 240 | 538 | 298 | 47 |
| 13 | 47 | 23 | 127 | 91 | 97 | 15 | 44 | 94 | 225 | 538 | 282 | 52 |
| 14 | 49 | 25 | 127 | 91 | 97 | 16 | 41 | 115 | 210 | 533 | 276 | 61 |
| 15 | 47 | 23 | 125 | 91 | 97 | 18 | 41 | 124 | 216 | 538 | 276 | 54 |
| 16 | 36 | 36 | 127 | 93 | 97 | 20 | 41 | 124 | 220 | 546 | 287 | 47 |
| 17 | 33 | 78 | 127 | 94 | 97 | 18 | 41 | 150 | 220 | 538 | 314 | 47 |
| 18 | 33 | 85 | 127 | 94 | 94 | 16 | 43 | 150 | 225 | 420 | 318 | 44 |
| 19 | 31 | 69 | 127 | 94 | 91 | 18 | 45 | 150 | 240 | 320 | 298 | 41 |
| 20 | 30 | 166 | 127 | 96 | 94 | 26 | 45 | 112 | 220 | 309 | 294 | 39 |
| 21 | 36 | 230 | 127 | 94 | 96 | 23 | 47 | 94 | 230 | 298 | 304 | 39 |
| 22 | 30 | 142 | 106 | 94 | 97 | 22 | 44 | 91 | 250 | 292 | 304 | 39 |
| 23 | 28 | 68 | 97 | 94 | 97 | 20 | 39 | 85 | 292 | 292 | 303 | 37 |
| 24 | 30 | 76 | 97 | 94 | 85 | 19 | 37 | 103 | 420 | 287 | 298 | 37 |
| 25 | 32 | 89 | 97 | 94 | 68 | 18 | 37 | 124 | 482 | 282 | 301 | 37 |
| 26 | 30 | 100 | 97 | 94 | 68 | 19 | 39 | 138 | 492 | 287 | 292 | 36 |
| 27 | 30 | 98 | 97 | 96 | 68 | 19 | 41 | 156 | 492 | 287 | 299 | 36 |
| 28 | 28 | 97 | 97 | 96 | 73 | 20 | 42 | 170 | 485 | 292 | 309 | 36 |
| 29 | 30 | 97 | 93 | 94 | 70 | 15 | 43 | 192 | 470 | 291 | 304 | 36 |
| 30 | 34 | 97 | 88 | 94 | --- | 18 | 54 | 192 | 429 | 287 | 308 | 37 |
| 31 | 33 | --- | 91 | 94 | --- | 16 | --- | 146 | --- | 287 | 109 | --- |
| TOTAL | 1035 | 2077 | 3616 | 2900 | 2603 | 1128 | 1076 | 3081 | 8513 | 12316 | 8841 | 1239 |
| MEAN | 33.4 | 69.2 | 117 | 93.5 | 89.8 | 36.4 | 35.9 | 99.4 | 284 | 397 | 285 | 41.3 |
| MAX | 49 | 230 | 130 | 96 | 97 | 73 | 54 | 192 | 492 | 562 | 318 | 61 |
| MIN | 28 | 23 | 88 | 91 | 68 | 15 | 15 | 42 | 130 | 282 | 109 | 36 |
| AC-FT | 2050 | 4120 | 7170 | 5750 | 5160 | 2240 | 2130 | 6110 | 16890 | 24430 | 17540 | 2460 |
| CAL YR 1987 | TOTAL 37307 | | MEAN 102 | MAX 475 | MIN 18 | AC-FT 74000 | | | | | | |
| WTR YR 1988 | TOTAL 48425 | | MEAN 132 | MAX 562 | MIN 15 | AC-FT 96050 | | | | | | |

PLATTE RIVER BASIN

06708750 EAST PLUM CREEK AT CASTLE ROCK, CO.

LOCATION.--Lat 39°23'04", long 104°51'42", in SE¼NW¼ Sec.2, T.8 S., R.67 W., Douglas County, Hydrologic Unit 10190002, on right bank, 1,600 ft upstream from unnamed tributary, at Castle Rock.

DRAINAGE AREA.--102 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 6,120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 29 to Jan. 18, and Jan. 20 to Feb. 16. Records poor. Minor diversions upstream from station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 453 ft³/s, Sept. 11, 1985, gage height, 7.85 ft; minimum daily, 0.50 ft³/s, Aug. 19-22, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| Oct. 30 | 1630 | 73 | 4.79 | June 22 | 2010 | 70 | 4.75 |
| May 21 | 0330 | 198 | 5.86 | Aug. 4 | 0200 | *292 | *6.43 |
| June 13 | 1500 | 61 | 4.64 | | | | |

Minimum daily discharge, 1.6 ft³/s, Sept. 9, 10.

REVISIONS.--The maximum discharge for water year 1986 has been revised to, 75 ft³/s, Aug 21, 1986, gage height, 4.93 ft, this figure supersedes that published in the report for 1986.

MAXIMUM DISCHARGES FOR PERIOD OF RECORD.--Maximum discharges greater than base discharge of 60 ft³/s, for August 1985 to September 1987 are shown in the following table:

| Year | Date | Discharge (ft ³ /s) | Gage Height (ft) |
|---------------------|----------|-----------------------------------|---------------------|
| 1985 (partial year) | Sept. 1 | 133 | 5.37 |
| | Sept. 11 | *453 | *7.85 |
| 1986 | July 20 | 67 | 4.72 |
| | July 22 | 68 | 4.73 |
| | Aug. 21 | *75 | *4.93 |
| | | | |
| 1987 | May 6 | 357 | 6.77 |
| | May 14 | *392 | *6.94 |
| | May 20 | 207 | 5.92 |
| | June 9 | 179 | 5.73 |
| | July 3 | 181 | 5.74 |
| | July 7 | 160 | 5.59 |
| | Aug. 22 | 151 | 5.52 |
| | Aug. 26 | 219 | 6.00 |
| | Aug. 27 | 111 | 5.18 |
| | | | |

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DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-------|-----------|---------|---------|-------------|------|------|------|-------|-------|------|
| 1 | 4.0 | 10 | 3.5 | 4.5 | 6.0 | 44 | 21 | 26 | 59 | 12 | 2.5 | 2.8 |
| 2 | 3.8 | 7.8 | 3.5 | 4.6 | 5.8 | 35 | 30 | 37 | 49 | 11 | 2.6 | 2.9 |
| 3 | 3.5 | 7.5 | 3.5 | 4.7 | 6.3 | 27 | 39 | 37 | 42 | 8.5 | 18 | 2.6 |
| 4 | 3.2 | 7.0 | 3.5 | 4.9 | 6.4 | 25 | 50 | 51 | 40 | 8.7 | 66 | 2.4 |
| 5 | 3.9 | 7.1 | 3.2 | 5.1 | 6.4 | 22 | 38 | 44 | 35 | 9.7 | 15 | 2.4 |
| 6 | 3.9 | 7.6 | 3.1 | 5.3 | 6.4 | 25 | 30 | 39 | 29 | 8.6 | 8.5 | 2.1 |
| 7 | 4.2 | 8.3 | 3.0 | 5.5 | 10 | 27 | 31 | 36 | 23 | 8.1 | 7.8 | 2.0 |
| 8 | 4.3 | 7.9 | 3.0 | 5.6 | 9.0 | 18 | 37 | 33 | 21 | 8.8 | 8.2 | 1.9 |
| 9 | 4.4 | 6.3 | 3.0 | 5.8 | 9.8 | 17 | 38 | 32 | 26 | 8.9 | 7.7 | 1.6 |
| 10 | 4.5 | 6.7 | 3.0 | 5.9 | 10 | 22 | 39 | 34 | 31 | 11 | 7.6 | 1.6 |
| 11 | 5.1 | 6.4 | 3.0 | 6.0 | 8.2 | 19 | 37 | 32 | 23 | 9.6 | 6.7 | 2.4 |
| 12 | 4.6 | 6.9 | 3.0 | 6.0 | 9.6 | 16 | 35 | 31 | 26 | 8.7 | 6.8 | 11 |
| 13 | 8.0 | 7.2 | 3.0 | 6.0 | 12 | 14 | 36 | 26 | 28 | 7.7 | 5.8 | 3.5 |
| 14 | 12 | 6.7 | 3.0 | 6.0 | 13 | 14 | 38 | 26 | 24 | 6.1 | 4.0 | 4.3 |
| 15 | 8.8 | 8.8 | 3.0 | 6.0 | 12 | 17 | 38 | 25 | 41 | 6.5 | 3.3 | 4.3 |
| 16 | 7.8 | 11 | 3.0 | 5.4 | 14 | 14 | 41 | 24 | 35 | 6.8 | 4.6 | 3.8 |
| 17 | 7.7 | 9.1 | 3.0 | 4.9 | 18 | 12 | 48 | 24 | 26 | 5.5 | 5.8 | 3.1 |
| 18 | 7.3 | 9.0 | 3.0 | 4.5 | 18 | 13 | 49 | 25 | 23 | 5.8 | 6.1 | 2.7 |
| 19 | 6.7 | 9.2 | 3.0 | 4.4 | 22 | 14 | 52 | 65 | 19 | 8.8 | 4.4 | 2.6 |
| 20 | 6.6 | 10 | 3.0 | 4.3 | 18 | 20 | 51 | 125 | 17 | 8.9 | 3.6 | 2.5 |
| 21 | 5.6 | 9.0 | 3.0 | 4.5 | 22 | 36 | 50 | 152 | 18 | 6.5 | 5.3 | 2.6 |
| 22 | 4.9 | 9.3 | 3.1 | 4.6 | 23 | 40 | 56 | 123 | 22 | 4.6 | 6.1 | 2.8 |
| 23 | 4.7 | 9.2 | 3.1 | 4.7 | 18 | 36 | 48 | 89 | 17 | 3.3 | 7.0 | 3.1 |
| 24 | 5.6 | 8.4 | 3.2 | 4.8 | 19 | 33 | 43 | 94 | 15 | 3.4 | 4.9 | 2.9 |
| 25 | 6.8 | 8.3 | 3.3 | 4.9 | 24 | 23 | 37 | 118 | 15 | 3.0 | 3.7 | 2.9 |
| 26 | 6.4 | 8.7 | 3.4 | 5.1 | 28 | 24 | 31 | 118 | 15 | 4.0 | 3.5 | 2.7 |
| 27 | 6.0 | 8.1 | 3.5 | 5.1 | 35 | 23 | 25 | 108 | 12 | 3.9 | 3.0 | 2.7 |
| 28 | 6.1 | 3.9 | 3.7 | 5.3 | 34 | 26 | 23 | 93 | 12 | 3.8 | 3.1 | 2.7 |
| 29 | 6.3 | 3.7 | 3.9 | 5.8 | 36 | 22 | 23 | 87 | 12 | 4.0 | 3.2 | 2.9 |
| 30 | 20 | 3.5 | 4.1 | 6.0 | --- | 22 | 23 | 74 | 14 | 3.9 | 2.9 | 3.1 |
| 31 | 16 | --- | 4.3 | 6.4 | --- | 18 | --- | 65 | --- | 3.4 | 2.7 | --- |
| TOTAL | 202.7 | 232.6 | 100.9 | 162.6 | 459.9 | 718 | 1137 | 1893 | 769 | 213.5 | 240.4 | 90.9 |
| MEAN | 6.54 | 7.75 | 3.25 | 5.25 | 15.9 | 23.2 | 37.9 | 61.1 | 25.6 | 6.89 | 7.75 | 3.03 |
| MAX | 20 | 11 | 4.3 | 6.4 | 36 | 44 | 56 | 152 | 59 | 12 | 66 | 11 |
| MIN | 3.2 | 3.5 | 3.0 | 4.3 | 5.8 | 12 | 21 | 24 | 12 | 3.0 | 2.5 | 1.6 |
| AC-FT | 402 | 461 | 200 | 323 | 912 | 1420 | 2260 | 3750 | 1530 | 423 | 477 | 180 |
| CAL YR 1987 | TOTAL 7851.6 | | MEAN 21.5 | MAX 227 | MIN 1.5 | AC-FT 15570 | | | | | | |
| WTR YR 1988 | TOTAL 6220.5 | | MEAN 17.0 | MAX 152 | MIN 1.6 | AC-FT 12340 | | | | | | |

PLATTE RIVER BASIN

06709500 PLUM CREEK NEAR LOUVIERS, CO

LOCATION.--Lat 39°29'04", long 105°00'07", in SE¼ sec.33, T.6 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on downstream side of bridge on county road from U.S. Highway 85 to Louviers, 0.8 mi northeast of Louviers, 1.2 mi downstream from Indian Creek, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--302 mi².

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1730: 1958, drainage area at site 2.5 mi downstream. WSP 1918: 1957 (M).

GAGE.--Water-stage recorder. Elevation of gage is 5,585 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Feb. 12, 1957, at site 2.5 mi downstream, and Nov. 7, 1965, to Aug. 6, 1966, at site 2.2 mi downstream at different datums. Feb. 12, 1957, to Nov. 6, 1965, at present site at about present datum. Low-flow records are not equivalent with station 06709530 Plum Creek at Titan Road near Louviers, located at former site, because of possible undetermined losses between sites.

REMARKS.--Estimated daily discharges: Oct. 15 to Nov. 2, Nov. 26 to Feb. 16, Feb. 18, 25-28, Apr. 18 to May 4, and Aug. 5-12. Records poor. Diversions upstream from station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--41 years, 35.3 ft³/s; 25,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 154,000 ft³/s, June 16, 1965, gage height, 22.4 ft, from floodmarks, by slope-area measurement of peak flow; no flow at times in 1951-52, 1956-60, 1963-64.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharges of 220 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|--------|------|-----------------------------------|---------------------|
| Apr. 16 | 1600 | 234 | 2.63 | May 27 | 1530 | *385 | *2.83 |

Minimum daily discharge, 2.2 ft³/s, Sept. 9.

REVISIONS.--Revised figures of discharge for the water year 1987, superseding those published in the report for 1987 are given below.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|----------------|-----------|----------|---------|-------------|------|------|-------|------|-------|--------|------|
| 1 | 4.5 | 29 | 4.9 | 15 | 26 | 16 | 20 | 314 | 125 | 82 | 5.8 | 23 |
| 2 | 5.1 | 20 | 12 | 13 | 46 | 32 | 20 | 292 | 130 | 51 | 5.7 | 15 |
| 3 | 11 | 13 | 10 | 11 | 31 | 42 | 24 | 401 | 134 | 90 | 5.7 | 14 |
| 4 | 27 | 12 | 18 | 11 | 19 | 44 | 25 | 427 | 130 | 31 | 5.7 | 12 |
| 5 | 36 | 9.1 | 25 | 11 | 20 | 42 | 32 | 427 | 139 | 30 | 5.7 | 20 |
| 6 | 38 | 8.5 | 21 | 11 | 18 | 54 | 32 | 836 | 97 | 28 | 4.9 | 25 |
| 7 | 42 | 9.5 | 23 | 11 | 20 | 72 | 36 | 1220 | 112 | 29 | 4.1 | 23 |
| 8 | 36 | 9.1 | 20 | 9.8 | 19 | 63 | 43 | 1100 | 82 | 42 | 6.6 | 28 |
| 9 | 34 | 7.0 | 21 | 4.9 | 16 | 103 | 43 | 962 | 186 | 31 | 34 | 20 |
| 10 | 30 | 9.8 | 21 | 6.2 | 14 | 112 | 44 | 810 | 125 | 11 | 29 | 15 |
| 11 | 46 | 11 | 21 | 6.2 | 17 | 101 | 52 | 726 | 96 | 13 | 8.0 | 14 |
| 12 | 34 | 9.5 | 21 | 7.2 | 27 | 106 | 59 | 683 | 104 | 30 | 5.7 | 17 |
| 13 | 13 | 7.3 | 21 | 7.0 | 27 | 86 | 65 | 599 | 101 | 61 | 5.7 | 14 |
| 14 | 13 | 11 | 20 | 7.2 | 33 | 91 | 53 | 588 | 55 | 40 | 7.8 | 16 |
| 15 | 10 | 9.5 | 20 | 6.7 | 25 | 72 | 76 | 510 | 59 | 42 | 5.7 | 25 |
| 16 | 7.7 | 7.3 | 20 | 6.7 | 20 | 54 | 117 | 445 | 45 | 63 | 2.7 | 19 |
| 17 | 6.5 | 11 | 20 | 7.2 | 13 | 42 | 96 | 419 | 44 | 44 | 1.2 | 18 |
| 18 | 5.5 | 16 | 20 | 7.4 | 21 | 19 | 112 | 402 | 45 | 28 | 1.6 | 20 |
| 19 | 7.0 | 17 | 20 | 6.8 | 11 | 14 | 106 | 327 | 40 | 29 | 1.3 | 12 |
| 20 | 9.8 | 12 | 20 | 6.4 | 13 | 18 | 206 | 350 | 54 | 26 | .82 | 13 |
| 21 | 8.2 | 9.5 | 20 | 8.0 | 14 | 17 | 207 | 360 | 59 | 21 | .92 | 14 |
| 22 | 6.5 | 14 | 20 | 9.1 | 15 | 16 | 188 | 350 | 63 | 22 | 71 | 15 |
| 23 | 6.4 | 16 | 20 | 8.2 | 22 | 16 | 220 | 320 | 47 | 29 | 98 | 15 |
| 24 | 8.1 | 16 | 20 | 7.0 | 27 | 18 | 214 | 290 | 51 | 17 | 42 | 17 |
| 25 | 8.8 | 15 | 20 | 6.5 | 20 | 20 | 234 | 295 | 31 | 18 | 26 | 15 |
| 26 | 8.5 | 10 | 20 | 6.2 | 12 | 20 | 262 | 260 | 35 | 13 | 61 | 14 |
| 27 | 9.8 | 5.6 | 20 | 7.0 | 13 | 18 | 277 | 230 | 40 | 13 | 93 | 14 |
| 28 | 9.8 | 5.5 | 20 | 22 | 18 | 16 | 314 | 200 | 26 | 13 | 43 | 14 |
| 29 | 9.5 | 5.3 | 20 | 21 | --- | 16 | 285 | 170 | 82 | 16 | 37 | 13 |
| 30 | 8.2 | 2.9 | 20 | 22 | --- | 18 | 314 | 160 | 123 | 9.7 | 33 | 14 |
| 31 | 8.8 | --- | 18 | 21 | --- | 20 | --- | 150 | --- | 9.1 | 27 | --- |
| TOTAL | 508.7 | 338.4 | 596.9 | 310.7 | 577 | 1378 | 3776 | 14623 | 2460 | 981.8 | 679.64 | 508 |
| MEAN | 16.4 | 11.3 | 19.3 | 10.0 | 20.6 | 44.5 | 126 | 472 | 82.0 | 31.7 | 21.9 | 16.9 |
| MAX | 46 | 29 | 25 | 22 | 46 | 112 | 314 | 1220 | 186 | 90 | 98 | 28 |
| MIN | 4.5 | 2.9 | 4.9 | 4.9 | 11 | 14 | 20 | 150 | 26 | 9.1 | .82 | 12 |
| AC-FT | 1010 | 671 | 1180 | 616 | 1140 | 2730 | 7490 | 29000 | 4880 | 1950 | 1350 | 1010 |
| CAL YR 1986 | TOTAL 7736.96 | MEAN 21.2 | MAX 115 | MIN .22 | AC-FT 15350 | | | | | | | |
| WTR YR 1987 | TOTAL 26738.14 | MEAN 73.3 | MAX 1220 | MIN .82 | AC-FT 53040 | | | | | | | |

PLATTE RIVER BASIN

45

06709500 PLUM CREEK NEAR LOUVIERS, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|-------|------|------|------|------|-------|-------|-------|-------|-------|
| 1 | 15 | 28 | 21 | 16 | 17 | 91 | 57 | 110 | 207 | 53 | 5.1 | 4.1 |
| 2 | 16 | 24 | 22 | 17 | 20 | 72 | 67 | 110 | 176 | 50 | 4.3 | 6.9 |
| 3 | 14 | 31 | 25 | 19 | 21 | 45 | 84 | 105 | 112 | 59 | 4.0 | 11 |
| 4 | 12 | 36 | 28 | 20 | 21 | 65 | 93 | 150 | 96 | 57 | 52 | 11 |
| 5 | 11 | 36 | 30 | 19 | 20 | 45 | 94 | 126 | 139 | 50 | 12 | 7.6 |
| 6 | 14 | 29 | 22 | 17 | 24 | 63 | 82 | 134 | 77 | 41 | 11 | 4.9 |
| 7 | 18 | 21 | 24 | 18 | 30 | 55 | 84 | 102 | 93 | 41 | 12 | 3.7 |
| 8 | 16 | 38 | 21 | 20 | 29 | 53 | 106 | 94 | 82 | 50 | 13 | 3.5 |
| 9 | 16 | 26 | 17 | 22 | 34 | 59 | 114 | 122 | 96 | 53 | 11 | 2.2 |
| 10 | 22 | 27 | 15 | 24 | 31 | 45 | 134 | 145 | 114 | 57 | 10 | 2.3 |
| 11 | 20 | 38 | 13 | 25 | 29 | 61 | 128 | 160 | 66 | 45 | 11 | 2.8 |
| 12 | 14 | 28 | 12 | 21 | 33 | 51 | 145 | 128 | 86 | 42 | 13 | 20 |
| 13 | 15 | 27 | 11 | 16 | 38 | 48 | 128 | 139 | 125 | 31 | 14 | 36 |
| 14 | 23 | 21 | 9.8 | 18 | 34 | 65 | 91 | 131 | 101 | 15 | 12 | 33 |
| 15 | 20 | 26 | 12 | 19 | 44 | 43 | 133 | 151 | 111 | 13 | 11 | 18 |
| 16 | 17 | 34 | 15 | 17 | 48 | 44 | 163 | 94 | 99 | 11 | 9.5 | 16 |
| 17 | 17 | 29 | 18 | 13 | 37 | 41 | 188 | 81 | 112 | 8.5 | 11 | 8.5 |
| 18 | 16 | 27 | 17 | 14 | 35 | 24 | 188 | 48 | 101 | 6.7 | 10 | 6.0 |
| 19 | 15 | 18 | 15 | 12 | 33 | 72 | 160 | 110 | 75 | 17 | 9.8 | 4.9 |
| 20 | 15 | 27 | 14 | 10 | 44 | 74 | 125 | 262 | 77 | 20 | 7.6 | 5.1 |
| 21 | 14 | 23 | 16 | 11 | 86 | 93 | 110 | 248 | 55 | 9.2 | 7.8 | 5.3 |
| 22 | 13 | 26 | 18 | 12 | 91 | 91 | 84 | 214 | 41 | 6.2 | 8.4 | 5.9 |
| 23 | 13 | 27 | 19 | 15 | 77 | 91 | 60 | 188 | 37 | 5.1 | 9.1 | 6.4 |
| 24 | 15 | 25 | 15 | 14 | 72 | 96 | 70 | 227 | 45 | 4.9 | 9.8 | 6.0 |
| 25 | 17 | 26 | 13 | 13 | 70 | 75 | 86 | 306 | 45 | 4.9 | 7.0 | 6.4 |
| 26 | 16 | 25 | 11 | 17 | 69 | 77 | 110 | 337 | 53 | 4.9 | 4.5 | 5.3 |
| 27 | 16 | 22 | 13 | 16 | 66 | 77 | 110 | 345 | 48 | 5.7 | 3.0 | 5.5 |
| 28 | 16 | 21 | 16 | 18 | 63 | 86 | 110 | 307 | 33 | 6.0 | 5.1 | 6.2 |
| 29 | 16 | 22 | 20 | 23 | 63 | 72 | 110 | 292 | 41 | 6.7 | 7.8 | 7.5 |
| 30 | 22 | 22 | 19 | 21 | --- | 91 | 110 | 256 | 45 | 6.7 | 5.3 | 11 |
| 31 | 34 | --- | 18 | 19 | --- | 89 | --- | 208 | --- | 6.7 | 4.3 | --- |
| TOTAL | 518 | 810 | 539.8 | 536 | 1279 | 2054 | 3324 | 5430 | 2588 | 787.2 | 315.4 | 273.0 |
| MEAN | 16.7 | 27.0 | 17.4 | 17.3 | 44.1 | 66.3 | 111 | 175 | 86.3 | 25.4 | 10.2 | 9.10 |
| MAX | 34 | 38 | 30 | 25 | 91 | 96 | 188 | 345 | 207 | 59 | 52 | 36 |
| MIN | 11 | 18 | 9.8 | 10 | 17 | 24 | 57 | 48 | 33 | 4.9 | 3.0 | 2.2 |
| AC-FT | 1030 | 1610 | 1070 | 1060 | 2540 | 4070 | 6590 | 10770 | 5130 | 1560 | 626 | 541 |
| CAL YR 1987 | TOTAL | 27161.94 | MEAN | 74.4 | MAX | 1220 | MIN | .82 | AC-FT | 53880 | | |
| WTR YR 1988 | TOTAL | 18454.4 | MEAN | 50.4 | MAX | 345 | MIN | 2.2 | AC-FT | 36600 | | |

PLATTE RIVER BASIN

06709530 PLUM CREEK AT TITAN ROAD NEAR LOUVIERS, CO.

LOCATION.--Lat 39°30'27", long 105°01'26", on line between sec.20 and sec.29, T.6 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on 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. Low-flow records are not be equivalent with station 06709500 Plum Creek near Louviers because of possible undetermined channel losses between sites.

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

GAGE.--Water-stage recorder. Elevation of gage is 5,520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 14-29, Nov. 14 to Feb. 20, 22-23, 25-28, and Mar. 16-19. Records poor due to unstable channel conditions. Diversions upstream from station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 2,300 ft³/s, May 15, 1984, gage height, 7.00 ft; maximum gage-height, 7.52 ft, Dec. 25, 1985 (backwater from ice); minimum daily discharge, 0.13 ft³/s, Aug. 31, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage Height (ft) |
|---------|------|-----------------------------------|---------------------|--------|------|-----------------------------------|---------------------|
| Mar. 31 | 1530 | 237 | 6.37 | May 19 | 2230 | 438 | 6.62 |
| Apr. 11 | 0200 | 279 | 6.24 | May 25 | 1415 | *498 | 6.73 |
| Apr. 18 | 0600 | 220 | 6.23 | May 31 | 1400 | 300 | 6.67 |
| May 10 | 1600 | 248 | 6.41 | June 9 | 2400 | 227 | 6.73 |
| | | | | Aug. 4 | 0645 | 344 | *7.41 |

Minimum daily discharge, 2.0 ft³/s, Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-------|------|------|------|------|------|------|-------|-------|-------|
| 1 | 8.6 | 28 | 21 | 16 | 17 | 73 | 89 | 121 | 151 | 49 | 6.8 | 6.0 |
| 2 | 8.8 | 24 | 22 | 17 | 20 | 62 | 77 | 119 | 129 | 39 | 5.5 | 6.5 |
| 3 | 10 | 21 | 25 | 19 | 21 | 57 | 66 | 83 | 154 | 39 | 4.9 | 7.0 |
| 4 | 8.6 | 21 | 28 | 20 | 21 | 49 | 81 | 137 | 135 | 39 | 7.4 | 7.5 |
| 5 | 7.6 | 22 | 30 | 19 | 20 | 49 | 90 | 140 | 93 | 46 | 12 | 8.1 |
| 6 | 7.0 | 19 | 22 | 17 | 24 | 49 | 85 | 124 | 87 | 46 | 8.6 | 7.0 |
| 7 | 8.6 | 19 | 24 | 18 | 30 | 55 | 89 | 119 | 74 | 52 | 8.1 | 5.5 |
| 8 | 8.6 | 33 | 21 | 20 | 29 | 49 | 105 | 137 | 51 | 54 | 12 | 4.4 |
| 9 | 11 | 34 | 17 | 22 | 34 | 46 | 140 | 129 | 73 | 52 | 8.6 | 2.4 |
| 10 | 11 | 36 | 15 | 24 | 31 | 57 | 124 | 171 | 129 | 59 | 8.1 | 2.0 |
| 11 | 13 | 36 | 13 | 25 | 29 | 52 | 109 | 145 | 87 | 45 | 8.6 | 3.1 |
| 12 | 13 | 33 | 12 | 21 | 33 | 66 | 163 | 111 | 81 | 34 | 10 | 15 |
| 13 | 15 | 19 | 11 | 16 | 38 | 66 | 193 | 129 | 87 | 28 | 7.1 | 12 |
| 14 | 23 | 21 | 9.8 | 18 | 34 | 85 | 164 | 113 | 90 | 49 | 4.4 | 14 |
| 15 | 20 | 23 | 12 | 19 | 44 | 47 | 111 | 98 | 108 | 13 | 2.4 | 14 |
| 16 | 17 | 25 | 15 | 17 | 48 | 52 | 124 | 108 | 113 | 11 | 2.8 | 10 |
| 17 | 17 | 26 | 18 | 13 | 37 | 45 | 98 | 132 | 68 | 9.6 | 5.4 | 8.6 |
| 18 | 16 | 22 | 17 | 14 | 35 | 30 | 150 | 137 | 58 | 7.3 | 7.5 | 8.1 |
| 19 | 15 | 18 | 15 | 12 | 33 | 70 | 121 | 247 | 59 | 10 | 6.0 | 5.0 |
| 20 | 15 | 23 | 14 | 10 | 44 | 60 | 119 | 274 | 45 | 12 | 4.2 | 4.4 |
| 21 | 14 | 23 | 16 | 11 | 83 | 69 | 80 | 202 | 45 | 7.1 | 4.2 | 4.9 |
| 22 | 13 | 24 | 18 | 12 | 90 | 60 | 108 | 133 | 55 | 6.5 | 7.2 | 6.0 |
| 23 | 13 | 27 | 19 | 15 | 76 | 59 | 60 | 140 | 47 | 4.7 | 5.7 | 5.6 |
| 24 | 15 | 24 | 15 | 14 | 57 | 85 | 61 | 208 | 43 | 4.9 | 5.2 | 5.5 |
| 25 | 17 | 25 | 13 | 13 | 68 | 49 | 75 | 325 | 53 | 5.2 | 4.2 | 4.9 |
| 26 | 16 | 25 | 11 | 17 | 67 | 54 | 123 | 294 | 53 | 6.0 | 4.2 | 4.2 |
| 27 | 16 | 22 | 13 | 16 | 64 | 54 | 121 | 220 | 45 | 7.5 | 3.1 | 4.4 |
| 28 | 16 | 21 | 16 | 18 | 60 | 59 | 91 | 151 | 41 | 8.1 | 3.7 | 4.9 |
| 29 | 16 | 22 | 20 | 23 | 52 | 115 | 108 | 132 | 41 | 10 | 4.9 | 4.2 |
| 30 | 22 | 22 | 19 | 21 | --- | 108 | 121 | 134 | 53 | 10 | 6.0 | 4.9 |
| 31 | 34 | --- | 18 | 19 | --- | 93 | --- | 189 | --- | 10 | 6.0 | --- |
| TOTAL | 445.8 | 738 | 539.8 | 536 | 1239 | 1924 | 3246 | 4902 | 2348 | 743.9 | 261.4 | 200.1 |
| MEAN | 14.4 | 24.6 | 17.4 | 17.3 | 42.7 | 62.1 | 108 | 158 | 78.3 | 24.0 | 8.43 | 6.67 |
| MAX | 34 | 36 | 30 | 25 | 90 | 115 | 193 | 325 | 154 | 59 | 7.4 | 15 |
| MIN | 7.0 | 18 | 9.8 | 10 | 17 | 30 | 60 | 83 | 41 | 4.7 | 2.4 | 2.0 |
| AC-FT | 884 | 1460 | 1070 | 1060 | 2460 | 3820 | 6440 | 9720 | 4660 | 1480 | 518 | 397 |

CAL YR 1987 TOTAL 25378.60 MEAN 69.5 MAX 1290 MIN .16 AC-FT 50340
WTR YR 1988 TOTAL 17124.0 MEAN 46.8 MAX 325 MIN 2.0 AC-FT 33970

PLATTE RIVER BASIN

47

06709600 CHATFIELD LAKE NEAR LITTLETON, CO

LOCATION.--Lat 39°33'26", long 105°03'27", in NW¼SE¼ 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; no contents prior to May 29, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,500 acre-ft, Feb. 16, elevation, 5,432.93 ft; minimum, 18,100 acre-ft, Nov. 2, elevation, 5,424.09 ft.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| Date | Elevation | Contents (acre-feet) | Change in contents (acre-feet) |
|-----------------------|-----------|-------------------------|-----------------------------------|
| Sept. 30. | 5,428.14 | 22,940 | - |
| Oct. 31. | 5,425.12 | 19,260 | -3,680 |
| Nov. 30. | 5,426.57 | 20,980 | +1,720 |
| Dec. 31. | 5,429.66 | 24,930 | +3,950 |
| CAL YR 1987. | - | - | +3,060 |
| Jan. 31. | 5,432.09 | 28,280 | +3,350 |
| Feb. 29. | 5,432.69 | 29,150 | +870 |
| Mar. 31. | 5,432.59 | 29,000 | -150 |
| Apr. 30. | 5,432.45 | 28,800 | -200 |
| May 31. | 5,432.53 | 28,920 | +120 |
| June 30. | 5,430.11 | 25,530 | -3,390 |
| July 31. | 5,428.61 | 23,550 | -1,980 |
| Aug. 31. | 5,427.03 | 21,540 | -2,010 |
| Sept. 30. | 5,428.52 | 22,150 | +610 |
| WTR YR 1988 | - | - | -790 |

06710385 BEAR CREEK ABOVE EVERGREEN, CO

LOCATION.--Lat 39°37'58", long 105°19'59", in SE¼NE¼ Sec.9, T.5 S., R.71 W., Jefferson County, Hydrologic Unit 10190002, on right bank 0.6 mi upstream of 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. 1-7, Nov. 26 to Apr. 2. Records good except for estimated daily discharges and backwater from beaver dam, Sept. 5-12, which are poor. Natural flow of stream affected by small diversions for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 388 ft³/s, Aug. 26, 1984, gage height 3.80 ft, site then in use; minimum daily, 12 ft³/s, Feb. 17 to Mar. 3, 1987, Feb. 28 to Mar. 21, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 193 ft³/s at 0800 Nov. 15, gage height, 3.53 ft; maximum gage height, 3.73 ft. Mar. 31 (backwater from ice); minimum daily discharge, 12 ft³/s, Feb. 28 to Mar. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|---------|--------|-------------|------|------|------|------|------|------|------|
| 1 | 25 | 31 | 20 | 16 | 16 | 12 | 21 | 68 | 104 | 86 | 38 | 26 |
| 2 | 25 | 30 | 19 | 16 | 16 | 12 | 22 | 62 | 99 | 79 | 37 | 28 |
| 3 | 24 | 27 | 18 | 16 | 15 | 12 | 23 | 56 | 102 | 77 | 38 | 31 |
| 4 | 24 | 25 | 18 | 16 | 15 | 12 | 26 | 54 | 108 | 74 | 49 | 34 |
| 5 | 23 | 26 | 17 | 16 | 15 | 12 | 28 | 55 | 112 | 73 | 41 | 39 |
| 6 | 23 | 26 | 17 | 16 | 15 | 12 | 28 | 59 | 101 | 72 | 52 | 36 |
| 7 | 23 | 26 | 16 | 16 | 15 | 12 | 34 | 53 | 98 | 82 | 52 | 32 |
| 8 | 24 | 24 | 16 | 16 | 15 | 12 | 36 | 48 | 94 | 81 | 46 | 33 |
| 9 | 25 | 17 | 16 | 16 | 15 | 12 | 31 | 49 | 97 | 75 | 38 | 52 |
| 10 | 27 | 21 | 16 | 16 | 15 | 12 | 30 | 52 | 116 | 72 | 35 | 75 |
| 11 | 28 | 24 | 16 | 16 | 14 | 12 | 31 | 48 | 104 | 70 | 32 | 98 |
| 12 | 28 | 20 | 16 | 16 | 14 | 12 | 33 | 52 | 100 | 63 | 31 | 70 |
| 13 | 30 | 23 | 16 | 16 | 14 | 12 | 39 | 60 | 96 | 60 | 30 | 34 |
| 14 | 41 | 26 | 16 | 16 | 14 | 12 | 41 | 70 | 89 | 64 | 27 | 46 |
| 15 | 38 | 146 | 16 | 16 | 14 | 12 | 39 | 64 | 100 | 60 | 24 | 37 |
| 16 | 36 | 141 | 16 | 16 | 14 | 12 | 41 | 68 | 92 | 56 | 29 | 32 |
| 17 | 32 | 114 | 16 | 16 | 14 | 12 | 49 | 67 | 87 | 54 | 46 | 30 |
| 18 | 31 | 84 | 16 | 16 | 14 | 12 | 56 | 70 | 87 | 51 | 46 | 27 |
| 19 | 30 | 75 | 16 | 16 | 13 | 12 | 63 | 125 | 99 | 53 | 32 | 24 |
| 20 | 28 | 56 | 16 | 16 | 13 | 12 | 63 | 105 | 89 | 56 | 27 | 24 |
| 21 | 27 | 45 | 16 | 16 | 13 | 12 | 66 | 98 | 87 | 50 | 25 | 26 |
| 22 | 28 | 43 | 16 | 16 | 13 | 13 | 72 | 97 | 97 | 44 | 27 | 29 |
| 23 | 28 | 36 | 16 | 16 | 13 | 14 | 63 | 95 | 92 | 42 | 24 | 29 |
| 24 | 28 | 34 | 16 | 16 | 13 | 15 | 60 | 105 | 99 | 41 | 22 | 28 |
| 25 | 28 | 31 | 16 | 16 | 13 | 15 | 55 | 116 | 99 | 39 | 21 | 27 |
| 26 | 27 | 29 | 16 | 16 | 13 | 16 | 55 | 125 | 115 | 39 | 28 | 25 |
| 27 | 26 | 27 | 16 | 16 | 13 | 17 | 53 | 132 | 98 | 39 | 28 | 24 |
| 28 | 25 | 25 | 16 | 16 | 12 | 17 | 55 | 124 | 129 | 41 | 28 | 25 |
| 29 | 26 | 23 | 16 | 16 | 12 | 18 | 54 | 127 | 110 | 44 | 27 | 25 |
| 30 | 31 | 21 | 16 | 16 | --- | 19 | 60 | 128 | 95 | 46 | 27 | 24 |
| 31 | 35 | --- | 16 | 16 | --- | 20 | --- | 112 | --- | 39 | 26 | --- |
| TOTAL | 874 | 1276 | 509 | 496 | 405 | 416 | 1327 | 2544 | 2995 | 1822 | 1033 | 1070 |
| MEAN | 28.2 | 42.5 | 16.4 | 16.0 | 14.0 | 13.4 | 44.2 | 82.1 | 99.8 | 58.8 | 33.3 | 35.7 |
| MAX | 41 | 146 | 20 | 16 | 16 | 20 | 72 | 132 | 129 | 86 | 52 | 98 |
| MIN | 23 | 17 | 16 | 16 | 12 | 12 | 21 | 48 | 87 | 39 | 21 | 24 |
| AC-FT | 1730 | 2530 | 1010 | 984 | 803 | 825 | 2630 | 5050 | 5940 | 3610 | 2050 | 2120 |
| CAL YR 1987 | TOTAL 22861 | MEAN 62.6 | MAX 276 | MIN 12 | AC-FT 45340 | | | | | | | |
| WTR YR 1988 | TOTAL 14767 | MEAN 40.3 | MAX 146 | MIN 12 | AC-FT 29290 | | | | | | | |

PLATTE RIVER BASIN

06710500 BEAR CREEK AT MORRISON, CO

49

LOCATION.--Lat 39°39'11", long 105°11'43", in SE¼SW¼ 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. 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: Nov. 28 to Dec. 2, 9-11, Dec. 13 to Jan. 10, 19-25, Jan. 28 to Feb. 2, Feb. 4-7, 11, 18-19, Mar. 18-19, Sept. 13, 16-20, and Sept. 24-26. Records good except for estimated daily discharges, which are fair. Small diversions for irrigation of about 1,000 acres upstream from station. Several observations of 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.

AVERAGE DISCHARGE.--73 years (water years 1891, 1897, 1899, 1901, 1920-88), 54.1 ft³/s; 39,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,600 ft³/s, estimated, July 24, 1896; minimum daily, 0.8 ft³/s, Nov. 26, 1939, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|--------------------------------|------------------|--------|------|--------------------------------|------------------|
| Dec. 17 | 2300 | --- | *5.37 | May 19 | 2100 | *253 | 5.22 |

Minimum daily, 17 ft³/s, Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 26 | 30 | 32 | 20 | 24 | 30 | 37 | 96 | 132 | 89 | 39 | 25 |
| 2 | 25 | 28 | 33 | 20 | 24 | 30 | 41 | 97 | 123 | 84 | 36 | 26 |
| 3 | 25 | 27 | 34 | 20 | 23 | 25 | 48 | 86 | 119 | 79 | 46 | 23 |
| 4 | 25 | 25 | 31 | 20 | 23 | 26 | 54 | 80 | 121 | 80 | 68 | 23 |
| 5 | 23 | 24 | 30 | 20 | 23 | 24 | 56 | 75 | 130 | 77 | 49 | 22 |
| 6 | 24 | 25 | 29 | 20 | 23 | 28 | 54 | 80 | 119 | 76 | 56 | 20 |
| 7 | 23 | 28 | 27 | 20 | 23 | 28 | 62 | 77 | 112 | 84 | 65 | 19 |
| 8 | 23 | 26 | 25 | 20 | 23 | 20 | 68 | 71 | 105 | 88 | 58 | 18 |
| 9 | 23 | 22 | 25 | 21 | 23 | 26 | 62 | 68 | 107 | 81 | 47 | 17 |
| 10 | 25 | 19 | 25 | 22 | 24 | 29 | 56 | 68 | 128 | 85 | 42 | 20 |
| 11 | 24 | 24 | 23 | 22 | 25 | 23 | 60 | 71 | 116 | 81 | 37 | 19 |
| 12 | 25 | 22 | 18 | 22 | 25 | 20 | 64 | 70 | 110 | 72 | 37 | 49 |
| 13 | 27 | 25 | 18 | 21 | 25 | 23 | 68 | 75 | 107 | 67 | 36 | 41 |
| 14 | 44 | 26 | 18 | 21 | 28 | 25 | 73 | 82 | 107 | 71 | 31 | 47 |
| 15 | 38 | 32 | 18 | 22 | 28 | 29 | 71 | 78 | 118 | 70 | 28 | 43 |
| 16 | 36 | 23 | 18 | 22 | 29 | 25 | 72 | 79 | 105 | 66 | 35 | 36 |
| 17 | 32 | 26 | 18 | 23 | 28 | 24 | 80 | 81 | 100 | 63 | 56 | 33 |
| 18 | 30 | 27 | 19 | 22 | 28 | 28 | 97 | 81 | 91 | 60 | 54 | 30 |
| 19 | 28 | 27 | 19 | 22 | 27 | 29 | 108 | 179 | 103 | 64 | 42 | 28 |
| 20 | 28 | 32 | 19 | 21 | 26 | 36 | 107 | 195 | 92 | 62 | 37 | 27 |
| 21 | 25 | 30 | 19 | 21 | 28 | 36 | 108 | 171 | 91 | 58 | 35 | 24 |
| 22 | 27 | 30 | 20 | 21 | 28 | 42 | 117 | 160 | 94 | 50 | 34 | 24 |
| 23 | 27 | 26 | 20 | 21 | 28 | 47 | 108 | 151 | 94 | 47 | 34 | 24 |
| 24 | 28 | 27 | 20 | 20 | 29 | 50 | 101 | 159 | 94 | 45 | 30 | 22 |
| 25 | 28 | 26 | 19 | 20 | 28 | 42 | 92 | 171 | 98 | 42 | 30 | 20 |
| 26 | 25 | 28 | 19 | 22 | 29 | 49 | 91 | 182 | 108 | 43 | 30 | 19 |
| 27 | 25 | 27 | 19 | 22 | 29 | 53 | 90 | 183 | 98 | 43 | 28 | 21 |
| 28 | 23 | 29 | 19 | 23 | 31 | 59 | 89 | 169 | 119 | 52 | 29 | 21 |
| 29 | 23 | 31 | 19 | 25 | 29 | 38 | 84 | 164 | 112 | 52 | 28 | 21 |
| 30 | 27 | 32 | 19 | 26 | --- | 42 | 88 | 162 | 100 | 53 | 27 | 21 |
| 31 | 36 | --- | 20 | 24 | --- | 35 | --- | 142 | --- | 45 | 25 | --- |
| TOTAL | 848 | 804 | 692 | 666 | 761 | 1021 | 2306 | 3603 | 3253 | 2029 | 1229 | 783 |
| MEAN | 27.4 | 26.8 | 22.3 | 21.5 | 26.2 | 32.9 | 76.9 | 116 | 108 | 65.5 | 39.6 | 26.1 |
| MAX | 44 | 32 | 34 | 26 | 31 | 59 | 117 | 195 | 132 | 89 | 68 | 49 |
| MIN | 23 | 19 | 18 | 20 | 23 | 20 | 37 | 68 | 91 | 42 | 25 | 17 |
| AC-FT | 1680 | 1590 | 1370 | 1320 | 1510 | 2030 | 4570 | 7150 | 6450 | 4020 | 2440 | 1550 |

CAL YR 1987 TOTAL 28882 MEAN 79.1 MAX 388 MIN 15 AC-FT 57290
WTR YR 1988 TOTAL 17995 MEAN 49.2 MAX 195 MIN 17 AC-FT 35690

PLATTE RIVER BASIN

06710605 BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO

LOCATION.--Lat 39°39'08", long 105°10'23", in NW¼NE¼ sec.1, T.5 S. R.70 W., Jefferson County, Hydrologic Unit 10190002, on 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.

REMARKS.--Estimated daily discharges: Nov. 10, Dec. 14 to Jan. 23, Feb. 1, 2, 4-6, 11, 18, Mar. 12-14, 17, 18. 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 603 ft³/s, May 17, 1987, gage height, 2.26 ft; minimum daily, 1.8 ft³/s, Aug. 4, 11, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 341 ft³/s at 2200 May 19, gage height, 1.91 ft; minimum daily, 2.9 ft³/s, Nov. 4, July 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| 1 | 6.4 | 29 | 27 | 18 | 21 | 28 | 30 | 100 | 151 | 11 | 5.3 | 11 |
| 2 | 5.6 | 32 | 31 | 18 | 20 | 29 | 36 | 96 | 137 | 7.9 | 4.4 | 12 |
| 3 | 4.2 | 7.4 | 32 | 18 | 20 | 24 | 42 | 83 | 134 | 8.2 | 3.6 | 11 |
| 4 | 4.7 | 2.9 | 31 | 18 | 20 | 24 | 50 | 80 | 147 | 13 | 60 | 9.2 |
| 5 | 3.4 | 4.7 | 31 | 18 | 21 | 23 | 50 | 78 | 157 | 17 | 35 | 6.8 |
| 6 | 6.0 | 5.8 | 30 | 18 | 22 | 26 | 50 | 83 | 134 | 16 | 44 | 6.6 |
| 7 | 4.8 | 8.2 | 28 | 18 | 22 | 26 | 53 | 73 | 100 | 25 | 55 | 6.6 |
| 8 | 4.8 | 5.6 | 27 | 19 | 19 | 20 | 57 | 67 | 49 | 30 | 53 | 8.1 |
| 9 | 5.1 | 4.4 | 22 | 19 | 20 | 29 | 49 | 66 | 38 | 23 | 29 | 6.6 |
| 10 | 5.6 | 4.4 | 33 | 19 | 19 | 34 | 43 | 67 | 52 | 21 | 24 | 7.5 |
| 11 | 5.0 | 6.3 | 31 | 19 | 20 | 23 | 46 | 69 | 43 | 15 | 21 | 7.7 |
| 12 | 4.3 | 3.4 | 21 | 19 | 20 | 24 | 50 | 67 | 42 | 7.5 | 19 | 44 |
| 13 | 14 | 8.4 | 18 | 19 | 22 | 26 | 58 | 67 | 39 | 7.2 | 19 | 30 |
| 14 | 29 | 6.8 | 14 | 19 | 21 | 31 | 62 | 81 | 31 | 7.5 | 15 | 40 |
| 15 | 29 | 13 | 14 | 19 | 22 | 26 | 61 | 73 | 45 | 6.3 | 9.7 | 30 |
| 16 | 29 | 5.2 | 14 | 19 | 22 | 23 | 63 | 79 | 32 | 3.3 | 15 | 24 |
| 17 | 31 | 5.8 | 15 | 19 | 20 | 22 | 83 | 75 | 28 | 3.2 | 40 | 20 |
| 18 | 27 | 4.8 | 15 | 19 | 21 | 25 | 101 | 69 | 25 | 3.4 | 36 | 17 |
| 19 | 24 | 7.3 | 15 | 19 | 21 | 28 | 116 | 231 | 36 | 6.2 | 22 | 15 |
| 20 | 22 | 12 | 16 | 19 | 21 | 31 | 109 | 284 | 22 | 5.4 | 18 | 14 |
| 21 | 21 | 11 | 16 | 19 | 23 | 32 | 112 | 239 | 21 | 4.2 | 14 | 13 |
| 22 | 22 | 8.7 | 16 | 19 | 23 | 35 | 131 | 208 | 21 | 4.1 | 15 | 13 |
| 23 | 23 | 21 | 17 | 19 | 20 | 39 | 112 | 195 | 22 | 4.1 | 17 | 13 |
| 24 | 23 | 28 | 17 | 19 | 20 | 41 | 100 | 200 | 23 | 3.9 | 14 | 14 |
| 25 | 26 | 29 | 17 | 19 | 22 | 36 | 87 | 216 | 26 | 2.9 | 14 | 13 |
| 26 | 23 | 31 | 17 | 19 | 23 | 40 | 83 | 216 | 35 | 3.2 | 15 | 12 |
| 27 | 23 | 29 | 17 | 19 | 25 | 45 | 81 | 225 | 30 | 3.1 | 15 | 12 |
| 28 | 21 | 26 | 17 | 22 | 28 | 50 | 83 | 208 | 38 | 7.6 | 15 | 11 |
| 29 | 23 | 26 | 17 | 24 | 27 | 32 | 85 | 199 | 32 | 8.6 | 12 | 8.1 |
| 30 | 37 | 26 | 17 | 26 | --- | 37 | 90 | 195 | 22 | 11 | 12 | 8.1 |
| 31 | 35 | --- | 17 | 23 | --- | 30 | --- | 168 | --- | 7.2 | 12 | --- |
| TOTAL | 541.9 | 413.1 | 650 | 601 | 625 | 939 | 2173 | 4157 | 1712 | 297.0 | 683.0 | 444.3 |
| MEAN | 17.5 | 13.8 | 21.0 | 19.4 | 21.6 | 30.3 | 72.4 | 134 | 57.1 | 9.58 | 22.0 | 14.8 |
| MAX | 37 | 32 | 33 | 26 | 28 | 50 | 131 | 284 | 157 | 30 | 60 | 44 |
| MIN | 3.4 | 2.9 | 14 | 18 | 19 | 20 | 30 | 66 | 21 | 2.9 | 3.6 | 6.6 |
| AC-FT | 1070 | 819 | 1290 | 1190 | 1240 | 1860 | 4310 | 8250 | 3400 | 589 | 1350 | 881 |

CAL YR 1987 TOTAL 30369.8 MEAN 83.2 MAX 492 MIN 2.2 AC-FT 60240
WTR YR 1988 TOTAL 13236.3 MEAN 36.2 MAX 284 MIN 2.9 AC-FT 26250

06711040 TURKEY CREEK ABOVE BEAR CREEK LAKE, NEAR MORRISON, CO

LOCATION.--Lat 39°38'27", long 105°09'34", in SEHSWA Sec.6, T.5 S, R.69 W, Jefferson County, Hydrologic Unit 10190002, on right downstream side of bridge, 0.5 mi east of intersection of Highway 285 and Soda Creek Lake Road, 1.5 mi upstream from mouth and 1.9 mi east of Morrison.

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

REMARKS.--Estimated daily discharges: Dec. 14 to Jan. 9, June 4-10. Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by Harriman Canal. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 116 ft³/s, at 2000 May 19, gage height, 3.17 ft; minimum daily, 0.54 ft³/s, Sept. 10.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|------|-----------|---------|---------|--------------|------|--------|--------|------|-------|-------|
| 1 | .95 | 1.7 | 3.1 | 2.6 | 3.5 | 8.9 | 20 | 30 | 44 | 2.9 | 1.8 | .95 |
| 2 | .96 | 1.4 | 3.0 | 2.6 | 3.6 | 9.7 | 21 | 38 | 40 | 2.2 | 1.8 | .98 |
| 3 | .96 | 1.0 | 3.2 | 2.6 | 3.4 | 9.7 | 26 | 38 | 35 | 1.9 | 1.5 | 1.2 |
| 4 | .96 | 1.0 | 3.2 | 2.5 | 3.2 | 8.1 | 37 | 31 | 31 | 1.7 | 29 | 1.2 |
| 5 | .96 | 1.0 | 3.2 | 2.4 | 3.2 | 8.4 | 34 | 27 | 28 | 2.4 | 6.2 | 1.1 |
| 6 | .96 | 1.0 | 3.2 | 2.4 | 3.2 | 8.2 | 36 | 25 | 26 | 2.4 | 9.1 | .93 |
| 7 | .96 | 1.1 | 3.3 | 2.4 | 3.0 | 8.6 | 44 | 24 | 23 | 2.4 | 13 | .71 |
| 8 | .96 | 1.1 | 3.2 | 2.4 | 3.0 | 9.0 | 46 | 22 | 21 | 2.9 | 7.8 | .61 |
| 9 | .96 | 1.1 | 2.4 | 2.4 | 3.2 | 8.6 | 40 | 18 | 19 | 2.7 | 4.8 | .57 |
| 10 | .96 | 1.2 | 3.4 | 2.5 | 3.3 | 9.1 | 44 | 13 | 17 | 2.1 | 15 | .54 |
| 11 | 1.0 | 1.2 | 3.5 | 2.4 | 3.4 | 9.3 | 44 | 16 | 10 | 1.9 | 22 | .57 |
| 12 | 1.0 | 1.3 | 2.9 | 2.2 | 3.1 | 8.3 | 42 | 12 | 8.5 | 1.6 | 22 | 4.6 |
| 13 | 1.5 | 1.1 | 2.6 | 2.2 | 3.7 | 9.4 | 47 | 11 | 7.1 | 1.4 | 22 | 3.7 |
| 14 | 4.1 | 1.8 | 2.6 | 2.2 | 4.4 | 8.9 | 48 | 9.6 | 6.1 | 1.5 | 22 | 4.6 |
| 15 | 2.4 | 2.8 | 2.6 | 2.2 | 4.0 | 7.4 | 49 | 9.3 | 12 | 1.4 | 22 | 3.3 |
| 16 | 2.2 | 2.1 | 2.6 | 2.3 | 4.7 | 7.5 | 48 | 8.8 | 9.0 | 1.4 | 22 | 1.4 |
| 17 | 1.8 | 3.1 | 2.6 | 2.4 | 5.0 | 7.5 | 66 | 7.9 | 5.0 | 1.4 | 25 | 1.3 |
| 18 | 1.6 | 3.6 | 2.6 | 2.4 | 5.1 | 8.2 | 86 | 6.6 | 2.7 | 1.8 | 25 | 1.2 |
| 19 | 1.5 | 3.6 | 2.6 | 2.4 | 4.5 | 7.7 | 82 | 76 | 2.5 | 3.0 | 23 | 1.0 |
| 20 | 1.5 | 3.6 | 2.6 | 2.4 | 3.9 | 9.6 | 77 | 96 | .98 | 3.6 | 9.2 | .99 |
| 21 | 1.6 | 3.6 | 2.5 | 2.4 | 4.3 | 12 | 75 | 97 | 1.5 | 3.2 | 3.0 | .89 |
| 22 | 2.7 | 3.7 | 2.5 | 2.4 | 5.5 | 16 | 82 | 102 | 1.6 | 2.2 | 3.2 | .89 |
| 23 | 1.8 | 3.3 | 2.6 | 2.3 | 5.5 | 22 | 70 | 96 | 1.7 | 1.8 | 2.6 | .89 |
| 24 | 1.7 | 3.3 | 2.6 | 2.3 | 5.5 | 23 | 61 | 93 | .74 | 1.6 | 1.5 | .96 |
| 25 | 1.8 | 3.0 | 2.6 | 2.4 | 5.8 | 17 | 55 | 92 | 1.9 | 1.4 | 1.5 | .96 |
| 26 | 1.6 | 3.2 | 2.6 | 2.6 | 5.7 | 29 | 49 | 89 | 4.3 | 1.3 | 1.6 | .96 |
| 27 | 2.4 | 3.2 | 2.6 | 2.6 | 6.5 | 32 | 47 | 78 | 2.9 | 1.2 | 1.8 | .85 |
| 28 | 2.3 | 3.4 | 2.5 | 2.6 | 7.6 | 27 | 40 | 67 | 2.6 | 1.2 | 1.6 | .98 |
| 29 | 2.3 | 3.5 | 2.4 | 2.9 | 7.5 | 25 | 34 | 59 | 2.7 | 1.9 | 1.5 | .96 |
| 30 | 2.1 | 3.3 | 2.6 | 3.1 | --- | 17 | 32 | 49 | 4.6 | 2.4 | 1.5 | .94 |
| 31 | 2.5 | --- | 2.6 | 3.4 | --- | 14 | --- | 45 | --- | 2.3 | 1.3 | --- |
| TOTAL | 50.99 | 69.3 | 86.5 | 76.9 | 128.3 | 406.1 | 1482 | 1386.2 | 372.42 | 63.1 | 325.3 | 40.73 |
| MEAN | 1.64 | 2.31 | 2.79 | 2.48 | 4.42 | 13.1 | 49.4 | 44.7 | 12.4 | 2.04 | 10.5 | 1.36 |
| MAX | 4.1 | 3.7 | 3.5 | 3.4 | 7.6 | 32 | 86 | 102 | 44 | 3.6 | 29 | 4.6 |
| MIN | .95 | 1.0 | 2.4 | 2.2 | 3.0 | 7.4 | 20 | 6.6 | .74 | 1.2 | 1.3 | .54 |
| AC-FT | 101 | 137 | 172 | 153 | 254 | 805 | 2940 | 2750 | 739 | 125 | 645 | 81 |
| CAL YR 1987 | TOTAL 7439.52 | | MEAN 20.4 | MAX 123 | MIN .86 | AC-FT 14760. | | | | | | |
| WTR YR 1988 | TOTAL 4487.84 | | MEAN 12.3 | MAX 102 | MIN .54 | AC-FT 8900 | | | | | | |

PLATTE RIVER BASIN

52

06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO

LOCATION.--Lat 39°39'08", long 105°01'57", in NW¼ 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. 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, Dec. 16, Dec. 25 to Jan. 10, Jan. 12-14, 19-22, Feb. 2-6, and Feb. 11. 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.

AVERAGE DISCHARGE.--61 years, 44.0 ft³/s; 31,880 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,150 ft³/s, May 7, 1969, gage height, 10.5 ft, present datum, from flood marks, from rating curve extended above 3,400 ft³/s; no flow, July 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 700 ft³/s at 0100 Aug. 4, gage height, 4.76 ft; minimum daily, 9.5 ft³/s, July 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|-------|------|-------|------|------|
| 1 | 14 | 43 | 39 | 36 | 35 | 50 | 52 | 121 | 185 | 32 | 17 | 19 |
| 2 | 14 | 40 | 40 | 36 | 34 | 78 | 64 | 149 | 165 | 27 | 15 | 19 |
| 3 | 14 | 37 | 42 | 36 | 34 | 55 | 74 | 148 | 155 | 24 | 15 | 20 |
| 4 | 14 | 26 | 41 | 36 | 37 | 50 | 97 | 132 | 150 | 25 | 172 | 19 |
| 5 | 13 | 20 | 40 | 30 | 37 | 34 | 100 | 120 | 149 | 22 | 73 | 18 |
| 6 | 12 | 19 | 39 | 30 | 38 | 46 | 99 | 101 | 155 | 9.5 | 56 | 17 |
| 7 | 13 | 19 | 39 | 32 | 38 | 52 | 110 | 77 | 134 | 11 | 77 | 17 |
| 8 | 13 | 22 | 40 | 34 | 36 | 43 | 128 | 73 | 87 | 22 | 80 | 15 |
| 9 | 13 | 18 | 33 | 36 | 32 | 44 | 130 | 71 | 64 | 30 | 56 | 14 |
| 10 | 14 | 18 | 28 | 38 | 28 | 55 | 105 | 70 | 82 | 30 | 46 | 14 |
| 11 | 15 | 15 | 34 | 40 | 26 | 55 | 106 | 73 | 77 | 26 | 50 | 15 |
| 12 | 14 | 15 | 33 | 39 | 26 | 41 | 102 | 71 | 63 | 21 | 46 | 39 |
| 13 | 23 | 15 | 29 | 35 | 27 | 33 | 101 | 67 | 63 | 15 | 46 | 44 |
| 14 | 43 | 19 | 28 | 33 | 30 | 35 | 102 | 70 | 54 | 13 | 47 | 45 |
| 15 | 36 | 38 | 28 | 31 | 30 | 44 | 105 | 75 | 57 | 13 | 45 | 47 |
| 16 | 41 | 28 | 27 | 29 | 33 | 45 | 104 | 72 | 60 | 14 | 47 | 38 |
| 17 | 39 | 19 | 25 | 38 | 41 | 41 | 116 | 74 | 45 | 11 | 67 | 31 |
| 18 | 35 | 17 | 27 | 29 | 32 | 39 | 183 | 75 | 37 | 10 | 71 | 27 |
| 19 | 34 | 16 | 27 | 27 | 34 | 42 | 223 | 218 | 38 | 18 | 58 | 25 |
| 20 | 32 | 17 | 29 | 24 | 36 | 49 | 209 | 487 | 39 | 18 | 45 | 23 |
| 21 | 31 | 19 | 32 | 22 | 43 | 55 | 203 | 348 | 38 | 18 | 36 | 19 |
| 22 | 30 | 19 | 31 | 20 | 57 | 58 | 230 | 306 | 29 | 18 | 32 | 21 |
| 23 | 30 | 18 | 30 | 20 | 53 | 65 | 218 | 285 | 29 | 16 | 32 | 21 |
| 24 | 30 | 22 | 34 | 47 | 49 | 75 | 181 | 267 | 28 | 15 | 31 | 21 |
| 25 | 31 | 24 | 30 | 40 | 44 | 65 | 151 | 269 | 36 | 12 | 29 | 20 |
| 26 | 31 | 26 | 30 | 33 | 44 | 63 | 128 | 281 | 42 | 11 | 27 | 20 |
| 27 | 31 | 27 | 30 | 36 | 42 | 71 | 119 | 275 | 47 | 11 | 26 | 20 |
| 28 | 32 | 22 | 32 | 38 | 48 | 87 | 116 | 253 | 41 | 11 | 25 | 18 |
| 29 | 32 | 22 | 33 | 41 | 46 | 67 | 115 | 231 | 48 | 16 | 24 | 18 |
| 30 | 39 | 44 | 33 | 39 | --- | 68 | 112 | 220 | 44 | 21 | 23 | 18 |
| 31 | 50 | --- | 36 | 33 | --- | 62 | --- | 200 | --- | 20 | 20 | --- |
| TOTAL | 813 | 704 | 1019 | 1038 | 1090 | 1667 | 3883 | 5279 | 2241 | 560.5 | 1434 | 702 |
| MEAN | 26.2 | 23.5 | 32.9 | 33.5 | 37.6 | 53.8 | 129 | 170 | 74.7 | 18.1 | 46.3 | 23.4 |
| MAX | 50 | 44 | 42 | 47 | 57 | 87 | 230 | 487 | 185 | 32 | 172 | 47 |
| MIN | 12 | 15 | 25 | 20 | 26 | 33 | 52 | 67 | 28 | 9.5 | 15 | 14 |
| AC-FT | 1610 | 1400 | 2020 | 2060 | 2160 | 3310 | 7700 | 10470 | 4450 | 1110 | 2840 | 1390 |

CAL YR 1987 TOTAL 37268 MEAN 102 MAX 518 MIN 12 AC-FT 73920
WTR YR 1988 TOTAL 20430.5 MEAN 55.8 MAX 487 MIN 9.5 AC-FT 40520

PLATTE RIVER BASIN

53

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO

LOCATION.--Lat 39°39'54", long 105°00'13", in NW¼ 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: Dec. 14 to Jan 22. Records good, except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage and flood control reservoirs, power developments, diversions for irrigation and municipal use, and return flow from irrigated areas. Flow regulated by Chatfield Dam since May 29, 1975 (station 06709600), and Bear Creek Dam since July 1979.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,090 ft³/s, Aug. 20, 1984, gage height, 5.25 ft; minimum daily, 28 ft³/s, Feb. 11, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,390 ft³/s at 0200 Aug. 4, gage height, 4.22 ft; minimum daily, 44 ft³/s, Sept. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|-------|-------|-------|-------|--------|-------|------|
| 1 | 51 | 567 | 60 | 54 | 89 | 189 | 212 | 276 | 420 | 1340 | 163 | 135 |
| 2 | 54 | 394 | 64 | 54 | 125 | 289 | 216 | 365 | 395 | 1670 | 158 | 142 |
| 3 | 53 | 89 | 69 | 54 | 130 | 241 | 223 | 305 | 383 | 1650 | 203 | 137 |
| 4 | 49 | 73 | 73 | 54 | 134 | 229 | 250 | 302 | 379 | 1840 | 926 | 140 |
| 5 | 49 | 63 | 72 | 54 | 129 | 221 | 295 | 375 | 366 | 1400 | 565 | 138 |
| 6 | 62 | 67 | 70 | 54 | 122 | 226 | 284 | 377 | 349 | 640 | 581 | 129 |
| 7 | 60 | 74 | 71 | 54 | 88 | 219 | 289 | 351 | 313 | 428 | 647 | 129 |
| 8 | 53 | 101 | 85 | 54 | 88 | 169 | 316 | 282 | 358 | 338 | 590 | 121 |
| 9 | 61 | 70 | 58 | 54 | 91 | 144 | 323 | 275 | 449 | 123 | 349 | 105 |
| 10 | 58 | 79 | 60 | 54 | 101 | 160 | 310 | 278 | 534 | 115 | 329 | 80 |
| 11 | 61 | 107 | 65 | 54 | 134 | 150 | 397 | 319 | 615 | 108 | 326 | 107 |
| 12 | 50 | 108 | 58 | 54 | 107 | 141 | 489 | 377 | 566 | 127 | 312 | 271 |
| 13 | 91 | 96 | 56 | 54 | 115 | 136 | 409 | 406 | 373 | 266 | 276 | 151 |
| 14 | 219 | 126 | 54 | 54 | 105 | 131 | 337 | 507 | 140 | 400 | 346 | 130 |
| 15 | 89 | 226 | 54 | 54 | 104 | 139 | 347 | 462 | 162 | 341 | 339 | 122 |
| 16 | 107 | 133 | 54 | 54 | 116 | 136 | 334 | 330 | 170 | 223 | 343 | 98 |
| 17 | 91 | 87 | 54 | 54 | 148 | 137 | 411 | 396 | 308 | 217 | 376 | 86 |
| 18 | 79 | 67 | 54 | 54 | 214 | 133 | 503 | 515 | 449 | 193 | 374 | 81 |
| 19 | 80 | 66 | 54 | 54 | 205 | 129 | 579 | 992 | 470 | 384 | 322 | 74 |
| 20 | 74 | 67 | 54 | 54 | 173 | 142 | 547 | 1350 | 470 | 192 | 307 | 66 |
| 21 | 145 | 69 | 54 | 56 | 175 | 150 | 512 | 984 | 358 | 258 | 296 | 65 |
| 22 | 147 | 63 | 54 | 58 | 180 | 154 | 525 | 887 | 168 | 267 | 307 | 67 |
| 23 | 190 | 55 | 54 | 61 | 163 | 172 | 457 | 698 | 184 | 358 | 292 | 69 |
| 24 | 264 | 65 | 54 | 77 | 160 | 255 | 432 | 554 | 380 | 390 | 288 | 56 |
| 25 | 260 | 64 | 54 | 86 | 178 | 313 | 406 | 710 | 569 | 415 | 369 | 56 |
| 26 | 266 | 77 | 54 | 66 | 180 | 258 | 369 | 724 | 557 | 248 | 343 | 48 |
| 27 | 307 | 84 | 54 | 72 | 178 | 221 | 321 | 705 | 563 | 230 | 167 | 44 |
| 28 | 386 | 68 | 54 | 102 | 181 | 221 | 295 | 697 | 540 | 156 | 171 | 56 |
| 29 | 387 | 62 | 54 | 106 | 175 | 194 | 278 | 664 | 678 | 171 | 259 | 56 |
| 30 | 549 | 62 | 54 | 109 | --- | 189 | 269 | 577 | 882 | 183 | 252 | 60 |
| 31 | 650 | --- | 54 | 106 | --- | 214 | --- | 459 | --- | 177 | 232 | --- |
| TOTAL | 5042 | 3329 | 1833 | 1979 | 4088 | 5802 | 10935 | 16499 | 12548 | 14848 | 10808 | 3019 |
| MEAN | 163 | 111 | 59.1 | 63.8 | 141 | 187 | 364 | 532 | 418 | 479 | 349 | 101 |
| MAX | 650 | 567 | 85 | 109 | 214 | 313 | 579 | 1350 | 882 | 1840 | 926 | 271 |
| MIN | 49 | 55 | 54 | 54 | 88 | 129 | 212 | 275 | 140 | 108 | 158 | 44 |
| AC-FT | 10000 | 6600 | 3640 | 3930 | 8110 | 11510 | 21690 | 32730 | 24890 | 29450 | 21440 | 5990 |
| CAL YR 1987 | TOTAL | 179602 | MEAN | 492 | MAX | 3730 | MIN | 43 | AC-FT | 356200 | | |
| WTR YR 1988 | TOTAL | 90730 | MEAN | 248 | MAX | 1840 | MIN | 44 | AC-FT | 180000 | | |

PLATTE RIVER BASIN

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, 970 microsiemens, Nov. 19, 1987; minimum mean, 223 microsiemens, May 16, 1987.

pH: Maximum, 9.9 units, July 14, 15, 18, 1987; minimum, 6.5 units, Feb. 16 and 17, 1988.

WATER TEMPERATURE: Maximum, 29.2°C, July 12, 1988; 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, 970 microsiemens, Nov. 19, 1987; minimum mean, 319 microsiemens, July 2, 1988.

pH: Maximum, 9.5 units, May 11, 1988; minimum, 6.5 units, Feb. 16 and 17, 1988.

WATER TEMPERATURE: Maximum, 29.2°C, July 12, 1988; minimum, 0.2°C, Nov. 28, 29, 30, and Dec. 1, 1987.

DISSOLVED OXYGEN: Maximum, 15.9 mg/L, Dec. 30, 1987; minimum, 3.8 mg/L, Oct. 3, 1987.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 796 | 545 | 855 | 864 | 743 | 607 | 557 | 384 | 356 | 322 | 476 | 495 |
| 2 | 781 | 560 | 849 | 863 | 746 | 594 | 533 | 394 | 351 | 319 | 477 | 496 |
| 3 | 770 | 649 | 835 | 865 | 654 | 579 | 533 | 390 | 354 | 322 | 453 | 497 |
| 4 | 770 | 707 | 815 | 870 | 641 | 593 | 508 | 397 | 348 | 328 | 377 | 502 |
| 5 | 765 | 756 | 820 | 840 | 653 | 586 | 472 | 394 | 348 | 350 | 407 | 504 |
| 6 | 759 | 747 | 816 | 822 | 743 | 581 | 460 | 392 | 346 | 380 | 396 | 504 |
| 7 | 750 | 753 | 818 | 833 | 765 | 589 | 452 | 389 | 356 | 397 | 384 | 504 |
| 8 | 751 | 698 | 797 | 817 | 717 | 613 | 449 | 402 | 361 | 400 | 387 | 510 |
| 9 | 735 | 739 | 849 | 821 | 713 | 639 | 446 | 399 | 367 | --- | 418 | 544 |
| 10 | 732 | 754 | 842 | 866 | 688 | 624 | 455 | 411 | 368 | --- | 414 | 334 |
| 11 | 730 | 666 | 798 | --- | --- | 626 | 432 | 395 | 373 | --- | 407 | 442 |
| 12 | 742 | 651 | 813 | 910 | 784 | 630 | 416 | 383 | 360 | --- | 416 | 462 |
| 13 | 704 | 656 | 878 | 871 | 687 | 628 | 416 | 382 | 402 | 437 | 431 | 527 |
| 14 | 563 | 703 | 877 | 868 | 666 | 632 | 413 | 378 | 503 | 392 | 397 | 548 |
| 15 | 674 | 586 | 921 | 865 | 707 | 621 | 408 | 377 | 488 | 400 | 395 | 542 |
| 16 | 664 | 749 | 953 | 855 | 673 | 606 | 400 | 382 | 471 | 453 | 405 | 595 |
| 17 | 660 | 813 | 896 | 840 | 748 | 652 | 406 | 382 | 412 | 420 | 392 | 636 |
| 18 | 672 | --- | 845 | 840 | 624 | 636 | 390 | 379 | 376 | 298 | 382 | 646 |
| 19 | 671 | 970 | 841 | 795 | 576 | 612 | 384 | 334 | 371 | 410 | 394 | 631 |
| 20 | 679 | 898 | 843 | 868 | 597 | 599 | 363 | 347 | 365 | 461 | 403 | 692 |
| 21 | 608 | 884 | 860 | 866 | 609 | 581 | 365 | 397 | 403 | 428 | 409 | 720 |
| 22 | 569 | 902 | 867 | 868 | 602 | 570 | 368 | 377 | 466 | 421 | 428 | 713 |
| 23 | 549 | 915 | 840 | 912 | 595 | 553 | 367 | 370 | 476 | 388 | 403 | 740 |
| 24 | 503 | 854 | 816 | 894 | 621 | 567 | 374 | 385 | 359 | 384 | 400 | 749 |
| 25 | 491 | 826 | 838 | 877 | 614 | 568 | 373 | 398 | 325 | 381 | 368 | 733 |
| 26 | 491 | 886 | 849 | 887 | 609 | 529 | 373 | 399 | 340 | 415 | 390 | 761 |
| 27 | 483 | --- | 782 | 885 | 589 | 498 | 373 | 397 | 333 | 421 | 480 | 781 |
| 28 | 463 | 919 | 802 | 808 | 599 | 523 | 380 | 389 | 331 | 263 | 475 | 759 |
| 29 | 455 | 878 | 838 | 758 | 604 | 516 | 390 | 394 | 331 | 424 | 423 | 753 |
| 30 | 458 | 849 | 850 | 735 | --- | 514 | 393 | 358 | 333 | 471 | 418 | 763 |
| 31 | 505 | --- | 844 | 713 | --- | 555 | --- | 348 | --- | 475 | 416 | --- |
| MEAN | 643 | --- | 843 | --- | --- | 588 | 422 | 384 | 379 | --- | 414 | 603 |

PLATTE RIVER BASIN

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

55

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 8.9 | 8.1 | 8.3 | 7.8 | 8.1 | 7.6 | 8.1 | 7.6 | 8.0 | 7.7 | 8.7 | 7.5 |
| 2 | 9.0 | 8.0 | 8.3 | 7.6 | 8.0 | 7.5 | 8.0 | 7.5 | 8.2 | 7.5 | 8.2 | 7.5 |
| 3 | 9.1 | 8.0 | 8.0 | 7.5 | 8.2 | 7.5 | 8.0 | 7.6 | 8.3 | 7.8 | 8.7 | 7.6 |
| 4 | 8.9 | 8.0 | 8.1 | 7.6 | 8.3 | 7.5 | 7.9 | 7.6 | 8.1 | 7.6 | 8.3 | 7.6 |
| 5 | 8.7 | 7.9 | 8.0 | 7.6 | 8.1 | 7.5 | 7.9 | 7.6 | 8.0 | 7.3 | 8.7 | 7.6 |
| 6 | 8.7 | 7.8 | 8.0 | 7.6 | 8.4 | 7.6 | 7.9 | 7.7 | 7.5 | 7.1 | 8.7 | 7.6 |
| 7 | 8.9 | 7.8 | 8.1 | 7.7 | 8.3 | 7.5 | 7.9 | 7.7 | 7.4 | 6.9 | 8.5 | 7.6 |
| 8 | 8.8 | 7.8 | 7.9 | 7.6 | 8.3 | 7.6 | 8.1 | 7.7 | 7.0 | 6.9 | 8.7 | 7.6 |
| 9 | 8.8 | 7.9 | 7.9 | 7.6 | 8.1 | 7.6 | 8.1 | 7.6 | 7.5 | 6.9 | 8.7 | 7.5 |
| 10 | 8.4 | 7.8 | 8.0 | 7.6 | 8.3 | 7.6 | 8.0 | 7.6 | 7.5 | 6.9 | 8.4 | 7.5 |
| 11 | 8.7 | 7.8 | 8.1 | 7.8 | 8.4 | 7.7 | 7.9 | 7.8 | 7.4 | 6.9 | 8.7 | 7.4 |
| 12 | 8.5 | 7.7 | 8.2 | 8.0 | 8.2 | 7.7 | 8.0 | 7.7 | 7.4 | 6.9 | 8.2 | 7.5 |
| 13 | 8.4 | 7.7 | 8.4 | 7.9 | 8.0 | 7.7 | 7.9 | 7.6 | 7.6 | 6.7 | 8.9 | 7.6 |
| 14 | 8.0 | 7.7 | 8.2 | 7.8 | 8.2 | 7.6 | 8.0 | 7.8 | 7.4 | 6.7 | 8.9 | 7.6 |
| 15 | 8.3 | 7.7 | 8.1 | 7.9 | 8.1 | 7.6 | 8.5 | 7.7 | 7.7 | 6.7 | 9.0 | 7.6 |
| 16 | 8.4 | 7.6 | 8.2 | 7.8 | 7.9 | 7.5 | 8.2 | 7.7 | 6.9 | 6.5 | 8.6 | 7.7 |
| 17 | 8.4 | 7.6 | 8.2 | 7.9 | 8.0 | 7.6 | 8.2 | 7.7 | 7.0 | 6.5 | 8.9 | 7.6 |
| 18 | 8.4 | 7.7 | 8.4 | 7.9 | 8.0 | 7.7 | 8.0 | 7.7 | 7.2 | 6.6 | 8.3 | 7.6 |
| 19 | 8.2 | 7.6 | 8.3 | 7.9 | 8.1 | 7.6 | 8.1 | 7.7 | 7.4 | 6.6 | 9.0 | 7.6 |
| 20 | 8.3 | 7.5 | 8.4 | 7.9 | 8.2 | 7.7 | 8.0 | 7.7 | 7.0 | 6.6 | 8.9 | 7.6 |
| 21 | 8.5 | 7.6 | 8.4 | 8.0 | 8.3 | 7.6 | 8.1 | 7.6 | 7.1 | 6.6 | 8.4 | 7.5 |
| 22 | 8.5 | 7.6 | 8.5 | 7.9 | 8.1 | 7.8 | 8.0 | 7.8 | 7.4 | 6.8 | 8.9 | 7.4 |
| 23 | 8.4 | 7.6 | 8.4 | 7.9 | 8.2 | 7.8 | 8.0 | 7.7 | 7.7 | 6.9 | 9.0 | 7.4 |
| 24 | 8.3 | 7.7 | 8.5 | 7.9 | 8.2 | 7.7 | 8.1 | 7.7 | 7.9 | 7.0 | 8.8 | 7.4 |
| 25 | 8.4 | 7.7 | 8.4 | 7.9 | 8.2 | 7.7 | 8.1 | 7.7 | 7.3 | 7.0 | 8.5 | 7.6 |
| 26 | 8.3 | 7.6 | 8.2 | 7.8 | 8.1 | 7.7 | 7.9 | 7.6 | 7.2 | 6.8 | 8.8 | 7.6 |
| 27 | 8.3 | 7.6 | 8.2 | 7.7 | 7.8 | 7.7 | 8.1 | 7.7 | 8.1 | 6.7 | 8.8 | 7.6 |
| 28 | 8.2 | 7.7 | 8.2 | 7.6 | 8.1 | 7.7 | 7.8 | 7.5 | 8.3 | 7.3 | 8.4 | 7.5 |
| 29 | 8.3 | 7.7 | 8.2 | 7.6 | 8.0 | 7.7 | 7.8 | 7.4 | 8.6 | 7.4 | 8.8 | 7.6 |
| 30 | 8.1 | 7.7 | 8.2 | 7.5 | 7.9 | 7.6 | 7.8 | 7.5 | --- | --- | 8.7 | 7.6 |
| 31 | 8.1 | 7.7 | --- | --- | 8.2 | 7.7 | 8.0 | 7.6 | --- | --- | 8.5 | 7.6 |
| MONTH | 9.1 | 7.5 | 8.5 | 7.5 | 8.4 | 7.5 | 8.5 | 7.4 | 8.6 | 6.5 | 9.0 | 7.4 |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 8.8 | 7.6 | 8.6 | 7.4 | 8.2 | 7.5 | 7.9 | 7.7 | 8.9 | 7.5 | --- | --- |
| 2 | 9.0 | 7.6 | 8.3 | 7.5 | 8.4 | 7.5 | 7.9 | 7.7 | 8.9 | 7.4 | --- | --- |
| 3 | 9.0 | 7.6 | 8.7 | 7.5 | 8.3 | 7.5 | 7.9 | 7.7 | 8.5 | 7.5 | --- | --- |
| 4 | 8.8 | 7.6 | 8.8 | 7.5 | 8.5 | 7.3 | 8.0 | 7.7 | 8.0 | 7.7 | --- | --- |
| 5 | 8.9 | 7.6 | 8.9 | 7.7 | 8.4 | 7.3 | 8.0 | 7.7 | 8.2 | 7.8 | --- | --- |
| 6 | 8.9 | 7.7 | 8.9 | 7.7 | 8.6 | 7.3 | 8.0 | 7.7 | 8.2 | 7.8 | --- | --- |
| 7 | 8.9 | 7.6 | 9.0 | 7.7 | 8.7 | 7.3 | 7.9 | 7.5 | 8.1 | 7.8 | --- | --- |
| 8 | 8.8 | 7.7 | 9.2 | 7.7 | 8.7 | 7.4 | 7.9 | 7.5 | 8.1 | 7.6 | --- | --- |
| 9 | 8.7 | 7.7 | 9.3 | 7.7 | 8.7 | 7.4 | 7.8 | 7.4 | 8.1 | 7.6 | --- | --- |
| 10 | 8.8 | 7.6 | 9.0 | 7.7 | 8.3 | 7.5 | 8.1 | 7.5 | 8.6 | 7.6 | --- | --- |
| 11 | 8.5 | 7.6 | 9.5 | 7.7 | 8.1 | 7.5 | 8.2 | 7.4 | 8.7 | 8.0 | --- | --- |
| 12 | 8.5 | 7.7 | 9.4 | 7.9 | 8.1 | 7.5 | 8.6 | 7.5 | 8.8 | 8.0 | --- | --- |
| 13 | 8.4 | 7.6 | 9.2 | 7.7 | 7.9 | 7.4 | 8.8 | 7.6 | 9.0 | 8.0 | --- | --- |
| 14 | 8.4 | 7.5 | 9.0 | 7.8 | 7.8 | 7.3 | 8.6 | 7.6 | 9.1 | 8.0 | --- | --- |
| 15 | 8.3 | 7.5 | 9.2 | 7.8 | 7.9 | 7.2 | 8.8 | 7.7 | 9.0 | 8.0 | 8.5 | 8.0 |
| 16 | 8.4 | 7.4 | 9.0 | 7.7 | 8.4 | 7.3 | 9.0 | 7.6 | 8.9 | 8.0 | 8.7 | 8.0 |
| 17 | 7.7 | 7.3 | 9.1 | 7.8 | 8.2 | 7.4 | 9.1 | 7.5 | 9.1 | 8.0 | 8.8 | 8.0 |
| 18 | 8.1 | 7.2 | 8.9 | 7.8 | 8.3 | 7.5 | 9.0 | 7.5 | 9.1 | 8.0 | 8.8 | 8.2 |
| 19 | 7.8 | 7.3 | 7.9 | 7.8 | 8.4 | 7.5 | 8.4 | 7.5 | 9.2 | 8.0 | 8.9 | 8.0 |
| 20 | 7.9 | 7.2 | 7.9 | 7.7 | 8.4 | 7.5 | 9.0 | 7.5 | 9.1 | 8.0 | 8.9 | 8.0 |
| 21 | 7.8 | 7.3 | 8.0 | 7.7 | 8.3 | 7.4 | 9.1 | 7.6 | 9.1 | 8.0 | 8.9 | 7.6 |
| 22 | 7.5 | 7.2 | 7.9 | 7.7 | 8.4 | 7.4 | 9.2 | 7.5 | 9.1 | 8.0 | 8.7 | 7.4 |
| 23 | 7.7 | 7.2 | 8.0 | 7.7 | 8.6 | 7.4 | 8.9 | 7.6 | 9.2 | 8.0 | 9.1 | 7.5 |
| 24 | 7.8 | 7.3 | 8.0 | 7.6 | 8.7 | 7.5 | 9.1 | 7.6 | 9.2 | 8.0 | 9.1 | 7.4 |
| 25 | 7.9 | 7.3 | 8.0 | 7.7 | 8.5 | 7.7 | 9.0 | 7.6 | 9.0 | 8.0 | 8.8 | 7.2 |
| 26 | 8.0 | 7.4 | 8.1 | 7.7 | 8.4 | 7.6 | 9.0 | 7.6 | 8.8 | 7.8 | --- | --- |
| 27 | 8.0 | 7.3 | 7.9 | 7.7 | 8.5 | 7.6 | 9.1 | 7.6 | --- | --- | --- | --- |
| 28 | 8.1 | 7.3 | 8.0 | 7.7 | 8.5 | 7.7 | 8.8 | 7.5 | --- | --- | --- | --- |
| 29 | 8.3 | 7.4 | 8.0 | 7.7 | 8.0 | 7.6 | 8.9 | 7.5 | --- | --- | --- | --- |
| 30 | 8.4 | 7.4 | 8.1 | 7.6 | 7.9 | 7.7 | 9.0 | 7.4 | --- | --- | 9.2 | 7.6 |
| 31 | --- | --- | 8.0 | 7.6 | --- | --- | 8.9 | 7.4 | --- | --- | --- | --- |
| MONTH | 9.0 | 7.2 | 9.5 | 7.4 | 8.7 | 7.2 | 9.2 | 7.4 | --- | --- | --- | --- |

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | 12.0 | 9.7 | 5.7 | .2 | 1.3 | 1.0 | 2.2 | .8 | 10.1 | 3.5 |
| 2 | 19.4 | 10.9 | --- | --- | 6.8 | 2.6 | 1.4 | 1.0 | 3.4 | .9 | 6.2 | 3.1 |
| 3 | --- | --- | --- | --- | 7.1 | 3.6 | 1.5 | 1.0 | --- | --- | 9.6 | 2.9 |
| 4 | 17.0 | 10.9 | 13.1 | 7.0 | 7.7 | 4.4 | 1.4 | .9 | 4.5 | .7 | 5.5 | 2.7 |
| 5 | --- | --- | --- | --- | 7.2 | 5.0 | 1.1 | .9 | 2.2 | 1.1 | 9.7 | 1.6 |
| 6 | --- | --- | 10.7 | 8.1 | 8.9 | 4.6 | 1.1 | 1.0 | 3.1 | .7 | 10.2 | 2.7 |
| 7 | --- | --- | --- | --- | 8.7 | 3.8 | 1.2 | .8 | 5.5 | .8 | 5.7 | 2.2 |
| 8 | --- | --- | --- | --- | 6.8 | 3.3 | 1.0 | .6 | 5.1 | 1.2 | 9.8 | .9 |
| 9 | 16.4 | 10.0 | --- | --- | 5.6 | 1.8 | 1.0 | .6 | 6.3 | .9 | 12.4 | 2.3 |
| 10 | 10.6 | 7.8 | 10.7 | 4.7 | 7.9 | 3.6 | 1.2 | .7 | 4.3 | .9 | 6.5 | 3.3 |
| 11 | 15.0 | 6.5 | --- | --- | 7.7 | 3.2 | 1.6 | .9 | 4.2 | .7 | 6.2 | 2.3 |
| 12 | --- | --- | --- | --- | 4.7 | .9 | 1.3 | .7 | 7.1 | 1.0 | 5.5 | 1.2 |
| 13 | --- | --- | --- | --- | 3.6 | 1.0 | 1.2 | .6 | 7.8 | 1.6 | 6.7 | 1.1 |
| 14 | 11.5 | 9.4 | --- | --- | 2.5 | .9 | 2.2 | .7 | 6.7 | 1.2 | 9.6 | .4 |
| 15 | 14.8 | 9.8 | 5.1 | 2.0 | 1.9 | .9 | 3.2 | 1.3 | 8.7 | 1.3 | 8.6 | 2.1 |
| 16 | 14.2 | 9.4 | 5.9 | 2.2 | 1.8 | .9 | 3.3 | .9 | 4.5 | 1.3 | 5.3 | 1.2 |
| 17 | --- | --- | 5.2 | 1.2 | 2.7 | 1.0 | 4.3 | .6 | 6.1 | .9 | 5.3 | .6 |
| 18 | --- | --- | 7.0 | .5 | 3.9 | 1.3 | 1.5 | .7 | 5.9 | .6 | 9.3 | .3 |
| 19 | 10.4 | 7.5 | 8.4 | 1.3 | 4.0 | .9 | .9 | .7 | 6.5 | 1.5 | 12.4 | 1.7 |
| 20 | --- | --- | 8.4 | 2.8 | 5.9 | 1.9 | 1.0 | .6 | 7.4 | 2.7 | 10.1 | 3.2 |
| 21 | --- | --- | 8.0 | 3.1 | 5.2 | 1.0 | 1.1 | .7 | 9.0 | 1.8 | 12.5 | 4.2 |
| 22 | --- | --- | 8.4 | 3.3 | 5.1 | .9 | 1.3 | .6 | 4.6 | 2.4 | 12.3 | 4.4 |
| 23 | --- | --- | 8.1 | 2.5 | 2.2 | 1.0 | 3.1 | .8 | 7.4 | 1.5 | 13.1 | 4.3 |
| 24 | 12.3 | 9.0 | 7.4 | 2.7 | 1.5 | 1.0 | 3.5 | .6 | 8.4 | 1.1 | 10.8 | 4.5 |
| 25 | 13.9 | 9.2 | 6.7 | 1.9 | 1.3 | .9 | 2.4 | .7 | 9.8 | 1.8 | 9.1 | 3.8 |
| 26 | --- | --- | 3.9 | 1.3 | 1.1 | 1.0 | 4.9 | .6 | 9.5 | 2.4 | 12.9 | 3.9 |
| 27 | --- | --- | 6.3 | 2.0 | 1.1 | 1.0 | 5.2 | .7 | 9.7 | 3.0 | 13.2 | 4.1 |
| 28 | --- | --- | 5.3 | .2 | 1.1 | 1.0 | 5.5 | 1.1 | 6.7 | 3.3 | 6.7 | 3.7 |
| 29 | --- | --- | 4.9 | .2 | 1.2 | 1.0 | 4.7 | 2.1 | 10.5 | 2.9 | 11.0 | 1.6 |
| 30 | 11.8 | 9.7 | 5.2 | .2 | 1.4 | 1.1 | 6.5 | 1.6 | --- | --- | 7.2 | 3.2 |
| 31 | --- | --- | --- | --- | 1.3 | 1.0 | 4.0 | 1.1 | --- | --- | 4.7 | 1.2 |
| MONTH | --- | --- | --- | --- | 8.9 | .2 | 6.5 | .6 | --- | --- | 13.2 | .3 |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 8.4 | 2.2 | 15.5 | 9.2 | 19.8 | 12.7 | 21.8 | 18.5 | 26.0 | 14.6 | --- | --- |
| 2 | --- | --- | 11.7 | 7.5 | 19.8 | 13.4 | 21.2 | 18.8 | --- | --- | --- | --- |
| 3 | --- | 4.2 | 15.9 | 7.2 | 21.5 | 14.7 | 21.8 | 18.8 | --- | --- | 22.2 | 15.1 |
| 4 | 13.4 | --- | 17.0 | 8.4 | 22.2 | 14.0 | 21.4 | 18.8 | --- | --- | 23.4 | 14.1 |
| 5 | 12.2 | 5.2 | --- | --- | 22.1 | 14.8 | 22.5 | 18.4 | --- | --- | 24.2 | 14.0 |
| 6 | --- | --- | 15.9 | 10.4 | 22.7 | 14.9 | 22.7 | 18.4 | --- | --- | 22.2 | 14.0 |
| 7 | --- | --- | 16.1 | 8.2 | 23.3 | 15.2 | 21.7 | 17.7 | 22.2 | 18.4 | 22.0 | 15.0 |
| 8 | 10.8 | 6.1 | 16.9 | 9.2 | 22.1 | 15.1 | 21.3 | 17.2 | --- | --- | 23.2 | 14.0 |
| 9 | 8.4 | 5.5 | 16.4 | 8.9 | 20.8 | 15.7 | 24.1 | 16.0 | 22.4 | 17.0 | 23.1 | 14.0 |
| 10 | 12.9 | 4.2 | 13.3 | 10.3 | 21.4 | 15.1 | 23.0 | 15.7 | --- | --- | 19.3 | 15.1 |
| 11 | 12.9 | 5.1 | 19.1 | 9.3 | 20.7 | 11.5 | 24.4 | 15.0 | 24.4 | 17.3 | 20.0 | 14.3 |
| 12 | 13.7 | 6.7 | 20.0 | 10.8 | 22.1 | 5.9 | 29.2 | 16.6 | 23.1 | 17.4 | 15.2 | 12.0 |
| 13 | 14.2 | 7.3 | 18.6 | 11.4 | --- | --- | 25.6 | 16.7 | 25.1 | 16.2 | 14.3 | 12.0 |
| 14 | 13.2 | 7.1 | 17.2 | 11.7 | --- | --- | 22.5 | 17.7 | 25.4 | 17.2 | 16.0 | 12.1 |
| 15 | 13.9 | 7.1 | 19.7 | 12.0 | --- | --- | 22.4 | 16.9 | 25.3 | 17.4 | 19.3 | 12.2 |
| 16 | 14.7 | 7.7 | 19.6 | 12.1 | --- | --- | 24.8 | 16.5 | 23.3 | 18.0 | 21.1 | 12.0 |
| 17 | 10.1 | 8.1 | 18.9 | 12.7 | --- | --- | 24.6 | 17.2 | 23.2 | 17.1 | 21.2 | 12.3 |
| 18 | 14.4 | 7.4 | 18.0 | 13.5 | 22.2 | 16.2 | 24.0 | 16.7 | 25.2 | 18.0 | 20.3 | 12.1 |
| 19 | 13.3 | 8.6 | 14.2 | 9.9 | 23.8 | 17.1 | 18.6 | 16.9 | 25.0 | 17.3 | 19.3 | 9.3 |
| 20 | 14.3 | 8.5 | 10.9 | 8.6 | 23.2 | 17.2 | 25.4 | 15.8 | 23.2 | 17.3 | 20.2 | 10.4 |
| 21 | 14.3 | 8.7 | 13.7 | 10.7 | 23.3 | 17.4 | 25.2 | 16.4 | 23.0 | 18.0 | 18.4 | 13.1 |
| 22 | 11.0 | 7.8 | 12.3 | 10.7 | 25.9 | 16.6 | 25.5 | 16.6 | 24.2 | 18.0 | 18.3 | 12.3 |
| 23 | 13.8 | 7.7 | 15.6 | 11.2 | 27.6 | 15.2 | 22.4 | 17.4 | 25.4 | 15.3 | 20.4 | 11.2 |
| 24 | 13.6 | 7.9 | 16.4 | 11.5 | 25.7 | 17.1 | 24.1 | 17.1 | 25.3 | 16.3 | 20.3 | 11.5 |
| 25 | 13.3 | 7.9 | 15.8 | 12.2 | 23.9 | 18.8 | 24.0 | 17.9 | 22.3 | 18.2 | 20.4 | 12.2 |
| 26 | 14.8 | 6.7 | 17.7 | 12.1 | 23.1 | 18.6 | --- | --- | 23.2 | 17.3 | 20.2 | 11.4 |
| 27 | 15.9 | 7.2 | 16.6 | 12.7 | 24.7 | 18.6 | 25.3 | 17.4 | 23.4 | 16.0 | 20.2 | 10.5 |
| 28 | 13.7 | 8.1 | 17.8 | 12.9 | 24.6 | 18.9 | 22.3 | 17.3 | 23.2 | 16.0 | 18.3 | 10.2 |
| 29 | 17.1 | 9.2 | 18.8 | 13.5 | 20.6 | 19.2 | 24.3 | 17.5 | 23.3 | 16.2 | 17.2 | 9.3 |
| 30 | 18.1 | 9.4 | 19.7 | 14.1 | 21.8 | 19.0 | 26.8 | 16.6 | 24.3 | 16.2 | 16.4 | 9.4 |
| 31 | --- | --- | 18.6 | 13.8 | --- | --- | --- | --- | 24.4 | 17.0 | --- | --- |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 11.7 | 3.9 | 8.5 | 8.0 | 12.5 | 7.5 | 15.3 | 8.4 | --- | --- | --- | --- |
| 2 | 11.8 | 4.0 | 8.4 | 6.8 | 12.0 | 7.7 | 15.1 | 8.1 | --- | --- | 10.6 | 8.8 |
| 3 | 12.2 | 3.8 | 9.2 | 6.8 | 12.2 | 7.8 | 14.3 | 8.3 | --- | --- | 11.1 | 9.2 |
| 4 | 12.5 | 3.9 | 9.7 | 6.5 | 12.5 | 7.6 | --- | --- | 11.6 | 9.9 | 11.1 | 9.5 |
| 5 | 11.8 | 4.1 | 10.9 | 6.5 | 12.4 | 7.5 | --- | --- | 11.5 | 10.3 | 11.5 | 9.2 |
| 6 | 11.2 | 4.6 | 10.5 | 6.7 | 12.9 | 7.5 | --- | --- | 11.7 | 9.6 | 11.6 | 9.1 |
| 7 | 11.3 | 4.4 | 11.6 | 6.7 | 12.6 | 7.2 | --- | --- | 11.4 | 8.9 | 11.6 | 9.3 |
| 8 | 11.9 | 4.5 | 10.7 | 6.8 | 11.9 | 7.4 | --- | --- | 11.3 | 9.4 | 11.9 | 9.1 |
| 9 | 11.8 | 4.9 | 12.0 | 6.8 | 12.5 | 8.0 | --- | --- | 11.8 | 8.7 | 11.9 | 8.4 |
| 10 | 10.9 | 5.8 | 12.5 | 7.1 | 12.7 | 7.3 | --- | --- | 12.0 | 9.2 | 11.8 | 8.9 |
| 11 | 11.6 | 5.2 | 11.4 | 7.0 | 13.1 | 7.5 | --- | --- | 11.8 | 9.3 | 12.5 | 9.7 |
| 12 | 12.4 | 4.7 | 11.5 | 6.9 | 12.7 | 8.3 | --- | --- | 11.3 | 8.8 | 12.7 | 9.8 |
| 13 | 11.3 | 4.9 | 11.9 | 6.6 | 12.7 | 8.6 | --- | --- | 11.5 | 8.7 | 12.8 | 9.8 |
| 14 | 7.8 | 6.4 | 14.1 | 6.7 | 12.9 | 8.5 | --- | --- | 11.7 | 9.2 | 12.7 | 9.2 |
| 15 | 8.8 | 5.8 | 9.6 | 8.4 | 13.8 | 8.6 | --- | --- | 11.5 | 8.6 | 12.8 | 9.4 |
| 16 | 9.3 | 6.0 | 10.0 | 8.7 | 13.8 | 8.5 | --- | --- | 11.3 | 9.2 | 12.7 | 9.7 |
| 17 | 9.9 | 5.8 | 10.3 | 8.4 | 13.3 | 8.6 | --- | --- | 11.7 | 9.3 | 13.5 | 10.4 |
| 18 | 10.6 | 6.1 | 11.3 | 8.1 | 12.1 | 8.3 | --- | --- | 10.7 | 9.7 | --- | --- |
| 19 | 10.8 | 6.5 | 11.7 | 7.6 | 11.8 | 8.0 | --- | --- | --- | --- | --- | --- |
| 20 | 11.7 | 6.5 | 11.5 | 7.2 | 12.2 | 8.3 | --- | --- | --- | --- | --- | --- |
| 21 | 10.6 | 6.8 | 11.4 | 7.0 | 12.3 | 8.1 | --- | --- | --- | --- | --- | --- |
| 22 | 10.5 | 6.9 | 12.0 | 7.1 | 12.6 | 8.1 | --- | --- | --- | --- | --- | --- |
| 23 | 10.0 | 7.2 | 12.8 | 7.3 | 12.0 | 8.3 | --- | --- | --- | --- | --- | --- |
| 24 | 9.2 | 7.8 | 12.2 | 7.6 | 12.9 | 8.8 | --- | --- | --- | --- | --- | --- |
| 25 | 9.2 | 7.6 | 12.6 | 7.8 | 13.6 | 8.7 | --- | --- | --- | --- | --- | --- |
| 26 | 9.3 | 7.7 | 12.2 | 8.1 | 11.3 | 8.5 | --- | --- | --- | --- | --- | --- |
| 27 | 9.7 | 7.8 | 11.7 | 7.9 | 9.9 | 8.3 | --- | --- | --- | --- | --- | --- |
| 28 | 9.0 | 7.9 | 12.5 | 8.1 | 13.1 | 8.4 | --- | --- | --- | --- | --- | --- |
| 29 | 9.0 | 8.0 | 12.7 | 8.1 | 14.6 | 7.9 | --- | --- | --- | --- | --- | --- |
| 30 | 8.8 | 7.9 | 12.3 | 8.0 | 15.9 | 7.8 | --- | --- | --- | --- | --- | --- |
| 31 | 8.5 | 8.1 | --- | --- | 15.7 | 8.0 | --- | --- | --- | --- | --- | --- |
| MONTH | 12.5 | 3.8 | 14.1 | 6.5 | 15.9 | 7.2 | --- | --- | --- | --- | --- | --- |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | 8.7 | 7.7 | 8.0 | 7.1 | 7.1 | 6.5 | --- | --- | --- | --- |
| 2 | --- | --- | 9.1 | 8.3 | 8.7 | 6.9 | 7.3 | 6.7 | --- | --- | --- | --- |
| 3 | --- | --- | 9.5 | 8.0 | 8.3 | 6.9 | 7.7 | 7.0 | --- | --- | --- | --- |
| 4 | --- | --- | 10.2 | 7.9 | 8.9 | 7.3 | 7.7 | 7.0 | --- | --- | --- | --- |
| 5 | --- | --- | 9.3 | 7.6 | 8.4 | 7.0 | 7.7 | 7.0 | --- | --- | --- | --- |
| 6 | --- | --- | 9.2 | 7.8 | 8.4 | 7.0 | 7.3 | 6.8 | --- | --- | --- | --- |
| 7 | --- | --- | 9.6 | 7.7 | 8.5 | 6.8 | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | 10.0 | 7.9 | 8.3 | 6.5 | --- | --- | --- | --- | --- | --- |
| 9 | 10.7 | 9.2 | 10.1 | 6.5 | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | 10.8 | 8.7 | 9.3 | 6.6 | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | 10.5 | 8.6 | 9.6 | 6.5 | 10.0 | 6.8 | --- | --- | --- | --- | --- | --- |
| 12 | 9.7 | 8.7 | 9.4 | 6.5 | 8.2 | 7.0 | --- | --- | --- | --- | --- | --- |
| 13 | 9.6 | 8.6 | 10.8 | 6.9 | 8.1 | 6.1 | --- | --- | --- | --- | --- | --- |
| 14 | 9.7 | 8.5 | --- | --- | 8.0 | 5.3 | --- | --- | --- | --- | --- | --- |
| 15 | 9.6 | 8.5 | --- | --- | 8.0 | 5.8 | --- | --- | --- | --- | --- | --- |
| 16 | 9.5 | 8.4 | --- | --- | 7.8 | 5.8 | --- | --- | --- | --- | --- | --- |
| 17 | 9.3 | 8.5 | --- | --- | 7.8 | 6.2 | --- | --- | --- | --- | --- | --- |
| 18 | 9.3 | 8.3 | --- | --- | 8.1 | 6.5 | --- | --- | --- | --- | --- | --- |
| 19 | 9.0 | 8.3 | --- | --- | 9.4 | 6.7 | --- | --- | --- | --- | --- | --- |
| 20 | 9.2 | 8.2 | --- | --- | 8.1 | 6.2 | --- | --- | --- | --- | --- | --- |
| 21 | 8.8 | 7.9 | 12.4 | 9.1 | 7.8 | 5.8 | --- | --- | --- | --- | --- | --- |
| 22 | 8.8 | 8.3 | 9.1 | 8.0 | 8.5 | 5.4 | --- | --- | --- | --- | 12.3 | 6.6 |
| 23 | 9.0 | 8.2 | 9.6 | 7.4 | 9.0 | 5.6 | --- | --- | --- | --- | 12.3 | 6.4 |
| 24 | 8.9 | 8.2 | 8.5 | 7.0 | 10.0 | 6.3 | --- | --- | --- | --- | 13.2 | 6.0 |
| 25 | 8.9 | 8.1 | 8.0 | 7.1 | 8.0 | 6.1 | --- | --- | --- | --- | 13.7 | 6.0 |
| 26 | 9.1 | 8.0 | 7.9 | 7.2 | 7.4 | 6.3 | --- | --- | --- | --- | 13.6 | 6.0 |
| 27 | 9.1 | 7.9 | 7.8 | 7.0 | 7.4 | 6.4 | --- | --- | --- | --- | 13.6 | 5.9 |
| 28 | 9.0 | 7.9 | 7.9 | 7.2 | 7.5 | 6.5 | --- | --- | --- | --- | 13.9 | 6.0 |
| 29 | 8.8 | 7.7 | 7.6 | 6.8 | 7.5 | 6.4 | --- | --- | --- | --- | 12.9 | 6.9 |
| 30 | 8.8 | 7.5 | 7.5 | 6.9 | 7.1 | 6.2 | --- | --- | --- | --- | 13.7 | 6.4 |
| 31 | --- | --- | 8.0 | 7.0 | --- | --- | --- | --- | --- | --- | --- | --- |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

PLATTE RIVER BASIN

06712000 CHERRY CREEK NEAR FRANKTOWN, CO

LOCATION.--Lat 39°21'21", long 104°45'46", in NE¼ sec.15, T.8 S., R.66 W., Douglas County, Hydrologic Unit 10190003, on right bank 1.5 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. 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. 27 to Dec. 1, Jan. 7-22, and Feb. 7-27. Records good except for estimated daily discharges, which are poor. Many small diversions upstream from station for irrigation of about 800 acres. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--48 years (water years 1941-88), 9.97 ft³/s; 7,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,170 ft³/s, Aug. 5, 1945, gage height, 4.91 ft, site and datum then in use, by float measurement; minimum daily, 0.20 ft³/s, July 13, 1946, Sept. 30, Oct. 1, 1950.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|--------|------|-----------------------------------|---------------------|
| Mar. 1 | 2300 | *338 | *4.75 | May 20 | 1700 | 311 | 4.86 |

Minimum daily discharge, 3.1 ft³/s, Aug. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|
| 1 | 6.5 | 18 | 8.0 | 7.7 | 6.5 | 102 | 26 | 9.4 | 12 | 9.3 | 3.5 | 3.8 |
| 2 | 5.9 | 15 | 9.5 | 7.9 | 6.5 | 136 | 42 | 8.6 | 12 | 8.3 | 3.2 | 4.1 |
| 3 | 5.8 | 11 | 10 | 7.9 | 6.5 | 71 | 61 | 9.4 | 11 | 7.6 | 3.1 | 4.3 |
| 4 | 5.6 | 11 | 11 | 8.0 | 6.5 | 54 | 59 | 12 | 11 | 7.3 | 15 | 4.3 |
| 5 | 5.5 | 10 | 12 | 8.2 | 6.5 | 41 | 52 | 15 | 10 | 7.2 | 16 | 4.2 |
| 6 | 5.6 | 10 | 13 | 8.2 | 6.5 | 48 | 44 | 14 | 9.7 | 7.0 | 11 | 4.1 |
| 7 | 6.0 | 10 | 13 | 7.9 | 6.8 | 52 | 40 | 13 | 9.3 | 6.9 | 7.9 | 4.0 |
| 8 | 6.4 | 12 | 14 | 7.7 | 7.2 | 39 | 36 | 12 | 9.0 | 6.8 | 9.8 | 3.9 |
| 9 | 7.0 | 12 | 11 | 7.6 | 7.8 | 41 | 33 | 12 | 8.7 | 6.9 | 8.5 | 3.8 |
| 10 | 7.1 | 11 | 10 | 7.4 | 8.4 | 54 | 33 | 12 | 8.6 | 6.9 | 8.2 | 3.6 |
| 11 | 7.5 | 11 | 11 | 7.3 | 8.1 | 44 | 37 | 13 | 8.3 | 7.0 | 9.0 | 3.8 |
| 12 | 7.7 | 11 | 12 | 7.0 | 8.2 | 35 | 33 | 13 | 8.0 | 7.5 | 8.0 | 5.0 |
| 13 | 8.1 | 11 | 9.3 | 7.0 | 9.0 | 29 | 29 | 12 | 7.4 | 6.8 | 7.2 | 4.7 |
| 14 | 12 | 11 | 9.1 | 7.0 | 10 | 27 | 26 | 11 | 6.8 | 6.5 | 5.0 | 6.2 |
| 15 | 12 | 10 | 11 | 7.0 | 13 | 26 | 25 | 8.9 | 10 | 6.2 | 4.5 | 7.1 |
| 16 | 11 | 9.0 | 11 | 6.9 | 16 | 26 | 25 | 9.3 | 13 | 5.7 | 4.3 | 7.2 |
| 17 | 10 | 9.7 | 10 | 6.9 | 14 | 24 | 24 | 9.3 | 11 | 5.2 | 4.5 | 6.7 |
| 18 | 9.8 | 12 | 10 | 6.9 | 13 | 25 | 23 | 8.9 | 8.9 | 4.9 | 4.7 | 6.1 |
| 19 | 9.5 | 9.3 | 11 | 6.9 | 13 | 39 | 24 | 30 | 8.4 | 5.0 | 4.6 | 5.8 |
| 20 | 9.2 | 10 | 12 | 6.9 | 13 | 68 | 24 | 146 | 8.2 | 5.1 | 4.2 | 5.6 |
| 21 | 9.4 | 11 | 9.7 | 6.8 | 13 | 94 | 22 | 113 | 7.9 | 5.0 | 4.2 | 5.4 |
| 22 | 9.4 | 12 | 10 | 6.7 | 15 | 89 | 23 | 67 | 10 | 4.7 | 4.3 | 5.5 |
| 23 | 9.4 | 12 | 11 | 6.5 | 15 | 73 | 22 | 54 | 14 | 4.5 | 4.3 | 5.4 |
| 24 | 9.2 | 12 | 6.0 | 6.5 | 14 | 62 | 22 | 38 | 11 | 4.4 | 4.9 | 5.3 |
| 25 | 9.2 | 11 | 8.1 | 6.5 | 14 | 54 | 20 | 31 | 8.9 | 4.0 | 5.5 | 5.2 |
| 26 | 9.2 | 10 | 8.8 | 6.5 | 14 | 48 | 17 | 30 | 9.7 | 3.9 | 5.1 | 5.0 |
| 27 | 9.1 | 8.8 | 7.4 | 6.5 | 13 | 46 | 16 | 26 | 8.7 | 3.8 | 4.5 | 4.9 |
| 28 | 9.0 | 8.2 | 5.4 | 6.5 | 11 | 45 | 15 | 24 | 7.9 | 3.6 | 4.0 | 4.7 |
| 29 | 9.0 | 7.4 | 7.0 | 6.5 | 16 | 39 | 14 | 23 | 8.3 | 3.5 | 3.9 | 4.6 |
| 30 | 16 | 6.8 | 8.8 | 6.5 | --- | 40 | 12 | 16 | 8.9 | 3.4 | 3.8 | 5.1 |
| 31 | 22 | --- | 8.1 | 6.5 | --- | 28 | --- | 12 | --- | 3.5 | 3.7 | --- |
| TOTAL | 279.1 | 323.2 | 308.2 | 220.3 | 311.5 | 1599 | 879 | 812.8 | 286.6 | 178.4 | 190.4 | 149.4 |
| MEAN | 9.00 | 10.8 | 9.94 | 7.11 | 10.7 | 51.6 | 29.3 | 26.2 | 9.55 | 5.75 | 6.14 | 4.98 |
| MAX | 22 | 18 | 14 | 8.2 | 16 | 136 | 61 | 146 | 14 | 9.3 | 16 | 7.2 |
| MIN | 5.5 | 6.8 | 5.4 | 6.5 | 6.5 | 24 | 12 | 8.6 | 6.8 | 3.4 | 3.1 | 3.6 |
| AC-FT | 554 | 641 | 611 | 437 | 618 | 3170 | 1740 | 1610 | 568 | 354 | 378 | 296 |

CAL YR 1987 TOTAL 5320.7 MEAN 14.6 MAX 220 MIN 2.4 AC-FT 10550
WTR YR 1988 TOTAL 5537.9 MEAN 15.1 MAX 146 MIN 3.1 AC-FT 10980

PLATTE RIVER BASIN

06712990 CHERRY CREEK LAKE NEAR DENVER, CO

59

LOCATION.--Lat 39°09'03", long 104°51'13", in NW¼NE¼ sec.2, T.55 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. Capacity computed on basis of new capacity table dated August 1988, and effective July 12, 1988.

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, 14,970 acre-ft, May 23, elevation, 5,551.98 ft; minimum, 12,850 acre-ft, Sept. 30, elevation, 5,550.05 ft.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| | Date | Elevation | Contents (acre-feet) | Change in contents (acre-feet) |
|-------------|------|-----------|-------------------------|-----------------------------------|
| Sept. 30. | . | 5,550.16 | 13,360 | - |
| Oct. 31. | . | 5,550.48 | 13,640 | +280 |
| Nov. 30. | . | 5,551.11 | 14,190 | +550 |
| Dec. 31. | . | 5,550.46 | 13,620 | -570 |
| CAL YR 1987 | . | - | - | -610 |
| Jan. 31. | . | 5,551.19 | 14,260 | +640 |
| Feb. 29. | . | 5,550.57 | 13,720 | -540 |
| Mar. 31. | . | 5,551.12 | 14,200 | +480 |
| Apr. 30. | . | 5,550.73 | 13,860 | -340 |
| May 31. | . | 5,551.01 | 14,100 | +240 |
| June 30. | . | 5,551.06 | 14,150 | +50 |
| July 31. | . | 5,550.89 | 13,570 | -580 |
| Aug. 31. | . | 5,551.30 | 13,930 | +360 |
| Sept. 30. | . | 5,550.05 | 12,850 | -1,080 |
| WTR YR 1988 | . | - | - | -510 |

PLATTE RIVER BASIN

60

06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO

LOCATION.--Lat 39°39'12", long 104°51'41", in SW¼SW¼ sec.35, T.4 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, on right bank 2,000 ft downstream from Cherry Creek Dam, 2.2 mi southeast of Sullivan, 9 mi southeast of Civic Center in Denver, and 11 mi upstream from mouth.

DRAINAGE AREA.--385 mi².

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

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,490.51 ft, (Corps of Engineers bench mark).

REMARKS.--Estimated daily discharges: Jan. 16-21, Mar. 31 to Apr. 5, Apr. 16-19. Records good. Flow regulated by Cherry Creek Lake (see elsewhere in this report). Diversions upstream from station for irrigation of about 1,800 acres. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--38 years, 7.01 ft³/s; 5,080 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s July 31, 1956, gage height, 6.07 ft; no flow most of time since May 1957.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 740 ft³/s at 1045 Apr. 19, gage height, 5.28 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|--------|--------|--------|------|---------|---------|---------|--------|------|------|--------|
| 1 | .00 | .00 | .00 | .00 | 40 | 55 | 94 | .00 | 99 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | 40 | 56 | 94 | .00 | 61 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | 40 | 58 | 94 | .00 | 21 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | 40 | 63 | 94 | .00 | .00 | .00 | .32 | .00 |
| 5 | .00 | .00 | .00 | .00 | 40 | 69 | 64 | .00 | .00 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | 40 | 69 | 50 | .00 | .00 | .00 | .00 | 29 |
| 7 | .00 | .00 | .00 | .00 | 41 | 69 | 49 | .00 | .00 | .00 | .00 | 41 |
| 8 | .00 | .00 | 34 | .00 | 41 | 69 | 50 | .00 | .00 | .00 | .00 | 41 |
| 9 | .00 | .00 | 50 | .00 | 42 | 69 | 49 | .00 | .22 | .00 | .00 | 41 |
| 10 | .00 | 36 | 50 | .00 | 47 | 69 | 49 | .00 | .00 | .00 | .00 | 40 |
| 11 | .00 | 55 | 57 | .00 | 50 | 69 | 49 | .00 | .00 | .00 | .00 | 41 |
| 12 | .00 | 53 | 67 | .00 | 50 | 69 | 49 | 33 | .00 | .00 | .00 | 41 |
| 13 | .00 | 52 | 67 | .00 | 50 | 72 | 49 | 47 | .00 | .00 | .00 | 40 |
| 14 | .08 | 53 | 67 | .00 | 50 | 68 | 50 | 49 | .00 | .00 | .00 | 44 |
| 15 | .00 | 55 | 66 | .00 | 50 | 62 | 50 | 49 | .00 | .00 | .00 | 43 |
| 16 | .00 | 22 | 65 | .00 | 50 | 64 | 50 | 18 | .00 | .06 | .00 | 29 |
| 17 | .00 | .00 | 65 | .00 | 50 | 64 | 50 | .00 | .00 | .00 | .89 | .00 |
| 18 | .00 | .00 | 65 | .00 | 50 | 42 | 50 | .12 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | 64 | .00 | 50 | .00 | 170 | .00 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | 58 | .00 | 53 | .00 | 20 | 32 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | 58 | .00 | 53 | .00 | .00 | 87 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | 58 | .00 | 53 | .00 | .00 | 87 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | 18 | .00 | 53 | .00 | .00 | 81 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | 53 | .00 | .00 | 80 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | .00 | 53 | 59 | .00 | 79 | .00 | .00 | .33 | .00 |
| 26 | .00 | .00 | .00 | 44 | 53 | 96 | .00 | 79 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | 40 | 53 | 96 | .00 | 79 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | 40 | 53 | 96 | .00 | 79 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | 40 | 53 | 94 | .00 | 79 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | 41 | --- | 94 | .00 | 81 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | 41 | --- | 94 | --- | 94 | --- | .00 | .00 | --- |
| TOTAL | 0.08 | 326.00 | 909.00 | 246.00 | 1391 | 1785.00 | 1274.00 | 1133.12 | 181.22 | 0.06 | 1.54 | 430.00 |
| MEAN | .003 | 10.9 | 29.3 | 7.94 | 48.0 | 57.6 | 42.5 | 36.6 | 6.04 | .002 | .050 | 14.3 |
| MAX | .08 | 55 | 67 | 44 | 53 | 96 | 170 | 94 | 99 | .06 | .89 | 44 |
| MIN | .00 | .00 | .00 | .00 | 40 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .2 | 647 | 1800 | 488 | 2760 | 3540 | 2530 | 2250 | 359 | .1 | 3.1 | 853 |

CAL YR 1987 TOTAL 6876.57 MEAN 18.8 MAX 143 MIN .00 AC-FT 13640
WTR YR 1988 TOTAL 7677.02 MEAN 21.0 MAX 170 MIN .00 AC-FT 15230

06713300 CHERRY CREEK AT GLENDALE, CO.

LOCATION.--Lat 39°42'22", long 104°56'13", in SW¼NW¼ sec.18, T.4 S., R.67 W., Denver County, Hydrologic Unit 101900003, on left bank 900 ft upstream from Colorado Blvd. on Cherry Creek South Drive and Ash Ct. in the City of Glendale, and 5 miles downstream from Cherry Creek Reservoir.

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

REMARKS.--Estimated daily discharge; Jan. 4. Records fair. Flow regulated by Cherry Creek Lake (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,410 ft³/s, Aug. 17, gage height, 8.22 ft, minimum daily, 3.9 ft³/s, Jan. 4.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-------|-------|-------|------|------|-------|--------|------|------|-------|-------|
| 1 | 11 | 9.4 | 7.6 | 7.5 | 45 | 56 | 115 | 12 | 74 | 16 | 11 | 7.3 |
| 2 | 10 | 8.2 | 8.3 | 8.0 | 46 | 82 | 117 | 41 | 99 | 16 | 10 | 6.8 |
| 3 | 9.8 | 7.9 | 8.0 | 6.8 | 48 | 59 | 103 | 14 | 83 | 15 | 10 | 6.2 |
| 4 | 9.1 | 7.3 | 7.8 | 3.9 | 47 | 59 | 97 | 12 | 33 | 15 | 228 | 5.9 |
| 5 | 8.9 | 6.9 | 7.2 | 6.3 | 43 | 71 | 80 | 12 | 38 | 14 | 6.9 | 6.3 |
| 6 | 8.3 | 7.0 | 7.0 | 7.0 | 37 | 73 | 65 | 14 | 37 | 15 | 9.1 | 15 |
| 7 | 8.0 | 13 | 7.4 | 7.0 | 50 | 72 | 67 | 12 | 37 | 17 | 11 | 31 |
| 8 | 7.5 | 25 | 29 | 7.2 | 51 | 73 | 68 | 11 | 36 | 34 | 11 | 32 |
| 9 | 7.0 | 10 | 40 | 7.4 | 52 | 77 | 70 | 9.3 | 109 | 15 | 12 | 34 |
| 10 | 6.7 | 23 | 43 | 7.9 | 50 | 76 | 68 | 26 | 56 | 17 | 11 | 37 |
| 11 | 6.5 | 47 | 46 | 13 | 54 | 74 | 68 | 14 | 31 | 15 | 10 | 48 |
| 12 | 6.4 | 50 | 52 | 9.4 | 64 | 74 | 68 | 27 | 39 | 15 | 10 | 135 |
| 13 | 19 | 51 | 53 | 8.4 | 62 | 75 | 68 | 48 | 38 | 15 | 9.7 | 48 |
| 14 | 59 | 72 | 53 | 10 | 55 | 71 | 68 | 49 | 30 | 15 | 9.3 | 57 |
| 15 | 8.2 | 81 | 54 | 11 | 58 | 67 | 69 | 47 | 66 | 14 | 8.9 | 48 |
| 16 | 10 | 59 | 56 | 10 | 58 | 66 | 68 | 32 | 45 | 30 | 21 | 41 |
| 17 | 6.3 | 21 | 56 | 10 | 63 | 68 | 98 | 9.5 | 31 | 18 | 217 | 15 |
| 18 | 5.9 | 18 | 56 | 9.1 | 51 | 61 | 79 | 74 | 27 | 13 | 127 | 14 |
| 19 | 5.6 | 18 | 55 | 8.6 | 56 | 20 | 159 | 288 | 26 | 36 | 12 | 15 |
| 20 | 5.8 | 17 | 56 | 8.4 | 58 | 18 | 67 | 329 | 26 | 16 | 10 | 13 |
| 21 | 6.0 | 15 | 55 | 9.0 | 57 | 16 | 21 | 96 | 112 | 12 | 18 | 12 |
| 22 | 6.2 | 13 | 56 | 9.8 | 55 | 16 | 43 | 80 | 40 | 12 | 14 | 10 |
| 23 | 6.5 | 12 | 34 | 11 | 54 | 16 | 20 | 81 | 25 | 11 | 9.4 | 11 |
| 24 | 6.6 | 11 | 12 | 11 | 55 | 17 | 19 | 78 | 26 | 11 | 9.6 | 11 |
| 25 | 6.7 | 10 | 9.6 | 10 | 55 | 39 | 16 | 81 | 83 | 11 | 9.2 | 10 |
| 26 | 6.6 | 11 | 10 | 22 | 55 | 93 | 17 | 83 | 57 | 11 | 8.8 | 8.5 |
| 27 | 6.3 | 15 | 10 | 47 | 55 | 95 | 15 | 76 | 34 | 11 | 7.9 | 8.0 |
| 28 | 6.5 | 10 | 9.4 | 58 | 54 | 108 | 14 | 74 | 30 | 11 | 8.3 | 7.7 |
| 29 | 6.4 | 8.6 | 9.0 | 50 | 55 | 98 | 12 | 73 | 25 | 12 | 8.1 | 8.9 |
| 30 | 57 | 8.0 | 9.4 | 57 | --- | 94 | 11 | 73 | 16 | 12 | 8.6 | 11 |
| 31 | 29 | --- | 8.3 | 48 | --- | 111 | --- | 74 | --- | 11 | 8.2 | --- |
| TOTAL | 362.8 | 665.3 | 925.0 | 499.7 | 1543 | 1995 | 1850 | 1949.8 | 1409 | 486 | 865.0 | 713.6 |
| MEAN | 11.7 | 22.2 | 29.8 | 16.1 | 53.2 | 64.4 | 61.7 | 62.9 | 47.0 | 15.7 | 27.9 | 23.8 |
| MAX | 59 | 81 | 56 | 58 | 64 | 111 | 159 | 329 | 112 | 36 | 228 | 135 |
| MIN | 5.6 | 6.9 | 7.0 | 3.9 | 37 | 16 | 11 | 9.3 | 16 | 11 | 6.9 | 5.9 |
| AC-FT | 720 | 1320 | 1830 | 991 | 3060 | 3960 | 3670 | 3870 | 2790 | 964 | 1720 | 1420 |
| CAL YR 1987 | TOTAL 13025.6 | | | | | | | | | | | |
| WTR YR 1988 | TOTAL 13264.2 | | | | | | | | | | | |
| | MEAN | 35.7 | MAX | 213 | MIN | 4.1 | AC-FT | 25840 | | | | |
| | MEAN | 36.2 | MAX | 329 | MIN | 3.9 | AC-FT | 26310 | | | | |

LOCATION.--Lat 39°44'58", long 105°00'08", in NE¼ 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.

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

GAGE.--Water-stage recorder. Elevation 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.

AVERAGE DISCHARGE.--32 years (water years 1943-69, 1981-83, 1987-88), 19.5 ft³/s; 14,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 3,120 ft³/s, Aug. 5, 1945, gage height, 5.25 ft, site and datum then in use; maximum gage height, 11.91 ft, June 17, 1965 (backwater from South Platte River); minimum daily discharge, 0.4 ft³/s, June 16-18, 1948.

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, 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 859 ft³/s at 0230 Aug. 4, gage height, 5.04 ft; minimum daily, 5.2 ft³/s, Mar. 23.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|-------|------|--------|------|------|------|------|--------|-------|
| 1 | 11 | 20 | 11 | 18 | 58 | 55 | 147 | 20 | 126 | 13 | 24 | 7.7 |
| 2 | 9.1 | 14 | 14 | 17 | 54 | 106 | 153 | 77 | 123 | 12 | 22 | 6.8 |
| 3 | 8.0 | 13 | 14 | 17 | 54 | 67 | 132 | 29 | 78 | 13 | 22 | 6.7 |
| 4 | 7.5 | 12 | 14 | 17 | 52 | 57 | 119 | 23 | 35 | 12 | 264 | 6.3 |
| 5 | 7.1 | 12 | 13 | 16 | 51 | 73 | 93 | 20 | 38 | 11 | 25 | 6.3 |
| 6 | 8.8 | 13 | 12 | 16 | 52 | 75 | 61 | 19 | 35 | 12 | 25 | 14 |
| 7 | 8.6 | 19 | 13 | 16 | 57 | 75 | 59 | 15 | 38 | 11 | 35 | 36 |
| 8 | 8.3 | 38 | 56 | 15 | 60 | 75 | 60 | 16 | 38 | 39 | 27 | 37 |
| 9 | 6.9 | 12 | 74 | 15 | 63 | 80 | 66 | 15 | 90 | 15 | 24 | 39 |
| 10 | 6.7 | 22 | 75 | 15 | 63 | 83 | 61 | 49 | 86 | 15 | 25 | 44 |
| 11 | 6.9 | 53 | 77 | 30 | 81 | 82 | 56 | 26 | 43 | 15 | 24 | 70 |
| 12 | 6.0 | 57 | 88 | 19 | 86 | 81 | 55 | 37 | 54 | 13 | 24 | 180 |
| 13 | 30 | 58 | 91 | 14 | 79 | 80 | 55 | 75 | 50 | 14 | 23 | 74 |
| 14 | 96 | 105 | 91 | 19 | 66 | 78 | 55 | 77 | 33 | 13 | 22 | 74 |
| 15 | 17 | 136 | 90 | 18 | 65 | 67 | 56 | 77 | 69 | 12 | 22 | 55 |
| 16 | 18 | 97 | 92 | 17 | 66 | 62 | 55 | 57 | 56 | 22 | 40 | 49 |
| 17 | 10 | 29 | 102 | 15 | 76 | 65 | 99 | 18 | 38 | 27 | 147 | 15 |
| 18 | 9.0 | 20 | 105 | 13 | 66 | 62 | 77 | 96 | 30 | 16 | 138 | 13 |
| 19 | 9.4 | 19 | 106 | 12 | 59 | 11 | 145 | 419 | 29 | 61 | 22 | 13 |
| 20 | 8.8 | 18 | 104 | 14 | 60 | 7.1 | 83 | 367 | 27 | 27 | 16 | 13 |
| 21 | 9.7 | 16 | 106 | 11 | 59 | 5.8 | 21 | 137 | 87 | 16 | 25 | 13 |
| 22 | 9.4 | 13 | 105 | 10 | 55 | 5.4 | 71 | 116 | 66 | 14 | 21 | 13 |
| 23 | 9.5 | 12 | 78 | 13 | 52 | 5.2 | 23 | 118 | 39 | 13 | 14 | 14 |
| 24 | 8.8 | 11 | 21 | 10 | 51 | 8.2 | 20 | 115 | 30 | 14 | 12 | 13 |
| 25 | 8.1 | 11 | 20 | 9.9 | 52 | 21 | 17 | 118 | 92 | 16 | 10 | 13 |
| 26 | 12 | 14 | 20 | 24 | 53 | 91 | 15 | 121 | 81 | 14 | 12 | 13 |
| 27 | 10 | 24 | 19 | 70 | 52 | 102 | 13 | 121 | 45 | 15 | 11 | 12 |
| 28 | 8.5 | 16 | 19 | 93 | 50 | 122 | 11 | 118 | 36 | 22 | 11 | 14 |
| 29 | 9.4 | 12 | 19 | 79 | 51 | 110 | 14 | 112 | 28 | 31 | 13 | 15 |
| 30 | 89 | 12 | 18 | 85 | --- | 109 | 16 | 111 | 14 | 22 | 9.8 | 17 |
| 31 | 57 | --- | 18 | 66 | --- | 144 | --- | 108 | --- | 23 | 8.2 | --- |
| TOTAL | 524.5 | 908 | 1685 | 803.9 | 1743 | 2064.7 | 1908 | 2827 | 1634 | 573 | 1118.0 | 896.8 |
| MEAN | 16.9 | 30.3 | 54.4 | 25.9 | 60.1 | 66.6 | 63.6 | 91.2 | 54.5 | 18.5 | 36.1 | 29.9 |
| MAX | 96 | 136 | 106 | 93 | 86 | 144 | 153 | 419 | 126 | 61 | 264 | 180 |
| MIN | 6.0 | 11 | 11 | 9.9 | 50 | 5.2 | 11 | 15 | 14 | 11 | 8.2 | 6.3 |
| AC-FT | 1040 | 1800 | 3340 | 1590 | 3460 | 4100 | 3780 | 5610 | 3240 | 1140 | 2220 | 1780 |

| | | | | | |
|-------------|---------------|-----------|---------|---------|-------------|
| CAL YR 1987 | TOTAL 17421.2 | MEAN 47.7 | MAX 268 | MIN 6.0 | AC-FT 34550 |
| WTR YR 1988 | TOTAL 16685.9 | MEAN 45.6 | MAX 419 | MIN 5.2 | AC-FT 33100 |

63

LOCATION.--Lat 39°45'35", long 105°00'10", in NW¼Sec.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.

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.

GAGE.--Water-stage recorder. 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.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,300 ft³/s, June 17, 1965, gage height, 18.66 ft, from floodmarks, present datum, from rating curve extended above 2,700 ft³/s, on basis of contracted-opening measurement of peak flow; minimum daily, 8.8 ft³/s, Mar. 25, 1951.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|-------|-------|-------|-------|-------|--------|-------|-------|
| 1 | 112 | 630 | 111 | 109 | 176 | 326 | 417 | 349 | 588 | 1260 | 211 | 205 |
| 2 | 113 | 490 | 116 | 109 | 165 | 561 | 401 | 541 | 534 | 1700 | 199 | 203 |
| 3 | 109 | 147 | 117 | 106 | 208 | 391 | 380 | 361 | 481 | 1710 | 230 | 200 |
| 4 | 106 | 123 | 122 | 102 | 205 | 363 | 380 | 360 | 433 | 1850 | 1740 | 197 |
| 5 | 104 | 109 | 123 | 98 | 205 | 365 | 431 | 433 | 422 | 1510 | 642 | 204 |
| 6 | 115 | 113 | 120 | 98 | 167 | 370 | 396 | 418 | 380 | 771 | 638 | 199 |
| 7 | 115 | 134 | 122 | 98 | 181 | 369 | 406 | 398 | 351 | 516 | 803 | 222 |
| 8 | 111 | 196 | 178 | 98 | 187 | 297 | 417 | 345 | 396 | 461 | 683 | 218 |
| 9 | 112 | 125 | 147 | 102 | 187 | 280 | 439 | 342 | 370 | 208 | 422 | 204 |
| 10 | 112 | 125 | 141 | 110 | 193 | 293 | 425 | 403 | 631 | 184 | 396 | 184 |
| 11 | 116 | 178 | 151 | 135 | 219 | 280 | 473 | 399 | 695 | 173 | 386 | 254 |
| 12 | 112 | 184 | 151 | 119 | 246 | 269 | 595 | 484 | 695 | 186 | 375 | 650 |
| 13 | 185 | 176 | 149 | 111 | 239 | 261 | 541 | 512 | 510 | 319 | 319 | 285 |
| 14 | 544 | 352 | 151 | 115 | 218 | 248 | 439 | 655 | 300 | 450 | 401 | 305 |
| 15 | 147 | 577 | 151 | 117 | 215 | 246 | 450 | 635 | 293 | 390 | 399 | 248 |
| 16 | 168 | 314 | 151 | 117 | 242 | 246 | 439 | 469 | 265 | 265 | 439 | 205 |
| 17 | 137 | 176 | 151 | 118 | 291 | 246 | 626 | 494 | 337 | 280 | 574 | 162 |
| 18 | 127 | 141 | 153 | 119 | 342 | 237 | 664 | 796 | 491 | 218 | 594 | 156 |
| 19 | 120 | 133 | 158 | 112 | 343 | 187 | 793 | 2310 | 510 | 598 | 391 | 150 |
| 20 | 119 | 137 | 147 | 113 | 297 | 193 | 695 | 2270 | 513 | 250 | 365 | 143 |
| 21 | 168 | 128 | 163 | 110 | 302 | 193 | 637 | 1380 | 482 | 306 | 375 | 140 |
| 22 | 181 | 123 | 156 | 110 | 319 | 199 | 791 | 1180 | 246 | 297 | 380 | 135 |
| 23 | 196 | 117 | 139 | 117 | 280 | 205 | 574 | 1000 | 323 | 391 | 351 | 136 |
| 24 | 284 | 118 | 116 | 116 | 280 | 284 | 535 | 774 | 510 | 406 | 314 | 131 |
| 25 | 284 | 120 | 110 | 114 | 284 | 391 | 491 | 1450 | 766 | 479 | 412 | 133 |
| 26 | 284 | 133 | 106 | 116 | 297 | 391 | 468 | 938 | 702 | 300 | 428 | 130 |
| 27 | 293 | 153 | 109 | 158 | 293 | 358 | 401 | 912 | 688 | 281 | 239 | 126 |
| 28 | 391 | 128 | 123 | 223 | 293 | 375 | 362 | 878 | 637 | 211 | 222 | 126 |
| 29 | 391 | 115 | 119 | 204 | 293 | 332 | 337 | 844 | 718 | 260 | 320 | 130 |
| 30 | 777 | 115 | 117 | 235 | --- | 332 | 328 | 755 | 938 | 235 | 307 | 131 |
| 31 | 787 | --- | 112 | 205 | --- | 445 | --- | 622 | --- | 228 | 301 | --- |
| TOTAL | 6920 | 5810 | 4180 | 3914 | 7167 | 9533 | 14731 | 23707 | 15205 | 16693 | 13856 | 5912 |
| MEAN | 223 | 194 | 135 | 126 | 247 | 308 | 491 | 765 | 507 | 538 | 447 | 197 |
| MAX | 787 | 630 | 178 | 235 | 343 | 561 | 793 | 2310 | 938 | 1850 | 1740 | 650 |
| MIN | 104 | 109 | 106 | 98 | 165 | 187 | 328 | 342 | 246 | 173 | 199 | 126 |
| AC-FT | 13730 | 11520 | 8290 | 7760 | 14220 | 18910 | 29220 | 47020 | 30160 | 33110 | 27480 | 11730 |
| CAL YR 1987 | TOTAL | 224058 | MEAN | 614 | MAX | 4020 | MIN | 100 | AC-FT | 444400 | | |
| WTR YR 1988 | TOTAL | 127628 | MEAN | 349 | MAX | 2310 | MIN | 98 | AC-FT | 253200 | | |

PLATTE RIVER BASIN

64

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

LOCATION.--Lat 39°48'44", long 104°57'28", in NW¼NW¼ 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 observation of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--6 years, 478 ft³/s; 346,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s, June 8, 1987, gage height, 8.09 ft; minimum daily, 4.0 ft³/s, Mar. 25, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,300 ft³/s at 0400, Aug. 4, gage height 7.29 ft; minimum daily, 6.9 ft³/s, Sept. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|--------|------|------|-------|-------|-------|-------|------|-------|-------|--------|
| 1 | 18 | 121 | 28 | 112 | 193 | 69 | 397 | 87 | 251 | 759 | 127 | 99 |
| 2 | 18 | 96 | 24 | 116 | 181 | 291 | 358 | 450 | 211 | 1100 | 106 | 91 |
| 3 | 19 | 14 | 25 | 110 | 221 | 121 | 315 | 292 | 164 | 1120 | 139 | 100 |
| 4 | 17 | 12 | 23 | 113 | 228 | 94 | 354 | 231 | 115 | 1220 | 2040 | 113 |
| 5 | 15 | 12 | 30 | 113 | 222 | 92 | 276 | 214 | 109 | 1030 | 376 | 113 |
| 6 | 18 | 12 | 30 | 116 | 182 | 95 | 171 | 154 | 87 | 393 | 365 | 113 |
| 7 | 17 | 15 | 24 | 114 | 201 | 110 | 83 | 144 | 27 | 151 | 556 | 130 |
| 8 | 16 | 20 | 53 | 114 | 210 | 119 | 93 | 86 | 58 | 115 | 458 | 120 |
| 9 | 17 | 12 | 26 | 117 | 206 | 101 | 126 | 83 | 220 | 17 | 329 | 115 |
| 10 | 17 | 11 | 21 | 124 | 215 | 119 | 170 | 152 | 318 | 11 | 296 | 109 |
| 11 | 18 | 10 | 35 | 174 | 242 | 126 | 200 | 93 | 224 | 10 | 278 | 171 |
| 12 | 15 | 10 | 32 | 146 | 283 | 136 | 349 | 29 | 233 | 59 | 265 | 413 |
| 13 | 24 | 9.2 | 30 | 123 | 262 | 132 | 306 | 115 | 213 | 203 | 244 | 14 |
| 14 | 222 | 101 | 25 | 139 | 241 | 128 | 209 | 320 | 170 | 348 | 328 | 19 |
| 15 | 12 | 626 | 13 | 139 | 233 | 130 | 217 | 334 | 79 | 334 | 330 | 10 |
| 16 | 16 | 318 | 13 | 137 | 261 | 149 | 207 | 313 | 32 | 205 | 366 | 12 |
| 17 | 21 | 109 | 12 | 134 | 284 | 181 | 353 | 403 | 48 | 234 | 472 | 15 |
| 18 | 24 | 65 | 12 | 113 | 318 | 199 | 405 | 720 | 163 | 145 | 558 | 13 |
| 19 | 21 | 56 | 11 | 125 | 274 | 152 | 489 | 2020 | 125 | 493 | 338 | 9.8 |
| 20 | 20 | 62 | 17 | 119 | 227 | 154 | 425 | 1830 | 99 | 216 | 312 | 9.2 |
| 21 | 19 | 49 | 31 | 118 | 231 | 163 | 373 | 718 | 89 | 238 | 329 | 10 |
| 22 | 22 | 44 | 53 | 118 | 237 | 162 | 650 | 530 | 20 | 239 | 318 | 10 |
| 23 | 21 | 33 | 58 | 132 | 215 | 171 | 406 | 444 | 14 | 324 | 289 | 11 |
| 24 | 18 | 27 | 28 | 127 | 193 | 241 | 304 | 423 | 28 | 340 | 254 | 10 |
| 25 | 17 | 37 | 39 | 119 | 180 | 341 | 236 | 515 | 327 | 416 | 333 | 8.0 |
| 26 | 14 | 42 | 34 | 129 | 187 | 345 | 180 | 535 | 282 | 241 | 330 | 7.6 |
| 27 | 14 | 51 | 59 | 201 | 193 | 320 | 110 | 501 | 258 | 212 | 134 | 6.9 |
| 28 | 21 | 40 | 130 | 210 | 188 | 328 | 89 | 421 | 223 | 139 | 99 | 8.0 |
| 29 | 19 | 31 | 123 | 150 | 178 | 292 | 74 | 401 | 298 | 193 | 181 | 9.1 |
| 30 | 258 | 29 | 128 | 195 | --- | 187 | 71 | 325 | 490 | 166 | 184 | 10 |
| 31 | 315 | --- | 119 | 233 | --- | 398 | --- | 222 | --- | 150 | 165 | --- |
| TOTAL | 1303 | 2074.2 | 1286 | 4230 | 6486 | 5646 | 7996 | 13105 | 4975 | 10821 | 10899 | 1879.6 |
| MEAN | 42.0 | 69.1 | 41.5 | 136 | 224 | 182 | 267 | 423 | 166 | 349 | 352 | 62.7 |
| MAX | 315 | 626 | 130 | 233 | 318 | 398 | 650 | 2020 | 490 | 1220 | 2040 | 413 |
| MIN | 12 | 9.2 | 11 | 110 | 178 | 69 | 71 | 29 | 14 | 10 | 99 | 6.9 |
| AC-FT | 2580 | 4110 | 2550 | 8390 | 12860 | 11200 | 15860 | 25990 | 9870 | 21460 | 21620 | 3730 |

CAL YR 1987 TOTAL 161724.9 MEAN 443 MAX 4110 MIN 7.5 AC-FT 320800
WTR YR 1988 TOTAL 70700.8 MEAN 193 MAX 2040 MIN 6.9 AC-FT 140200

06719505 CLEAR CREEK AT GOLDEN, CO

LOCATION.--Lat 39°45'11", long 105°14'05", in NE¼NW¼ sec.33, T.3 S., R.70 W., Jefferson County, Hydrologic Unit 101900004, 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.

WATER-DISCHARGE RECORDS

REMARKS.--Estimated daily discharges: Dec. 12 to Mar. 31, and June 27, 28. 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 960 ft³/s at 1400 June 22, gage height, 4.58 ft; minimum daily, 40 ft³/s, Mar. 10-30.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|------|------|------|------|------|-------|-------|--------|------|------|
| 1 | 86 | 64 | 56 | 60 | 50 | 45 | 45 | 131 | 360 | 624 | 215 | 130 |
| 2 | 86 | 64 | 77 | 68 | 50 | 45 | 51 | 130 | 347 | 595 | 193 | 131 |
| 3 | 87 | 60 | 72 | 68 | 50 | 45 | 52 | 101 | 396 | 571 | 205 | 133 |
| 4 | 84 | 56 | 62 | 68 | 50 | 45 | 54 | 95 | 510 | 547 | 184 | 127 |
| 5 | 82 | 56 | 59 | 68 | 50 | 45 | 56 | 98 | 612 | 537 | 153 | 122 |
| 6 | 81 | 58 | 58 | 68 | 50 | 45 | 53 | 101 | 589 | 511 | 170 | 119 |
| 7 | 85 | 62 | 55 | 68 | 50 | 45 | 61 | 99 | 741 | 489 | 179 | 124 |
| 8 | 84 | 58 | 52 | 68 | 50 | 45 | 70 | 91 | 749 | 461 | 163 | 110 |
| 9 | 78 | 53 | 43 | 68 | 50 | 45 | 64 | 88 | 862 | 441 | 152 | 110 |
| 10 | 76 | 55 | 57 | 68 | 50 | 40 | 55 | 91 | 948 | 400 | 141 | 111 |
| 11 | 74 | 58 | 58 | 62 | 50 | 40 | 52 | 86 | 936 | 375 | 134 | 113 |
| 12 | 73 | 57 | 58 | 56 | 50 | 40 | 57 | 95 | 881 | 358 | 138 | 149 |
| 13 | 74 | 57 | 58 | 50 | 47 | 40 | 70 | 119 | 814 | 322 | 156 | 117 |
| 14 | 90 | 60 | 57 | 50 | 45 | 40 | 82 | 162 | 749 | 342 | 147 | 133 |
| 15 | 94 | 66 | 57 | 50 | 45 | 40 | 84 | 191 | 765 | 335 | 147 | 110 |
| 16 | 87 | 58 | 56 | 50 | 45 | 40 | 83 | 223 | 785 | 305 | 153 | 100 |
| 17 | 79 | 55 | 57 | 50 | 45 | 40 | 98 | 252 | 782 | 289 | 164 | 96 |
| 18 | 76 | 47 | 58 | 50 | 45 | 40 | 87 | 291 | 780 | 286 | 159 | 97 |
| 19 | 75 | 54 | 56 | 50 | 45 | 40 | 86 | 373 | 823 | 285 | 163 | 94 |
| 20 | 71 | 60 | 56 | 50 | 45 | 40 | 87 | 324 | 825 | 274 | 157 | 94 |
| 21 | 65 | 60 | 56 | 50 | 45 | 40 | 83 | 283 | 847 | 239 | 163 | 93 |
| 22 | 63 | 58 | 56 | 50 | 45 | 40 | 88 | 262 | 960 | 217 | 170 | 88 |
| 23 | 59 | 57 | 56 | 50 | 45 | 40 | 79 | 236 | 944 | 210 | 165 | 88 |
| 24 | 61 | 57 | 56 | 50 | 45 | 40 | 74 | 239 | 889 | 196 | 149 | 85 |
| 25 | 62 | 51 | 56 | 50 | 45 | 40 | 71 | 264 | 818 | 202 | 140 | 83 |
| 26 | 60 | 59 | 56 | 50 | 45 | 40 | 66 | 288 | 837 | 225 | 136 | 85 |
| 27 | 60 | 54 | 56 | 50 | 45 | 40 | 67 | 314 | 785 | 222 | 137 | 82 |
| 28 | 61 | 65 | 56 | 50 | 45 | 40 | 80 | 372 | 770 | 224 | 144 | 82 |
| 29 | 61 | 65 | 56 | 50 | 45 | 40 | 96 | 420 | 804 | 252 | 148 | 88 |
| 30 | 62 | 51 | 56 | 50 | --- | 40 | 109 | 461 | 679 | 242 | 144 | 89 |
| 31 | 68 | --- | 56 | 50 | --- | 43 | --- | 414 | --- | 213 | 137 | --- |
| TOTAL | 2304 | 1735 | 1778 | 1740 | 1367 | 1288 | 2160 | 6694 | 22587 | 10789 | 4906 | 3183 |
| MEAN | 74.3 | 57.8 | 57.4 | 56.1 | 47.1 | 41.5 | 72.0 | 216 | 753 | 348 | 158 | 106 |
| MAX | 94 | 66 | 77 | 68 | 50 | 45 | 109 | 461 | 960 | 624 | 215 | 149 |
| MIN | 59 | 47 | 43 | 50 | 45 | 40 | 45 | 86 | 347 | 196 | 134 | 82 |
| AC-FT | 4570 | 3440 | 3530 | 3450 | 2710 | 2550 | 4280 | 13280 | 44800 | 21400 | 9730 | 6310 |
| CAL YR 1987 | TOTAL | 62375 | MEAN | 171 | MAX | 844 | MIN | 33 | AC-FT | 123700 | | |
| WTR YR 1988 | TOTAL | 60531 | MEAN | 165 | MAX | 960 | MIN | 40 | AC-FT | 120100 | | |

PLATTE RIVER BASIN

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.
Records for Apr. 12 - Sept. 30, 1988, missing due to recorder malfunction.

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: Not determined.

WATER TEMPERATURES: Not determined.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 298 | 248 | 276 | 303 | 285 | 311 | 303 | --- | --- | --- | --- | --- |
| 2 | 303 | 249 | 281 | 310 | 288 | 311 | 316 | --- | --- | --- | --- | --- |
| 3 | 311 | 249 | 276 | 310 | 288 | 314 | 314 | --- | --- | --- | --- | --- |
| 4 | 317 | 246 | 273 | 314 | 289 | 322 | 301 | --- | --- | --- | --- | --- |
| 5 | 321 | 244 | 276 | 311 | 295 | 323 | 285 | --- | --- | --- | --- | --- |
| 6 | 317 | 239 | 278 | 303 | 295 | 323 | 276 | --- | --- | --- | --- | --- |
| 7 | 308 | 238 | 282 | 300 | 292 | 323 | 274 | --- | --- | --- | --- | --- |
| 8 | 295 | 237 | 286 | 300 | 290 | 327 | 274 | --- | --- | --- | --- | --- |
| 9 | 293 | 239 | 290 | 301 | 287 | 329 | 277 | --- | --- | --- | --- | --- |
| 10 | 292 | 241 | 292 | 299 | 291 | 321 | 278 | --- | --- | --- | --- | --- |
| 11 | 287 | 243 | 290 | 296 | 289 | 334 | 267 | --- | --- | --- | --- | --- |
| 12 | 281 | 243 | 291 | 301 | 292 | 345 | --- | --- | --- | --- | --- | --- |
| 13 | 272 | 247 | 301 | 304 | 304 | 367 | --- | --- | --- | --- | --- | --- |
| 14 | 267 | 246 | 307 | 311 | 304 | 358 | --- | --- | --- | --- | --- | --- |
| 15 | 250 | 239 | 307 | 304 | 304 | 346 | --- | --- | --- | --- | --- | --- |
| 16 | 239 | 239 | 310 | 302 | 305 | 332 | --- | --- | --- | --- | --- | --- |
| 17 | 236 | 249 | 315 | 304 | 308 | 343 | --- | --- | --- | --- | --- | --- |
| 18 | 238 | 253 | 314 | 308 | 315 | 351 | --- | --- | --- | --- | --- | --- |
| 19 | 232 | 255 | 308 | 307 | 313 | 343 | --- | --- | --- | --- | --- | --- |
| 20 | 233 | 253 | 309 | 308 | 304 | 329 | --- | --- | --- | --- | --- | --- |
| 21 | 238 | 246 | 306 | 315 | 300 | 332 | --- | --- | --- | --- | --- | --- |
| 22 | 241 | 239 | 305 | 307 | 302 | 330 | --- | --- | --- | --- | --- | --- |
| 23 | 247 | 242 | 313 | 303 | 322 | 328 | --- | --- | --- | --- | --- | --- |
| 24 | 252 | 247 | 313 | 296 | 328 | 329 | --- | --- | --- | --- | --- | --- |
| 25 | 242 | 252 | 313 | 300 | --- | 340 | --- | --- | --- | --- | --- | --- |
| 26 | 242 | 256 | 319 | 305 | 320 | 347 | --- | --- | --- | --- | --- | --- |
| 27 | 246 | 258 | 319 | 300 | 316 | 346 | --- | --- | --- | --- | --- | --- |
| 28 | 252 | 262 | 315 | 301 | 311 | 327 | --- | --- | --- | --- | --- | --- |
| 29 | 253 | 264 | 309 | 286 | 304 | 323 | --- | --- | --- | --- | --- | --- |
| 30 | 252 | 271 | 304 | 279 | --- | 300 | --- | --- | --- | --- | --- | --- |
| 31 | 246 | --- | 302 | 282 | --- | 294 | --- | --- | --- | --- | --- | --- |
| MEAN | 268 | 248 | 299 | 302 | --- | 331 | --- | --- | --- | --- | --- | --- |

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| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 6.6 | 4.2 | 9.4 | 7.9 | 1.7 | 1.4 | .7 | .5 | .2 | .1 | 4.1 | 1.7 |
| 2 | 6.6 | 4.3 | 9.8 | 8.4 | 1.8 | 1.2 | .7 | .4 | .2 | .1 | 2.3 | 1.6 |
| 3 | 6.7 | 4.2 | 8.3 | 7.2 | 1.9 | 1.7 | .6 | .4 | .2 | .1 | 4.2 | 1.3 |
| 4 | 6.0 | 4.0 | 7.7 | 6.5 | 2.3 | 1.8 | .6 | .4 | .2 | .1 | 3.7 | 1.9 |
| 5 | 6.0 | 4.4 | 7.0 | 6.0 | 3.2 | 2.2 | .6 | .4 | .2 | .1 | 4.8 | 1.5 |
| 6 | 5.9 | 3.6 | 7.7 | 6.5 | 2.8 | 2.2 | .5 | .4 | .2 | .1 | 5.2 | 2.1 |
| 7 | 6.1 | 3.8 | 7.6 | 6.6 | 3.3 | 2.1 | .5 | .4 | .3 | .1 | 3.2 | 1.2 |
| 8 | 6.1 | 4.5 | 6.6 | 5.3 | 3.2 | 1.6 | .5 | .4 | --- | --- | 3.6 | 1.1 |
| 9 | 6.3 | 4.5 | 5.2 | 3.8 | 1.8 | 1.5 | .5 | .4 | .3 | .1 | 5.1 | 1.1 |
| 10 | 5.1 | 3.4 | 4.3 | 3.2 | 2.9 | 1.6 | .6 | .3 | .3 | .1 | 3.0 | 2.1 |
| 11 | 5.3 | 2.8 | 5.2 | 3.9 | 2.8 | 1.7 | .5 | .4 | .2 | .1 | 2.7 | 1.2 |
| 12 | 6.1 | 3.5 | 4.6 | 3.7 | 1.7 | .7 | .6 | .5 | .3 | .1 | 1.2 | .9 |
| 13 | 8.2 | 5.9 | 5.0 | 4.0 | .7 | .2 | .7 | .5 | .5 | .2 | 1.2 | .7 |
| 14 | 7.4 | 5.4 | 6.0 | 4.5 | .5 | .3 | .6 | .5 | .5 | .2 | .9 | .1 |
| 15 | 6.8 | 4.6 | 5.0 | 2.3 | .9 | .4 | .6 | .0 | .7 | .3 | .5 | .0 |
| 16 | 7.0 | 5.6 | 2.3 | 2.0 | 1.1 | .8 | .0 | .0 | .5 | .3 | .5 | .0 |
| 17 | 7.5 | 5.5 | 2.4 | 2.0 | 1.6 | .9 | .1 | .0 | .5 | .3 | .7 | .1 |
| 18 | 7.5 | 6.0 | 2.2 | 2.0 | 1.9 | .7 | .1 | .0 | .5 | .3 | .5 | .0 |
| 19 | 6.9 | 5.2 | 2.3 | 2.0 | 1.0 | .8 | .1 | .0 | .6 | .3 | 2.0 | .0 |
| 20 | 6.2 | 4.7 | 2.3 | 2.0 | 1.0 | .8 | .2 | .0 | .9 | .3 | 4.1 | .0 |
| 21 | 6.1 | 4.1 | 2.6 | 2.1 | 1.0 | .8 | .2 | .1 | 1.5 | .3 | 5.6 | 1.8 |
| 22 | 6.6 | 5.1 | 3.2 | 2.1 | 2.2 | .7 | .1 | .0 | .6 | .3 | 6.3 | 2.3 |
| 23 | 7.4 | 5.3 | 2.3 | 2.1 | 1.6 | .3 | .1 | .0 | 1.1 | .3 | 7.3 | 3.1 |
| 24 | 7.2 | 6.1 | 2.3 | 2.1 | 1.1 | .6 | .2 | .1 | 1.1 | .2 | 6.0 | 2.6 |
| 25 | 8.3 | 6.7 | 2.2 | 2.1 | .9 | .6 | .2 | .1 | 3.1 | .2 | 5.8 | 1.1 |
| 26 | 8.4 | 6.9 | 2.5 | 2.1 | .7 | .4 | .1 | .0 | 3.4 | 1.7 | 7.7 | 2.6 |
| 27 | 7.4 | 5.9 | 2.2 | 2.0 | .4 | .2 | .2 | .0 | 3.5 | 1.7 | 8.4 | 3.1 |
| 28 | 7.0 | 5.5 | 2.5 | 1.5 | .4 | .2 | .3 | .1 | 2.9 | 1.7 | 5.6 | 1.6 |
| 29 | 8.5 | 6.7 | 1.6 | 1.3 | .3 | .2 | .2 | .1 | 4.5 | 1.6 | 12.1 | 1.2 |
| 30 | 9.0 | 8.0 | 1.5 | 1.4 | .5 | .3 | .3 | .1 | --- | --- | 10.7 | 7.1 |
| 31 | 9.0 | 7.9 | --- | --- | .6 | .4 | .2 | .1 | --- | --- | 7.0 | 4.8 |
| MONTH | 9.0 | 2.8 | 9.8 | 1.3 | 3.3 | .2 | .7 | .0 | --- | --- | 12.1 | .0 |

[illegible]

PLATTE RIVER BASIN

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO

LOCATION.--Lat 39°55'19", long 104°52'00", in SE¼NE¼ sec.34, T.1 S., R.67 W., Adams County, Hydrologic Unit 10190003, on right bank 500 ft upstream from bridge on State Highway 22 and 0.2 mi northwest of Henderson.

DRAINAGE AREA.--4,713 mi².

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

REVISED RECORDS.--WSP 1310: 1934-36(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. 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 discharges: Water year 1986, Oct. 7-10, and Feb. 10-11; Water year 1987, Oct. 13-22; Water year 1988, Feb. 27-29. Records good except for estimated daily discharges, which are 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. Several observations of 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.

AVERAGE DISCHARGE.--48 years (water years 1927-74), 366 ft³/s; 265,200 acre-ft/yr, prior to completion of Chatfield Dam; 11 years (water years 1976-86), 654 ft³/s; 473,800 acre-ft/yr, 12 years (water years 1976-87), 662 ft³/s; 479,600 acre-ft/yr, 13 years (water years 1976-88), 651 ft³/s; 471,600 acre-ft/yr, subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s, May 6, 1973, gage height, 11.67 ft, from rating curve extended above 7,200 ft³/s, partly on basis of flow-over-road measurement of peak flow; maximum gage height, 12.93 ft, June 17, 1965, site and datum then in use; minimum daily discharge, 4.4 ft³/s, Apr. 1, 1950.

EXTREMES FOR WATER YEAR 1986.--Maximum discharge, 6,210 ft³/s at 2345 July 20, gage height, 7.39 ft; minimum daily, 176 ft³/s, Mar. 11.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 11,000 ft³/s at 0245 June 9, gage height, 9.50 ft; minimum daily, 248 ft³/s, Oct. 2.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,390 ft³/s at 0830 Aug. 4, gage height, 9.12 ft; minimum daily, 155 ft³/s, Sept. 26.

REVISIONS.--The table of discharge for water year 1986 was incorrectly identified as water year 1987 in WDR CO-87-1, this table supersedes that published in the report for 1987.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 478 | 745 | 523 | 462 | 383 | 259 | 225 | 246 | 489 | 1100 | 437 | 539 |
| 2 | 426 | 327 | 535 | 465 | 375 | 254 | 246 | 258 | 549 | 984 | 451 | 549 |
| 3 | 424 | 308 | 525 | 464 | 351 | 262 | 549 | 246 | 442 | 956 | 444 | 519 |
| 4 | 407 | 399 | 568 | 448 | 301 | 253 | 1050 | 231 | 553 | 1070 | 409 | 432 |
| 5 | 408 | 540 | 577 | 451 | 290 | 232 | 1440 | 229 | 1120 | 1070 | 397 | 378 |
| 6 | 403 | 529 | 572 | 472 | 301 | 216 | 1320 | 223 | 960 | 1100 | 368 | 370 |
| 7 | 400 | 548 | 578 | 487 | 291 | 222 | 1220 | 221 | 1120 | 1080 | 357 | 449 |
| 8 | 400 | 551 | 566 | 474 | 283 | 219 | 1080 | 343 | 1240 | 763 | 402 | 480 |
| 9 | 390 | 750 | 582 | 471 | 273 | 215 | 1270 | 331 | 1540 | 567 | 398 | 417 |
| 10 | 390 | 676 | 577 | 474 | 270 | 194 | 1380 | 223 | 2320 | 646 | 400 | 360 |
| 11 | 391 | 529 | 545 | 478 | 270 | 176 | 1290 | 197 | 1300 | 599 | 448 | 348 |
| 12 | 383 | 538 | 505 | 480 | 268 | 182 | 1480 | 194 | 924 | 510 | 463 | 352 |
| 13 | 345 | 537 | 480 | 483 | 280 | 200 | 1120 | 239 | 692 | 634 | 441 | 324 |
| 14 | 424 | 526 | 483 | 478 | 290 | 194 | 1080 | 243 | 811 | 597 | 456 | 294 |
| 15 | 350 | 582 | 520 | 512 | 298 | 194 | 1070 | 342 | 1060 | 616 | 457 | 269 |
| 16 | 335 | 576 | 535 | 495 | 290 | 185 | 713 | 1240 | 1010 | 667 | 449 | 230 |
| 17 | 331 | 553 | 525 | 491 | 289 | 219 | 597 | 706 | 1430 | 694 | 445 | 232 |
| 18 | 339 | 547 | 530 | 477 | 287 | 225 | 628 | 398 | 956 | 1080 | 450 | 258 |
| 19 | 335 | 567 | 518 | 472 | 283 | 194 | 624 | 347 | 1060 | 704 | 460 | 670 |
| 20 | 333 | 545 | 540 | 471 | 385 | 223 | 565 | 266 | 1260 | 1060 | 468 | 223 |
| 21 | 335 | 505 | 549 | 448 | 320 | 200 | 583 | 246 | 1220 | 1500 | 474 | 231 |
| 22 | 331 | 525 | 535 | 435 | 304 | 194 | 458 | 280 | 1060 | 725 | 530 | 242 |
| 23 | 327 | 535 | 520 | 425 | 291 | 219 | 421 | 280 | 858 | 934 | 1060 | 259 |
| 24 | 314 | 540 | 501 | 404 | 294 | 227 | 392 | 256 | 778 | 825 | 688 | 253 |
| 25 | 305 | 616 | 483 | 395 | 280 | 224 | 355 | 253 | 750 | 688 | 577 | 252 |
| 26 | 301 | 616 | 487 | 387 | 266 | 226 | 371 | 274 | 696 | 521 | 663 | 242 |
| 27 | 305 | 561 | 492 | 384 | 276 | 214 | 418 | 288 | 670 | 462 | 688 | 246 |
| 28 | 312 | 554 | 484 | 383 | 265 | 213 | 399 | 264 | 629 | 406 | 628 | 236 |
| 29 | 312 | 540 | 474 | 371 | --- | 220 | 333 | 489 | 664 | 407 | 627 | 242 |
| 30 | 320 | 545 | 484 | 383 | --- | 209 | 301 | 382 | 1140 | 439 | 594 | 252 |
| 31 | 424 | --- | 482 | 383 | --- | 211 | --- | 311 | --- | 401 | 535 | --- |
| TOTAL | 11278 | 16410 | 16275 | 13902 | 8354 | 6675 | 22978 | 10046 | 29301 | 23805 | 15664 | 10148 |
| MEAN | 364 | 547 | 525 | 448 | 298 | 215 | 766 | 324 | 977 | 768 | 505 | 338 |
| MAX | 478 | 750 | 582 | 512 | 385 | 262 | 1480 | 1240 | 2320 | 1500 | 1060 | 670 |
| MIN | 301 | 308 | 474 | 371 | 265 | 176 | 225 | 194 | 442 | 401 | 357 | 223 |
| AC-FT | 22370 | 32550 | 32280 | 27570 | 16570 | 13240 | 45580 | 19930 | 58120 | 47220 | 31070 | 20130 |

CAL YR 1985 TOTAL 266218 MEAN 729 MAX 5830 MIN 229 AC-FT 528000
WTR YR 1986 TOTAL 184836 MEAN 506 MAX 2320 MIN 176 AC-FT 366600

PLATTE RIVER BASIN

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06720500 SOUTH PLATTE RIVER AT HENDERSON, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|-------|
| 1 | 249 | 802 | 363 | 272 | 304 | 526 | 420 | 1570 | 2060 | 1040 | 458 | 324 |
| 2 | 248 | 384 | 348 | 286 | 307 | 493 | 487 | 1310 | 1330 | 813 | 450 | 327 |
| 3 | 274 | 355 | 333 | 285 | 301 | 503 | 525 | 2290 | 1200 | 797 | 502 | 330 |
| 4 | 344 | 352 | 319 | 288 | 290 | 502 | 500 | 2270 | 1200 | 591 | 515 | 409 |
| 5 | 276 | 341 | 324 | 297 | 294 | 517 | 487 | 2300 | 1110 | 527 | 615 | 357 |
| 6 | 265 | 332 | 328 | 297 | 296 | 531 | 478 | 2630 | 1040 | 492 | 649 | 383 |
| 7 | 262 | 455 | 321 | 300 | 293 | 459 | 367 | 2800 | 1050 | 496 | 666 | 347 |
| 8 | 260 | 350 | 323 | 303 | 289 | 575 | 403 | 3160 | 1240 | 537 | 585 | 365 |
| 9 | 370 | 326 | 313 | 298 | 296 | 586 | 327 | 3180 | 4380 | 492 | 486 | 359 |
| 10 | 287 | 325 | 301 | 294 | 291 | 540 | 308 | 3300 | 3230 | 498 | 514 | 349 |
| 11 | 735 | 332 | 304 | 292 | 291 | 552 | 305 | 3110 | 2550 | 504 | 514 | 352 |
| 12 | 352 | 337 | 309 | 304 | 290 | 499 | 550 | 3070 | 1980 | 819 | 602 | 347 |
| 13 | 370 | 335 | 304 | 300 | 288 | 488 | 512 | 2950 | 1900 | 708 | 591 | 338 |
| 14 | 375 | 338 | 299 | 298 | 296 | 534 | 350 | 2820 | 1650 | 601 | 597 | 331 |
| 15 | 340 | 337 | 300 | 293 | 389 | 549 | 288 | 2780 | 1540 | 661 | 496 | 586 |
| 16 | 330 | 340 | 290 | 290 | 319 | 808 | 299 | 2480 | 1380 | 741 | 425 | 377 |
| 17 | 300 | 347 | 290 | 292 | 307 | 663 | 416 | 2710 | 1190 | 649 | 437 | 410 |
| 18 | 270 | 344 | 287 | 290 | 319 | 596 | 492 | 2730 | 1230 | 551 | 422 | 398 |
| 19 | 285 | 350 | 297 | 302 | 384 | 576 | 547 | 3050 | 1410 | 533 | 424 | 343 |
| 20 | 365 | 353 | 291 | 300 | 427 | 568 | 899 | 3830 | 1180 | 454 | 420 | 317 |
| 21 | 370 | 356 | 287 | 300 | 385 | 546 | 939 | 4750 | 1060 | 444 | 416 | 320 |
| 22 | 320 | 356 | 290 | 292 | 373 | 631 | 948 | 4860 | 838 | 421 | 2230 | 316 |
| 23 | 288 | 354 | 282 | 305 | 406 | 561 | 912 | 4400 | 843 | 408 | 961 | 317 |
| 24 | 311 | 364 | 288 | 335 | 423 | 537 | 968 | 4640 | 709 | 471 | 1030 | 316 |
| 25 | 284 | 360 | 267 | 380 | 393 | 475 | 1160 | 3400 | 793 | 384 | 1070 | 316 |
| 26 | 282 | 348 | 260 | 406 | 365 | 423 | 1060 | 3650 | 730 | 365 | 1090 | 316 |
| 27 | 298 | 331 | 266 | 366 | 459 | 482 | 1200 | 3820 | 597 | 361 | 755 | 291 |
| 28 | 306 | 323 | 272 | 326 | 555 | 477 | 1580 | 3380 | 865 | 384 | 381 | 299 |
| 29 | 301 | 326 | 279 | 306 | --- | 425 | 1470 | 3420 | 3590 | 441 | 352 | 294 |
| 30 | 300 | 315 | 274 | 296 | --- | 401 | 1320 | 2260 | 2160 | 490 | 348 | 285 |
| 31 | 404 | --- | 279 | 304 | --- | 410 | --- | 2220 | --- | 374 | 344 | --- |
| TOTAL | 10021 | 10868 | 9288 | 9497 | 9630 | 16433 | 20517 | 95140 | 46035 | 17047 | 19345 | 10419 |
| MEAN | 323 | 362 | 300 | 306 | 344 | 530 | 684 | 3069 | 1534 | 550 | 624 | 347 |
| MAX | 735 | 802 | 363 | 406 | 555 | 808 | 1580 | 4860 | 4380 | 1040 | 2230 | 586 |
| MIN | 248 | 315 | 260 | 272 | 288 | 401 | 288 | 1310 | 597 | 361 | 344 | 285 |
| AC-FT | 19880 | 21560 | 18420 | 18840 | 19100 | 32590 | 40700 | 188700 | 91310 | 33810 | 38370 | 20670 |
| CAL YR 1986 | TOTAL | 171050 | MEAN | 469 | MAX | 2320 | MIN | 176 | AC-FT | 339300 | | |
| WTR YR 1987 | TOTAL | 274240 | MEAN | 751 | MAX | 4860 | MIN | 248 | AC-FT | 544000 | | |

PLATTE RIVER BASIN

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|----------|----------|---------|--------------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 292 | 323 | 320 | 386 | 471 | 447 | 776 | 334 | 624 | 1230 | 375 | 371 |
| 2 | 278 | 304 | 320 | 382 | 443 | 725 | 730 | 739 | 485 | 1580 | 359 | 355 |
| 3 | 285 | 232 | 322 | 390 | 459 | 531 | 719 | 656 | 429 | 1530 | 367 | 347 |
| 4 | 277 | 225 | 305 | 401 | 465 | 452 | 733 | 474 | 414 | 1540 | 2550 | 355 |
| 5 | 276 | 213 | 302 | 394 | 454 | 425 | 642 | 457 | 428 | 1480 | 646 | 355 |
| 6 | 274 | 180 | 299 | 385 | 432 | 415 | 518 | 372 | 428 | 951 | 577 | 359 |
| 7 | 266 | 187 | 301 | 390 | 445 | 416 | 418 | 392 | 408 | 646 | 750 | 363 |
| 8 | 267 | 249 | 339 | 390 | 481 | 410 | 374 | 379 | 403 | 1280 | 694 | 351 |
| 9 | 261 | 189 | 303 | 388 | 478 | 399 | 403 | 369 | 521 | 478 | 474 | 347 |
| 10 | 270 | 168 | 306 | 390 | 502 | 417 | 472 | 469 | 1100 | 487 | 433 | 331 |
| 11 | 252 | 186 | 326 | 463 | 546 | 438 | 457 | 572 | 893 | 424 | 411 | 343 |
| 12 | 253 | 192 | 330 | 447 | 619 | 409 | 561 | 392 | 1020 | 387 | 391 | 1010 |
| 13 | 245 | 208 | 321 | 396 | 589 | 415 | 565 | 384 | 1020 | 411 | 391 | 371 |
| 14 | 750 | 183 | 331 | 409 | 557 | 399 | 461 | 552 | 944 | 566 | 442 | 371 |
| 15 | 317 | 1200 | 316 | 423 | 533 | 398 | 469 | 674 | 1000 | 604 | 456 | 324 |
| 16 | 290 | 577 | 315 | 414 | 596 | 386 | 456 | 639 | 866 | 496 | 492 | 280 |
| 17 | 268 | 457 | 309 | 403 | 619 | 401 | 576 | 660 | 730 | 582 | 676 | 269 |
| 18 | 252 | 362 | 335 | 397 | 617 | 427 | 802 | 943 | 776 | 420 | 923 | 255 |
| 19 | 261 | 342 | 330 | 383 | 581 | 399 | 714 | 4450 | 776 | 957 | 496 | 266 |
| 20 | 246 | 360 | 319 | 375 | 562 | 399 | 670 | 4510 | 762 | 599 | 446 | 266 |
| 21 | 242 | 350 | 331 | 383 | 565 | 477 | 583 | 1530 | 743 | 474 | 442 | 262 |
| 22 | 232 | 339 | 339 | 377 | 586 | 714 | 899 | 1180 | 750 | 469 | 482 | 249 |
| 23 | 237 | 336 | 381 | 387 | 540 | 590 | 712 | 998 | 776 | 500 | 456 | 188 |
| 24 | 230 | 323 | 317 | 391 | 518 | 489 | 594 | 919 | 795 | 520 | 433 | 170 |
| 25 | 226 | 316 | 308 | 387 | 494 | 549 | 518 | 923 | 887 | 622 | 446 | 158 |
| 26 | 224 | 333 | 306 | 385 | 465 | 592 | 443 | 926 | 1310 | 505 | 464 | 155 |
| 27 | 224 | 343 | 314 | 474 | 460 | 576 | 382 | 853 | 1140 | 438 | 391 | 176 |
| 28 | 225 | 352 | 392 | 572 | 460 | 613 | 336 | 788 | 971 | 415 | 347 | 158 |
| 29 | 222 | 329 | 420 | 562 | 460 | 623 | 318 | 729 | 1210 | 474 | 399 | 167 |
| 30 | 372 | 331 | 415 | 555 | --- | 495 | 307 | 684 | 1210 | 487 | 420 | 173 |
| 31 | 984 | --- | 402 | 566 | --- | 728 | --- | 598 | --- | 407 | 395 | --- |
| TOTAL | 9298 | 9689 | 10274 | 13045 | 14997 | 15154 | 16608 | 28545 | 23819 | 21959 | 17024 | 9145 |
| MEAN | 300 | 323 | 331 | 421 | 517 | 489 | 554 | 921 | 794 | 708 | 549 | 305 |
| MAX | 984 | 1200 | 420 | 572 | 619 | 728 | 899 | 4510 | 1310 | 1580 | 2550 | 1010 |
| MIN | 222 | 168 | 299 | 375 | 432 | 386 | 307 | 334 | 403 | 387 | 347 | 155 |
| AC-FT | 18440 | 19220 | 20380 | 25870 | 29750 | 30060 | 32940 | 56620 | 47240 | 43560 | 33770 | 18140 |
| CAL YR 1987 | TOTAL 273324 | MEAN 749 | MAX 4860 | MIN 168 | AC-FT 542100 | | | | | | | |
| WTR YR 1988 | TOTAL 189557 | MEAN 518 | MAX 4510 | MIN 155 | AC-FT 376000 | | | | | | | |

PLATTE RIVER BASIN

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

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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 September 1988.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (FTU) | 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) | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) |
|-----------|------|---|---|--------------------------------|--------------------------------------|------------------------------|-------------------------------------|--|--|---|--|--|
| APR 18... | 1230 | 604 | 695 | 7.7 | 12.0 | 66 | 8.0 | K650 | -- | 170 | 50 | 11 |
| MAY 10... | 1015 | 216 | 1020 | 8.0 | 15.5 | 8.4 | 10.3 | 100 | K68 | 220 | 62 | 15 |
| MAY 25... | 0930 | 610 | 792 | 7.9 | 16.0 | 26 | 7.1 | 940 | 510 | 210 | 61 | 14 |
| JUN 07... | 1000 | 280 | 972 | 7.7 | 20.5 | 17 | 6.7 | 180 | 140 | 220 | 64 | 15 |
| JUN 23... | 0900 | 634 | 449 | 7.6 | 18.0 | 23 | 6.7 | 300 | K15000 | 110 | 32 | 7.0 |
| AUG 23... | 0945 | 412 | 863 | 7.9 | 22.0 | 14 | 5.6 | K2500 | 130 | 210 | 60 | 14 |

| DATE | SODIUM, DIS- SOLVED (MG/L AS NA) | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS- SOLVED FIELD MG/L AS HCO3 | CAR- BONATE WATER DIS- SOLVED FIELD MG/L AS CO3 | ALKA- LINITY WATER DIS- SOLVED 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 CONSTITUENTS, DIS- SOLVED (MG/L) |
|-----------|--|---|---|---|--|---|---|---|--|---|--|--|
| APR 18... | 66 | 2 | 5.0 | 153 | 0 | 126 | 130 | 47 | 0.7 | 10 | 412 | 396 |
| MAY 10... | 100 | 3 | 11 | 247 | 0 | 202 | 170 | 84 | 1.2 | 10 | 579 | 603 |
| MAY 25... | 80 | 2 | 5.1 | 201 | 0 | 165 | 150 | 59 | 1.0 | 13 | 507 | 498 |
| JUN 07... | 110 | 3 | 7.8 | 220 | 0 | 180 | 180 | 80 | 1.2 | 13 | 598 | 604 |
| JUN 23... | 46 | 2 | 4.0 | 112 | 0 | 89 | 82 | 31 | 0.7 | 9.2 | 282 | 278 |
| AUG 23... | 86 | 3 | 6.7 | 210 | 0 | 171 | 150 | 62 | 0.9 | 12 | 509 | 518 |

| DATE | 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 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) | PHOS- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTHOS, DIS- SOLVED (MG/L AS P) |
|-----------|---|---|---|---|--|---|--|--|---|--|---|
| APR 18... | 0.56 | 672 | <0.01 | <0.10 | 4.4 | 0.01 | 0.50 | 4.9 | 1.4 | 1.4 | <0.01 |
| MAY 10... | 0.79 | 338 | 0.36 | 1.3 | 12 | 12 | 1.0 | 13 | 3.1 | 2.9 | 2.3 |
| MAY 25... | 0.69 | 835 | 0.24 | 1.2 | 4.4 | 4.9 | 0.70 | 5.1 | 1.1 | 1.3 | 1.0 |
| JUN 07... | 0.81 | 452 | 0.83 | 2.0 | 9.1 | 7.6 | 0.60 | 7.5 | 2.5 | 2.4 | 1.8 |
| JUN 23... | 0.38 | 483 | 0.27 | 1.0 | 3.3 | 3.4 | 0.90 | 4.2 | 1.4 | 1.1 | 0.96 |
| AUG 23... | 0.69 | 566 | 0.69 | 2.2 | 6.3 | 6.2 | 0.90 | 7.2 | 2.8 | 2.2 | 1.9 |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO--Continued

WATER-QUALITY DATA, OCTOBER 1987 TO SEPTEMBER 1988

| DATE | ALUM- INUM, DIS- SOLVED (UG/L AS AL) | ARSENIC DIS- SOLVED (UG/L AS AS) | BARIUM, DIS- SOLVED (UG/L AS BA) | BERYL- LIUM, DIS- SOLVED (UG/L AS BE) | 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) |
|-----------|---|--|--|--|--|---|--|--|--|--|
| APR 18... | 250 | 2 | 38 | <0.5 | <1 | <1 | <3 | 4 | 270 | <5 |
| MAY 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25... | 20 | 2 | 45 | <0.5 | <1 | 1 | <3 | 5 | 37 | <5 |
| JUN 07... | <10 | 2 | 35 | <0.5 | 1 | 2 | <3 | 8 | 41 | <5 |
| 23... | 20 | 1 | 21 | <0.5 | <1 | 1 | <3 | 3 | 63 | <5 |
| AUG 23... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | LITHIUM DIS- SOLVED (UG/L AS LI) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MERCURY DIS- SOLVED (UG/L AS HG) | 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) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|-----------|--|--|--|---|--|---|--|--|--|--|
| APR 18... | 17 | 190 | 0.1 | <10 | 3 | 2 | <1.0 | 440 | <6 | 23 |
| MAY 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25... | 18 | 170 | <0.1 | <10 | 2 | 4 | <1.0 | 530 | <6 | 22 |
| JUN 07... | 22 | 320 | <0.1 | 20 | 15 | 3 | 1.0 | 570 | <6 | 30 |
| 23... | 11 | 220 | <0.1 | 10 | 11 | 2 | 2.0 | 270 | <6 | 44 |
| AUG 23... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-----------|------|---|---|---|---|
| APR 18... | 1230 | 604 | 212 | 346 | 97 |
| MAY 10... | 1015 | 216 | 17 | 9.9 | 94 |
| 25... | 0930 | 610 | 67 | 110 | 90 |
| JUN 07... | 1000 | 280 | 254 | 192 | 18 |
| 23... | 0900 | 634 | 68 | 116 | 93 |
| AUG 23... | 0945 | 412 | 30 | 33 | 81 |

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LOCATION.--Lat 39°54'20", long 105°02'04", NE¼SE¼ sec.6, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank 0.75 mi upstream from bridge on 120th Ave., and 5.2 mi downstream from outlet of Standley Lake.

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

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

REMARKS.--Estimated daily discharges: Water year 1987, Sept. 8-17, 24-29. Water year 1988, Oct. 11, 12, 20-30; Nov. 5, Dec. 18 to Mar. 7, May 8, 25-29, Sept. 5, and Sept. 16-17. 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 196 ft³/s, May 19, 1988, gage height, 2.78 ft; minimum daily, 0.72 ft³/s, Mar. 30, 1988.

EXTREMES FOR WATER YEAR 1987.--During the period July to September; maximum discharge, 122 ft³/s, Aug. 23, gage height, 2.37 ft; minimum daily, 1.0 ft³/s, Sept. 8-14, 16, 24-28.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 196 ft³/s at 0300 May 19, gage height, 2.78 ft; minimum daily, 0.72 ft³/s, Mar. 30.

[illegible]

PLATTE RIVER BASIN

06720820 BIG DRY CREEK AT WESTMINSTER, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|------|------|-------|-------|-------|------|------|------|-------|
| 1 | 20 | 37 | 1.4 | 1.0 | 1.0 | 1.1 | 4.5 | 1.2 | 17 | 59 | 44 | 42 |
| 2 | 21 | 20 | 1.8 | 1.0 | 1.0 | 1.1 | 3.8 | 2.9 | 16 | 57 | 42 | 44 |
| 3 | 22 | 10 | 2.0 | 1.0 | 1.0 | 1.1 | 3.7 | 1.7 | 24 | 51 | 52 | 30 |
| 4 | 23 | 4.5 | 1.6 | 1.0 | 1.0 | 1.2 | 2.4 | 1.1 | 25 | 62 | 71 | 2.6 |
| 5 | 25 | 1.7 | 1.5 | 1.0 | 1.0 | 1.2 | 1.8 | 4.4 | 26 | 65 | 42 | 1.0 |
| 6 | 24 | 1.1 | 1.4 | 1.0 | 1.0 | 1.2 | 1.6 | 27 | 26 | 67 | 37 | 7.3 |
| 7 | 19 | 1.6 | 1.4 | 1.0 | 1.0 | 1.3 | 1.5 | 1.8 | 28 | 67 | 32 | 6.2 |
| 8 | 17 | 3.7 | 1.4 | 1.0 | 1.0 | 1.3 | 1.3 | 7.3 | 35 | 72 | 28 | 9.0 |
| 9 | 3.0 | 1.2 | 1.3 | 1.0 | 1.0 | 1.3 | 2.4 | 34 | 45 | 60 | 27 | 13 |
| 10 | 3.4 | 1.2 | 1.3 | 1.0 | 1.0 | 1.7 | 2.5 | 41 | 49 | 56 | 27 | 10 |
| 11 | 1.0 | 1.3 | 1.2 | 1.0 | 1.0 | 2.1 | 1.9 | 41 | 66 | 56 | 26 | 11 |
| 12 | 1.0 | 1.0 | 1.2 | 1.0 | 1.0 | 1.6 | 1.6 | 44 | 72 | 54 | 26 | 25 |
| 13 | 6.5 | 1.1 | 1.1 | 1.0 | 1.0 | 1.5 | 1.4 | 51 | 75 | 37 | 27 | 3.7 |
| 14 | 19 | 1.1 | 1.2 | 1.0 | 1.0 | 2.7 | 1.3 | 50 | 79 | 45 | 31 | 4.6 |
| 15 | 7.0 | 16 | 1.1 | 1.0 | 1.0 | 1.7 | 1.5 | 51 | 81 | 48 | 47 | 2.8 |
| 16 | 3.9 | 6.8 | 1.1 | 1.0 | 1.0 | 1.4 | 1.6 | 52 | 82 | 57 | 59 | 1.0 |
| 17 | 3.2 | 2.8 | 1.1 | 1.0 | 1.0 | 1.4 | 1.7 | 54 | 87 | 57 | 61 | 1.0 |
| 18 | 2.7 | 2.0 | 1.0 | 1.0 | 1.0 | 1.4 | 2.8 | 57 | 87 | 56 | 59 | 1.0 |
| 19 | 2.6 | 2.1 | 1.0 | 1.0 | 1.0 | 1.4 | 1.5 | 125 | 94 | 56 | 56 | 1.0 |
| 20 | 1.0 | 2.2 | 1.0 | 1.0 | 1.0 | 1.3 | .97 | 96 | 111 | 48 | 52 | 1.0 |
| 21 | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.3 | 1.5 | 14 | 114 | 48 | 53 | 1.0 |
| 22 | 1.0 | 1.9 | 1.0 | 1.0 | 1.0 | 1.3 | 5.5 | 7.7 | 123 | 50 | 52 | 1.0 |
| 23 | 1.0 | 1.6 | 1.0 | 1.0 | 1.0 | 1.3 | 1.9 | 4.7 | 127 | 51 | 51 | 1.0 |
| 24 | 1.0 | 1.6 | 1.0 | 1.0 | 1.0 | 1.2 | 1.9 | 2.6 | 119 | 37 | 51 | 1.0 |
| 25 | 1.0 | 1.4 | 1.0 | 1.0 | 1.0 | 1.1 | 2.1 | 1.0 | 90 | 38 | 50 | 1.0 |
| 26 | 1.0 | 1.6 | 1.0 | 1.0 | 1.0 | .86 | 1.9 | 1.0 | 87 | 42 | 44 | 1.0 |
| 27 | 1.0 | 2.6 | 1.0 | 1.0 | 1.0 | .91 | 3.1 | 1.0 | 68 | 43 | 32 | 1.1 |
| 28 | 1.0 | 2.1 | 1.0 | 1.0 | 1.0 | 1.1 | 1.4 | 1.0 | 64 | 51 | 26 | 1.1 |
| 29 | 1.0 | 1.6 | 1.0 | 1.0 | 1.0 | 1.5 | 8.9 | 14 | 39 | 61 | 35 | 1.3 |
| 30 | 1.0 | 1.4 | 1.0 | 1.0 | --- | .72 | 1.8 | 21 | 36 | 55 | 31 | 1.3 |
| 31 | 73 | --- | 1.0 | 1.0 | --- | 3.6 | --- | 21 | --- | 50 | 40 | --- |
| TOTAL | 308.3 | 136.2 | 37.1 | 31.0 | 29.0 | 43.89 | 71.77 | 832.4 | 1992 | 1656 | 1311 | 228.0 |
| MEAN | 9.95 | 4.54 | 1.20 | 1.00 | 1.00 | 1.42 | 2.39 | 26.9 | 66.4 | 53.4 | 42.3 | 7.60 |
| MAX | 73 | 37 | 2.0 | 1.0 | 1.0 | 3.6 | 8.9 | 125 | 127 | 72 | 71 | 44 |
| MIN | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .72 | .97 | 1.0 | 16 | 37 | 26 | 1.0 |
| AC-FT | 612 | 270 | 74 | 61 | 58 | 87 | 142 | 1650 | 3950 | 3280 | 2600 | 452 |

WTR YR 1988 TOTAL 6676.66 MEAN 18.2 MAX 127 MIN .72 AC-FT 13240

PLATTE RIVER BASIN

06721500 NORTH ST VRAIN CREEK NEAR ALLENS PARK, CO.

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LOCATION.--Lat. 40°13'08", long 105°31'40", in SW¼SE¼ 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.

GAGE.--Water stage recorder. 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: Nov. 9, 10, 12, 13, 16-19, 22-25, Nov. 27 to Dec 2, Dec. 8 to Jan. 21, 24-30, Feb. 4 to Mar. 21, 23, 25, 26, Mar. 29 to Apr. 3, and Apr. 10-11. Records good except for estimated daily discharges, which are poor. No diversions upstream from station. Several observations of specific conductance and water temperatures were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--7 years (water years 1926-30, 1987-88), 59.0 ft³/s; 42,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,000 ft³/s (estimated) June 9, 1929, caused by failure of Copeland Lake dam 0.5 mi upstream; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| May 18 | 2200 | 274 | 5.48 | June 4 | 2400 | *774 | *6.17 |
| May 29 | 2300 | 490 | 5.80 | June 29 | 0100 | 524 | 5.85 |

Minimum daily discharge, 5.4 ft³/s, Jan. 11-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|------|
| 1 | 15 | 10 | 7.8 | 6.0 | 5.9 | 5.9 | 8.4 | 41 | 150 | 206 | 58 | 19 |
| 2 | 15 | 10 | 7.8 | 6.0 | 6.0 | 5.9 | 8.0 | 37 | 142 | 174 | 56 | 19 |
| 3 | 14 | 10 | 7.8 | 6.0 | 5.9 | 5.9 | 7.6 | 33 | 234 | 155 | 56 | 18 |
| 4 | 14 | 10 | 7.7 | 5.6 | 5.9 | 5.9 | 7.4 | 27 | 460 | 157 | 55 | 17 |
| 5 | 13 | 10 | 7.7 | 5.6 | 5.9 | 5.9 | 8.1 | 33 | 636 | 166 | 49 | 17 |
| 6 | 13 | 9.8 | 7.8 | 5.6 | 5.9 | 5.9 | 10 | 42 | 546 | 158 | 46 | 16 |
| 7 | 13 | 9.6 | 7.9 | 5.6 | 5.9 | 5.9 | 10 | 35 | 528 | 148 | 48 | 15 |
| 8 | 11 | 9.7 | 7.7 | 5.6 | 5.9 | 5.9 | 12 | 28 | 482 | 125 | 49 | 15 |
| 9 | 11 | 9.6 | 7.6 | 5.6 | 5.9 | 5.9 | 11 | 25 | 498 | 116 | 45 | 15 |
| 10 | 11 | 9.4 | 7.5 | 5.6 | 6.0 | 5.9 | 11 | 24 | 506 | 107 | 39 | 15 |
| 11 | 11 | 9.8 | 7.5 | 5.4 | 6.0 | 5.9 | 11 | 26 | 523 | 99 | 37 | 15 |
| 12 | 10 | 9.8 | 7.4 | 5.4 | 6.0 | 5.9 | 11 | 46 | 532 | 95 | 35 | 19 |
| 13 | 10 | 9.8 | 7.3 | 5.4 | 6.0 | 5.9 | 16 | 79 | 374 | 90 | 33 | 19 |
| 14 | 13 | 9.5 | 7.2 | 5.4 | 5.9 | 5.9 | 17 | 114 | 291 | 92 | 30 | 21 |
| 15 | 13 | 9.4 | 7.3 | 5.4 | 5.9 | 5.9 | 19 | 122 | 284 | 88 | 28 | 20 |
| 16 | 12 | 9.6 | 7.3 | 5.4 | 5.9 | 5.9 | 21 | 148 | 262 | 80 | 30 | 18 |
| 17 | 10 | 10 | 7.3 | 5.4 | 5.9 | 5.9 | 25 | 186 | 278 | 75 | 31 | 16 |
| 18 | 10 | 10 | 7.0 | 5.4 | 5.9 | 6.0 | 22 | 229 | 324 | 72 | 29 | 16 |
| 19 | 9.5 | 12 | 6.9 | 5.4 | 5.9 | 6.1 | 24 | 230 | 383 | 75 | 26 | 15 |
| 20 | 8.5 | 9.1 | 6.8 | 5.4 | 5.9 | 6.1 | 24 | 133 | 379 | 70 | 25 | 15 |
| 21 | 10 | 9.0 | 6.6 | 5.5 | 5.9 | 6.2 | 28 | 92 | 399 | 64 | 24 | 15 |
| 22 | 9.1 | 8.8 | 6.6 | 5.7 | 5.9 | 6.3 | 27 | 73 | 401 | 61 | 27 | 15 |
| 23 | 9.0 | 8.6 | 6.4 | 5.7 | 5.9 | 6.3 | 22 | 64 | 313 | 59 | 24 | 15 |
| 24 | 8.9 | 8.4 | 6.3 | 5.6 | 5.9 | 6.3 | 20 | 78 | 292 | 56 | 24 | 14 |
| 25 | 9.5 | 8.4 | 6.3 | 5.6 | 5.9 | 6.7 | 17 | 120 | 258 | 59 | 23 | 14 |
| 26 | 9.6 | 8.3 | 6.0 | 5.6 | 5.9 | 7.0 | 19 | 145 | 278 | 66 | 22 | 13 |
| 27 | 9.0 | 8.0 | 6.0 | 5.6 | 5.9 | 7.5 | 17 | 186 | 264 | 61 | 24 | 13 |
| 28 | 9.1 | 8.0 | 6.0 | 5.7 | 5.9 | 7.9 | 16 | 250 | 291 | 62 | 22 | 13 |
| 29 | 9.1 | 7.9 | 6.0 | 5.7 | 5.9 | 8.2 | 20 | 317 | 403 | 69 | 20 | 13 |
| 30 | 10 | 7.8 | 6.0 | 5.7 | --- | 8.6 | 31 | 392 | 268 | 62 | 19 | 13 |
| 31 | 11 | --- | 6.0 | 5.9 | --- | 8.5 | --- | 261 | --- | 60 | 19 | --- |
| TOTAL | 341.3 | 280.3 | 217.5 | 173.5 | 171.6 | 198.0 | 500.5 | 3616 | 10979 | 3027 | 1053 | 478 |
| MEAN | 11.0 | 9.34 | 7.02 | 5.60 | 5.92 | 6.39 | 16.7 | 117 | 366 | 97.6 | 34.0 | 15.9 |
| MAX | 15 | 12 | 7.9 | 6.0 | 6.0 | 8.6 | 31 | 392 | 636 | 206 | 58 | 21 |
| MIN | 8.5 | 7.8 | 6.0 | 5.4 | 5.9 | 5.9 | 7.4 | 24 | 142 | 56 | 19 | 13 |
| AC-FT | 677 | 556 | 431 | 344 | 340 | 393 | 993 | 7170 | 21780 | 6000 | 2090 | 948 |

| | | | | | | | | | | |
|-------------|-------|---------|------|------|-----|-----|-----|-----|-------|-------|
| CAL YR 1987 | TOTAL | 15532.7 | MEAN | 42.6 | MAX | 463 | MIN | 6.0 | AC-FT | 30810 |
| WTR YR 1988 | TOTAL | 21035.7 | MEAN | 57.5 | MAX | 636 | MIN | 5.4 | AC-FT | 41720 |

PLATTE RIVER BASIN

06724000 ST VRAIN CREEK AT LYONS, CO

LOCATION.--Lat 40°13'05", long 105°15'34", in NW¼NW¼ 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. 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.--No estimated daily discharges. Records good. Diversions upstream from station for irrigation of about 2,000 acres. Flow partly regulated by small reservoirs upstream from station.

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

AVERAGE DISCHARGE.--96 years (water years 1888-91, 1896-1987), 129 ft³/s; 93,460 acre-ft/yr, 97 years (water years 1888-91, 1896-1988), 129 ft³/s; 93,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s June 22, 1941, gage height, 9.06 ft, present datum, from floodmark, from rating curve extended above 2,100 ft³/s, on basis of slope-area measurement at gage height, 8.90 ft; no flow Jan. 19, 20, 1922, Jan. 12, 13, 1950.

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.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 1,080 ft³/s at 1000 June 9, gage height, 5.12 ft; minimum daily, 15 ft³/s, Jan. 20.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 568 ft³/s at 0530 June 12, gage height, 4.49 ft; minimum daily, 12 ft³/s, Feb. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|----------|----------|--------|--------------|------|------|-------|-------|------|------|------|
| 1 | 41 | 46 | 31 | 19 | 25 | 26 | 29 | 371 | 254 | 334 | 145 | 54 |
| 2 | 44 | 42 | 28 | 22 | 27 | 28 | 36 | 429 | 279 | 292 | 150 | 56 |
| 3 | 51 | 44 | 24 | 22 | 26 | 30 | 38 | 354 | 278 | 248 | 137 | 55 |
| 4 | 48 | 45 | 27 | 23 | 26 | 35 | 42 | 327 | 298 | 218 | 123 | 51 |
| 5 | 46 | 44 | 36 | 23 | 25 | 40 | 45 | 298 | 317 | 201 | 115 | 53 |
| 6 | 44 | 45 | 32 | 18 | 25 | 48 | 45 | 340 | 326 | 179 | 112 | 48 |
| 7 | 44 | 49 | 31 | 19 | 25 | 53 | 47 | 342 | 351 | 167 | 110 | 43 |
| 8 | 43 | 45 | 26 | 21 | 24 | 62 | 49 | 341 | 393 | 161 | 109 | 33 |
| 9 | 47 | 41 | 25 | 18 | 25 | 55 | 53 | 353 | 861 | 150 | 104 | 29 |
| 10 | 45 | 38 | 17 | 18 | 25 | 53 | 52 | 372 | 772 | 137 | 107 | 25 |
| 11 | 53 | 42 | 28 | 23 | 22 | 52 | 55 | 386 | 559 | 130 | 101 | 31 |
| 12 | 48 | 47 | 28 | 21 | 23 | 50 | 73 | 349 | 303 | 164 | 101 | 28 |
| 13 | 45 | 48 | 28 | 23 | 22 | 54 | 66 | 414 | 361 | 184 | 97 | 27 |
| 14 | 47 | 48 | 28 | 21 | 24 | 59 | 69 | 439 | 390 | 147 | 85 | 37 |
| 15 | 47 | 41 | 23 | 21 | 23 | 54 | 81 | 434 | 360 | 124 | 78 | 36 |
| 16 | 47 | 40 | 26 | 20 | 24 | 56 | 102 | 473 | 349 | 108 | 69 | 38 |
| 17 | 44 | 40 | 26 | 16 | 23 | 50 | 122 | 522 | 335 | 103 | 66 | 49 |
| 18 | 43 | 37 | 23 | 22 | 22 | 50 | 140 | 470 | 314 | 108 | 65 | 48 |
| 19 | 44 | 38 | 25 | 24 | 24 | 52 | 148 | 452 | 287 | 102 | 62 | 38 |
| 20 | 48 | 34 | 24 | 15 | 23 | 54 | 161 | 436 | 281 | 102 | 58 | 37 |
| 21 | 50 | 36 | 25 | 28 | 21 | 54 | 139 | 398 | 270 | 98 | 58 | 38 |
| 22 | 48 | 34 | 23 | 25 | 25 | 54 | 142 | 364 | 245 | 103 | 70 | 36 |
| 23 | 49 | 33 | 23 | 26 | 26 | 49 | 154 | 362 | 228 | 114 | 73 | 37 |
| 24 | 48 | 32 | 23 | 25 | 26 | 43 | 159 | 367 | 223 | 122 | 75 | 34 |
| 25 | 46 | 36 | 22 | 22 | 24 | 37 | 162 | 358 | 208 | 123 | 76 | 35 |
| 26 | 46 | 32 | 20 | 27 | 25 | 39 | 156 | 332 | 202 | 125 | 81 | 32 |
| 27 | 46 | 32 | 22 | 25 | 24 | 39 | 171 | 305 | 196 | 138 | 78 | 30 |
| 28 | 45 | 34 | 22 | 25 | 26 | 37 | 159 | 259 | 189 | 134 | 73 | 32 |
| 29 | 38 | 32 | 22 | 26 | --- | 35 | 165 | 252 | 261 | 129 | 71 | 32 |
| 30 | 36 | 33 | 22 | 25 | --- | 35 | 194 | 242 | 334 | 134 | 64 | 30 |
| 31 | 43 | --- | 21 | 27 | --- | 24 | --- | 239 | --- | 141 | 63 | --- |
| TOTAL | 1414 | 1188 | 781 | 690 | 680 | 1407 | 3054 | 11380 | 10024 | 4720 | 2776 | 1152 |
| MEAN | 45.6 | 39.6 | 25.2 | 22.3 | 24.3 | 45.4 | 102 | 367 | 334 | 152 | 89.5 | 38.4 |
| MAX | 53 | 49 | 36 | 28 | 27 | 62 | 194 | 522 | 861 | 334 | 150 | 56 |
| MIN | 36 | 32 | 17 | 15 | 21 | 24 | 29 | 239 | 189 | 98 | 58 | 25 |
| AC-FT | 2800 | 2360 | 1550 | 1370 | 1350 | 2790 | 6060 | 22570 | 19880 | 9360 | 5510 | 2280 |
| CAL YR 1986 | TOTAL 52920 | MEAN 145 | MAX 1020 | MIN 10 | AC-FT 105000 | | | | | | | |
| WTR YR 1987 | TOTAL 39266 | MEAN 108 | MAX 861 | MIN 15 | AC-FT 77880 | | | | | | | |

PLATTE RIVER BASIN

06724000 ST VRAIN CREEK AT LYONS, CO--Continued

77

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|---------|--------|-------------|------|------|-------|-------|------|------|------|
| 1 | 23 | 24 | 26 | 19 | 19 | 21 | 27 | 69 | 229 | 339 | 95 | 31 |
| 2 | 21 | 27 | 25 | 20 | 20 | 23 | 31 | 82 | 264 | 295 | 91 | 31 |
| 3 | 33 | 25 | 25 | 20 | 21 | 20 | 35 | 70 | 334 | 259 | 88 | 31 |
| 4 | 33 | 22 | 24 | 19 | 21 | 22 | 38 | 60 | 418 | 250 | 90 | 31 |
| 5 | 36 | 24 | 25 | 20 | 15 | 19 | 39 | 68 | 463 | 243 | 80 | 28 |
| 6 | 37 | 25 | 25 | 19 | 17 | 20 | 37 | 95 | 411 | 235 | 80 | 24 |
| 7 | 30 | 24 | 22 | 19 | 21 | 20 | 42 | 105 | 458 | 226 | 78 | 22 |
| 8 | 30 | 25 | 22 | 18 | 21 | 18 | 51 | 113 | 471 | 218 | 79 | 20 |
| 9 | 29 | 23 | 20 | 19 | 24 | 19 | 58 | 106 | 507 | 199 | 75 | 19 |
| 10 | 31 | 23 | 23 | 20 | 22 | 21 | 52 | 105 | 489 | 163 | 68 | 22 |
| 11 | 29 | 25 | 23 | 22 | 26 | 19 | 52 | 101 | 497 | 151 | 66 | 25 |
| 12 | 27 | 23 | 16 | 19 | 22 | 19 | 53 | 91 | 516 | 165 | 64 | 45 |
| 13 | 24 | 22 | 19 | 18 | 23 | 19 | 64 | 102 | 450 | 175 | 63 | 44 |
| 14 | 30 | 23 | 20 | 20 | 21 | 21 | 69 | 133 | 372 | 150 | 53 | 49 |
| 15 | 29 | 29 | 18 | 21 | 21 | 19 | 63 | 193 | 372 | 128 | 50 | 44 |
| 16 | 27 | 24 | 21 | 20 | 21 | 21 | 58 | 225 | 362 | 126 | 61 | 40 |
| 17 | 25 | 23 | 23 | 20 | 12 | 19 | 68 | 256 | 393 | 126 | 67 | 37 |
| 18 | 25 | 22 | 22 | 20 | 18 | 20 | 67 | 323 | 432 | 120 | 66 | 35 |
| 19 | 26 | 24 | 21 | 19 | 18 | 21 | 63 | 393 | 413 | 120 | 62 | 34 |
| 20 | 27 | 26 | 21 | 17 | 20 | 22 | 53 | 339 | 361 | 120 | 62 | 16 |
| 21 | 24 | 26 | 21 | 20 | 19 | 22 | 58 | 303 | 359 | 108 | 66 | 20 |
| 22 | 26 | 26 | 21 | 19 | 17 | 20 | 61 | 264 | 408 | 97 | 65 | 20 |
| 23 | 25 | 22 | 20 | 20 | 17 | 24 | 46 | 225 | 398 | 86 | 55 | 22 |
| 24 | 26 | 24 | 20 | 17 | 18 | 25 | 40 | 205 | 409 | 86 | 51 | 22 |
| 25 | 25 | 23 | 20 | 18 | 19 | 23 | 35 | 223 | 385 | 89 | 51 | 23 |
| 26 | 24 | 27 | 20 | 18 | 17 | 21 | 52 | 238 | 377 | 88 | 47 | 22 |
| 27 | 26 | 23 | 23 | 19 | 18 | 23 | 46 | 246 | 394 | 85 | 45 | 19 |
| 28 | 25 | 21 | 22 | 19 | 20 | 29 | 48 | 259 | 353 | 84 | 42 | 20 |
| 29 | 23 | 25 | 21 | 21 | 17 | 24 | 52 | 253 | 378 | 94 | 39 | 23 |
| 30 | 24 | 24 | 19 | 21 | --- | 27 | 61 | 271 | 357 | 108 | 41 | 20 |
| 31 | 28 | --- | 18 | 20 | --- | 25 | --- | 253 | --- | 101 | 36 | --- |
| TOTAL | 848 | 724 | 666 | 601 | 565 | 666 | 1519 | 5769 | 12030 | 4834 | 1976 | 839 |
| MEAN | 27.4 | 24.1 | 21.5 | 19.4 | 19.5 | 21.5 | 50.6 | 186 | 401 | 156 | 63.7 | 28.0 |
| MAX | 37 | 29 | 26 | 22 | 26 | 29 | 69 | 393 | 516 | 339 | 95 | 49 |
| MIN | 21 | 21 | 16 | 17 | 12 | 18 | 27 | 60 | 229 | 84 | 36 | 16 |
| AC-FT | 1680 | 1440 | 1320 | 1190 | 1120 | 1320 | 3010 | 11440 | 23860 | 9590 | 3920 | 1660 |
| CAL YR 1987 | TOTAL 38121 | MEAN 104 | MAX 861 | MIN 15 | AC-FT 75610 | | | | | | | |
| WTR YR 1988 | TOTAL 31037 | MEAN 84.8 | MAX 516 | MIN 12 | AC-FT 61560 | | | | | | | |

LOCATION.--Lat 40°09'30", long 105°00'48", in NW1/4 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.

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

REMARKS.--Estimated daily discharges: Jan. 2-6, Feb. 24 to Mar.6, Mar. 31 to Apr. 5, and Apr. 22-28. Records good. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas. Several observations of specific conductance and temperature are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,380 ft³/s, May 1, 1980, gage height, 6.37 ft; minimum daily, 22 ft³/s, Apr. 25, 1978, Apr. 3, 25, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 755 ft³/s at 0230 Aug. 4, gage height, 4.31 ft; minimum daily, 29 ft³/s, Jan. 9, 11.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|------|------|------|------|------|------|-------|-------|------|------|
| 1 | 65 | 62 | 50 | 47 | 42 | 60 | 45 | 41 | 87 | 123 | 159 | 101 |
| 2 | 62 | 53 | 53 | 47 | 37 | 90 | 42 | 48 | 77 | 120 | 156 | 101 |
| 3 | 65 | 52 | 52 | 47 | 37 | 69 | 38 | 46 | 95 | 109 | 162 | 89 |
| 4 | 70 | 48 | 52 | 47 | 37 | 50 | 36 | 52 | 108 | 102 | 331 | 78 |
| 5 | 70 | 48 | 52 | 46 | 37 | 46 | 35 | 49 | 117 | 98 | 199 | 82 |
| 6 | 72 | 50 | 52 | 46 | 37 | 40 | 34 | 47 | 86 | 91 | 177 | 83 |
| 7 | 74 | 55 | 51 | 40 | 37 | 38 | 32 | 46 | 96 | 111 | 178 | 91 |
| 8 | 64 | 53 | 52 | 39 | 37 | 35 | 38 | 48 | 93 | 143 | 178 | 84 |
| 9 | 64 | 47 | 52 | 29 | 37 | 33 | 46 | 50 | 112 | 123 | 167 | 80 |
| 10 | 62 | 45 | 52 | 37 | 44 | 36 | 38 | 53 | 122 | 102 | 141 | 82 |
| 11 | 65 | 45 | 49 | 29 | 41 | 36 | 42 | 67 | 133 | 103 | 131 | 98 |
| 12 | 58 | 44 | 49 | 33 | 44 | 34 | 41 | 68 | 123 | 118 | 115 | 131 |
| 13 | 59 | 48 | 48 | 37 | 50 | 36 | 42 | 70 | 121 | 161 | 107 | 88 |
| 14 | 77 | 48 | 41 | 40 | 43 | 36 | 38 | 59 | 96 | 156 | 107 | 93 |
| 15 | 70 | 64 | 45 | 34 | 53 | 37 | 42 | 83 | 124 | 146 | 106 | 104 |
| 16 | 66 | 69 | 48 | 40 | 47 | 37 | 44 | 69 | 105 | 136 | 122 | 81 |
| 17 | 65 | 63 | 59 | 40 | 43 | 37 | 44 | 77 | 119 | 123 | 121 | 78 |
| 18 | 65 | 70 | 49 | 38 | 39 | 37 | 62 | 133 | 144 | 133 | 121 | 76 |
| 19 | 64 | 66 | 53 | 34 | 40 | 38 | 52 | 189 | 122 | 159 | 114 | 74 |
| 20 | 64 | 58 | 47 | 40 | 41 | 37 | 56 | 210 | 96 | 160 | 112 | 73 |
| 21 | 58 | 49 | 45 | 40 | 45 | 38 | 89 | 144 | 80 | 178 | 135 | 61 |
| 22 | 56 | 51 | 44 | 46 | 41 | 34 | 78 | 133 | 105 | 165 | 136 | 59 |
| 23 | 53 | 47 | 45 | 37 | 37 | 34 | 64 | 129 | 93 | 159 | 143 | 63 |
| 24 | 44 | 44 | 46 | 34 | 34 | 37 | 54 | 126 | 92 | 121 | 133 | 56 |
| 25 | 45 | 43 | 45 | 37 | 34 | 39 | 45 | 121 | 103 | 118 | 131 | 53 |
| 26 | 45 | 44 | 55 | 37 | 34 | 40 | 44 | 121 | 190 | 121 | 136 | 58 |
| 27 | 46 | 45 | 49 | 38 | 34 | 40 | 43 | 126 | 167 | 128 | 123 | 62 |
| 28 | 48 | 45 | 46 | 38 | 35 | 41 | 43 | 109 | 149 | 128 | 127 | 65 |
| 29 | 57 | 43 | 49 | 41 | 35 | 37 | 40 | 94 | 161 | 144 | 123 | 66 |
| 30 | 60 | 46 | 57 | 44 | --- | 39 | 40 | 93 | 146 | 154 | 126 | 65 |
| 31 | 71 | --- | 47 | 41 | --- | 46 | --- | 85 | --- | 151 | 111 | --- |
| TOTAL | 1904 | 1545 | 1534 | 1223 | 1152 | 1287 | 1387 | 2786 | 3462 | 4084 | 4428 | 2375 |
| MEAN | 61.4 | 51.5 | 49.5 | 39.5 | 39.7 | 41.5 | 46.2 | 89.9 | 115 | 132 | 143 | 79.2 |
| MAX | 77 | 70 | 59 | 47 | 53 | 90 | 89 | 210 | 190 | 178 | 331 | 131 |
| MIN | 44 | 43 | 41 | 29 | 34 | 33 | 32 | 41 | 77 | 91 | 106 | 53 |
| AC-FT | 3780 | 3060 | 3040 | 2430 | 2280 | 2550 | 2750 | 5530 | 6870 | 8100 | 8780 | 4710 |
| CAL YR 1987 | TOTAL | 40853 | MEAN | 112 | MAX | 532 | MIN | 41 | AC-FT | 81030 | | |
| WTR YR 1988 | TOTAL | 27167 | MEAN | 74.2 | MAX | 331 | MIN | 29 | AC-FT | 53890 | | |

06726900 BUMMERS GULCH NEAR EL VADO. CO

LOCATION.--Lat 40°00'42", long 105°20'53", in NE¼NW¼ 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.

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

REMARKS.--Estimated daily discharges: Dec. 25 to Mar. 9, July 23 to Aug. 3, and Aug. 9 to Sept. 11. Records good except for estimated daily discharges, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 0.58 ft³/s; 420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7.8 ft³/s, Apr. 25, 1984, gage height, 2.65 ft, maximum gage height, 2.70 ft, July 7, 1988; minimum daily discharge, 0.02 ft³/s, Sept. 1, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.8 ft³/s at 2315 July 7, gage height, 2.70 ft; minimum daily, 0.03 ft³/s, Sept. 6-10.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|------|------|-------|-------|-------|-------|------|------|------|
| 1 | .33 | .28 | .34 | .27 | .25 | .26 | .52 | .56 | .84 | .30 | .13 | .04 |
| 2 | .34 | .28 | .35 | .27 | .25 | .28 | .62 | .64 | .80 | .29 | .13 | .04 |
| 3 | .32 | .28 | .35 | .26 | .25 | .26 | .65 | .60 | .76 | .28 | .12 | .04 |
| 4 | .32 | .28 | .36 | .26 | .25 | .26 | .65 | .57 | .74 | .27 | .24 | .04 |
| 5 | .33 | .27 | .37 | .25 | .25 | .26 | .64 | .57 | .72 | .26 | .16 | .04 |
| 6 | .35 | .28 | .35 | .25 | .25 | .27 | .61 | .57 | .69 | .25 | .14 | .03 |
| 7 | .35 | .25 | .36 | .25 | .25 | .31 | .60 | .56 | .64 | .34 | .16 | .03 |
| 8 | .35 | .25 | .37 | .25 | .25 | .35 | .60 | .54 | .62 | .45 | .14 | .03 |
| 9 | .35 | .25 | .35 | .25 | .25 | .40 | .62 | .53 | .62 | .34 | .12 | .03 |
| 10 | .33 | .25 | .38 | .25 | .25 | .40 | .63 | .54 | .55 | .32 | .11 | .03 |
| 11 | .33 | .25 | .38 | .25 | .25 | .38 | .63 | .52 | .54 | .31 | .10 | .10 |
| 12 | .33 | .25 | .33 | .25 | .25 | .39 | .61 | .49 | .52 | .29 | .09 | .26 |
| 13 | .33 | .25 | .40 | .25 | .25 | .40 | .60 | .47 | .52 | .28 | .09 | .18 |
| 14 | .41 | .25 | .40 | .25 | .25 | .41 | .59 | .47 | .51 | .27 | .08 | .17 |
| 15 | .38 | .30 | .40 | .25 | .25 | .38 | .58 | .46 | .49 | .27 | .08 | .14 |
| 16 | .37 | .28 | .40 | .25 | .25 | .37 | .57 | .46 | .48 | .25 | .09 | .09 |
| 17 | .33 | .28 | .37 | .25 | .25 | .37 | .73 | .47 | .45 | .24 | .09 | .07 |
| 18 | .33 | .30 | .33 | .25 | .25 | .38 | .67 | .58 | .43 | .23 | .09 | .06 |
| 19 | .33 | .31 | .33 | .25 | .25 | .43 | .62 | 1.4 | .42 | .29 | .08 | .07 |
| 20 | .33 | .33 | .31 | .25 | .25 | .44 | .61 | 1.6 | .39 | .26 | .08 | .06 |
| 21 | .33 | .32 | .31 | .25 | .25 | .44 | .58 | 1.4 | .38 | .24 | .07 | .05 |
| 22 | .33 | .34 | .30 | .25 | .25 | .46 | .64 | 1.3 | .34 | .23 | .07 | .06 |
| 23 | .33 | .32 | .30 | .25 | .25 | .48 | .67 | 1.2 | .32 | .22 | .07 | .05 |
| 24 | .32 | .32 | .30 | .25 | .25 | .51 | .63 | 1.1 | .30 | .21 | .06 | .05 |
| 25 | .30 | .30 | .30 | .25 | .25 | .49 | .63 | 1.1 | .30 | .20 | .06 | .05 |
| 26 | .30 | .32 | .29 | .25 | .25 | .50 | .62 | .98 | .34 | .19 | .06 | .05 |
| 27 | .30 | .33 | .29 | .25 | .25 | .51 | .61 | .94 | .31 | .18 | .05 | .05 |
| 28 | .30 | .33 | .28 | .25 | .25 | .53 | .58 | .92 | .29 | .17 | .05 | .05 |
| 29 | .30 | .35 | .28 | .25 | .25 | .54 | .59 | .91 | .31 | .16 | .05 | .05 |
| 30 | .30 | .34 | .28 | .25 | --- | .52 | .57 | .86 | .31 | .15 | .05 | .05 |
| 31 | .30 | --- | .27 | .25 | --- | .44 | --- | .86 | --- | .14 | .05 | --- |
| TOTAL | 10.25 | 8.74 | 10.43 | 7.81 | 7.25 | 12.42 | 18.47 | 24.17 | 14.93 | 7.88 | 2.96 | 2.06 |
| MEAN | .33 | .29 | .34 | .25 | .25 | .40 | .62 | .78 | .50 | .25 | .095 | .069 |
| MAX | .41 | .35 | .40 | .27 | .25 | .54 | .73 | 1.6 | .84 | .45 | .24 | .26 |
| MIN | .30 | .25 | .27 | .25 | .25 | .26 | .52 | .46 | .29 | .14 | .05 | .03 |
| AC-FT | 20 | 17 | 21 | 15 | 14 | 25 | 37 | 48 | 30 | 16 | 5.9 | 4.1 |
| CAL YR 1987 | TOTAL | 301.07 | MEAN | .82 | MAX | 4.0 | MIN | .25 | AC-FT | 597 | | |
| WTR YR 1988 | TOTAL | 127.37 | MEAN | .35 | MAX | 1.6 | MIN | .03 | AC-FT | 253 | | |

06727000 BOULDER CREEK NEAR ORODELL. CO

80

LOCATION.--Lat 40°00'23", long 105°19'49", in NE¼SW¼ 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. 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: Water year 1987, Sept. 16-18; water year 1988, Dec. 15-22. 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.

AVERAGE DISCHARGE.--79 years (water years 1907-14, 1917-87), 88.0 ft³/s; 63,760 acre-ft/yr; 80 years (water years 1907-14, 1917-88), 87.7 ft³/s; 63,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s, June 6, 1921, gage height, 4.31 ft, from rating curve extended above 1,200 ft³/s; minimum daily, 1 ft³/s, Jan. 29, Feb. 1-3, 16-24, 1933.

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.

EXTREMES FOR WATER YEAR 1987-Maximum discharge, 416 ft³/s at 0330 June 10, gage height, 3.26 ft; minimum daily, 5.5 ft³/s, Feb. 9.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 440 ft³/s at 0730 June 22, gage height, 3.29 ft; minimum daily, 4.6 ft³/s, Oct. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-----------|---------|---------|-------------|------|------|------|-------|------|------|-------|
| 1 | 51 | 28 | 25 | 37 | 26 | 27 | 27 | 122 | 167 | 218 | 104 | 25 |
| 2 | 31 | 28 | 24 | 34 | 26 | 22 | 26 | 127 | 190 | 165 | 96 | 27 |
| 3 | 32 | 33 | 24 | 36 | 24 | 29 | 32 | 115 | 170 | 140 | 89 | 20 |
| 4 | 27 | 34 | 27 | 31 | 19 | 30 | 32 | 99 | 176 | 124 | 80 | 20 |
| 5 | 26 | 40 | 25 | 35 | 20 | 32 | 30 | 143 | 190 | 117 | 69 | 36 |
| 6 | 21 | 40 | 26 | 32 | 8.8 | 30 | 32 | 167 | 190 | 97 | 55 | 46 |
| 7 | 15 | 33 | 23 | 31 | 7.1 | 35 | 37 | 166 | 190 | 85 | 55 | 46 |
| 8 | 14 | 29 | 35 | 33 | 5.6 | 37 | 39 | 160 | 231 | 78 | 62 | 44 |
| 9 | 19 | 24 | 38 | 35 | 5.5 | 38 | 50 | 151 | 352 | 76 | 64 | 41 |
| 10 | 19 | 25 | 35 | 37 | 16 | 37 | 44 | 147 | 352 | 63 | 71 | 36 |
| 11 | 21 | 28 | 36 | 29 | 6.5 | 32 | 36 | 137 | 285 | 58 | 62 | 28 |
| 12 | 5.9 | 31 | 34 | 24 | 6.0 | 36 | 47 | 143 | 235 | 85 | 67 | 20 |
| 13 | 6.4 | 29 | 26 | 34 | 33 | 33 | 45 | 135 | 212 | 112 | 46 | 20 |
| 14 | 15 | 25 | 23 | 35 | 27 | 28 | 43 | 131 | 204 | 87 | 60 | 23 |
| 15 | 20 | 23 | 22 | 31 | 29 | 34 | 52 | 123 | 190 | 87 | 47 | 25 |
| 16 | 21 | 22 | 25 | 34 | 23 | 31 | 70 | 121 | 183 | 79 | 48 | 32 |
| 17 | 20 | 27 | 25 | 32 | 26 | 34 | 82 | 143 | 157 | 74 | 54 | 29 |
| 18 | 18 | 23 | 45 | 31 | 27 | 33 | 112 | 199 | 137 | 92 | 54 | 36 |
| 19 | 15 | 24 | 34 | 32 | 27 | 34 | 114 | 193 | 151 | 72 | 40 | 38 |
| 20 | 19 | 23 | 34 | 26 | 25 | 31 | 117 | 163 | 137 | 62 | 19 | 40 |
| 21 | 17 | 24 | 40 | 31 | 27 | 36 | 98 | 138 | 126 | 57 | 19 | 40 |
| 22 | 16 | 25 | 29 | 30 | 25 | 32 | 105 | 137 | 126 | 72 | 29 | 29 |
| 23 | 16 | 27 | 40 | 30 | 26 | 30 | 124 | 140 | 128 | 66 | 62 | 18 |
| 24 | 36 | 23 | 34 | 29 | 28 | 29 | 143 | 253 | 126 | 67 | 67 | 15 |
| 25 | 35 | 26 | 37 | 31 | 26 | 29 | 152 | 235 | 131 | 60 | 60 | 14 |
| 26 | 41 | 22 | 32 | 30 | 27 | 26 | 134 | 216 | 121 | 67 | 50 | 12 |
| 27 | 27 | 25 | 33 | 20 | 27 | 29 | 133 | 201 | 111 | 70 | 51 | 7.9 |
| 28 | 22 | 22 | 32 | 25 | 27 | 28 | 127 | 176 | 102 | 64 | 49 | 6.6 |
| 29 | 19 | 27 | 32 | 24 | --- | 28 | 132 | 157 | 158 | 66 | 48 | 16 |
| 30 | 20 | 22 | 33 | 23 | --- | 24 | 118 | 146 | 247 | 94 | 42 | 17 |
| 31 | 23 | --- | 37 | 21 | --- | 24 | --- | 148 | --- | 114 | 32 | --- |
| TOTAL | 688.3 | 812 | 965 | 943 | 600.5 | 958 | 2333 | 4832 | 5475 | 2768 | 1751 | 807.5 |
| MEAN | 22.2 | 27.1 | 31.1 | 30.4 | 21.4 | 30.9 | 77.8 | 156 | 182 | 89.3 | 56.5 | 26.9 |
| MAX | 51 | 40 | 45 | 37 | 33 | 38 | 152 | 253 | 352 | 218 | 104 | 46 |
| MIN | 5.9 | 22 | 22 | 20 | 5.5 | 22 | 26 | 99 | 102 | 57 | 19 | 6.6 |
| AC-FT | 1370 | 1610 | 1910 | 1870 | 1190 | 1900 | 4630 | 9580 | 10860 | 5490 | 3470 | 1600 |
| CAL YR 1986 | TOTAL 31466.4 | MEAN 86.2 | MAX 556 | MIN 5.9 | AC-FT 62410 | | | | | | | |
| WTR YR 1987 | TOTAL 22933.3 | MEAN 62.8 | MAX 352 | MIN 5.5 | AC-FT 45490 | | | | | | | |

06727000 BOULDER CREEK NEAR ORODELL, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|-------|-------|------|------|-------|-------|------|-------|
| 1 | 13 | 34 | 30 | 6.9 | 6.0 | 39 | 26 | 44 | 113 | 266 | 93 | 24 |
| 2 | 12 | 41 | 21 | 16 | 17 | 37 | 15 | 46 | 86 | 228 | 93 | 25 |
| 3 | 12 | 41 | 21 | 6.5 | 7.2 | 35 | 26 | 45 | 99 | 197 | 83 | 18 |
| 4 | 4.6 | 48 | 20 | 22 | 17 | 36 | 16 | 43 | 91 | 206 | 90 | 15 |
| 5 | 22 | 60 | 21 | 8.7 | 7.5 | 36 | 30 | 39 | 102 | 252 | 83 | 15 |
| 6 | 18 | 54 | 20 | 25 | 17 | 34 | 16 | 45 | 191 | 242 | 83 | 14 |
| 7 | 23 | 41 | 20 | 8.2 | 7.5 | 31 | 35 | 50 | 211 | 211 | 83 | 12 |
| 8 | 19 | 34 | 19 | 20 | 15 | 38 | 45 | 53 | 186 | 191 | 73 | 11 |
| 9 | 21 | 39 | 14 | 9.3 | 7.0 | 38 | 20 | 44 | 184 | 188 | 65 | 11 |
| 10 | 33 | 39 | 24 | 26 | 18 | 36 | 30 | 40 | 187 | 168 | 57 | 9.3 |
| 11 | 38 | 41 | 12 | 12 | 9.1 | 36 | 20 | 48 | 188 | 149 | 49 | 8.9 |
| 12 | 36 | 46 | 10 | 22 | 7.6 | 26 | 18 | 47 | 200 | 126 | 35 | 17 |
| 13 | 47 | 41 | 5.2 | 7.5 | 12 | 19 | 80 | 49 | 194 | 99 | 29 | 18 |
| 14 | 45 | 33 | 15 | 6.9 | 10 | 14 | 56 | 48 | 243 | 106 | 30 | 23 |
| 15 | 43 | 46 | 19 | 6.9 | 14 | 8.0 | 62 | 49 | 351 | 110 | 32 | 25 |
| 16 | 44 | 55 | 25 | 13 | 13 | 7.6 | 24 | 53 | 357 | 83 | 26 | 25 |
| 17 | 39 | 33 | 25 | 7.2 | 13 | 14 | 37 | 101 | 361 | 70 | 37 | 25 |
| 18 | 41 | 37 | 20 | 20 | 19 | 14 | 56 | 182 | 364 | 60 | 45 | 24 |
| 19 | 39 | 42 | 24 | 7.2 | 14 | 28 | 43 | 188 | 400 | 80 | 43 | 21 |
| 20 | 40 | 46 | 21 | 7.2 | 19 | 8.0 | 75 | 155 | 372 | 96 | 34 | 16 |
| 21 | 37 | 43 | 19 | 7.2 | 14 | 29 | 73 | 146 | 372 | 89 | 27 | 12 |
| 22 | 39 | 32 | 7.2 | 20 | 17 | 13 | 62 | 137 | 427 | 75 | 29 | 14 |
| 23 | 30 | 32 | 8.3 | 14 | 21 | 9.8 | 37 | 113 | 384 | 49 | 30 | 15 |
| 24 | 35 | 28 | 10 | 17 | 24 | 21 | 74 | 79 | 369 | 58 | 26 | 16 |
| 25 | 35 | 28 | 33 | 15 | 23 | 10 | 29 | 91 | 309 | 56 | 22 | 18 |
| 26 | 38 | 30 | 7.5 | 12 | 25 | 22 | 59 | 132 | 324 | 55 | 19 | 17 |
| 27 | 29 | 29 | 8.1 | 15 | 35 | 14 | 25 | 135 | 395 | 49 | 65 | 15 |
| 28 | 36 | 28 | 34 | 27 | 32 | 26 | 60 | 103 | 400 | 52 | 37 | 14 |
| 29 | 31 | 29 | 23 | 14 | 32 | 8.8 | 25 | 129 | 376 | 69 | 26 | 14 |
| 30 | 34 | 28 | 8.5 | 12 | --- | 19 | 42 | 163 | 317 | 80 | 21 | 18 |
| 31 | 30 | --- | 21 | 11 | --- | 15 | --- | 151 | --- | 72 | 21 | --- |
| TOTAL | 963.6 | 1158 | 565.8 | 422.7 | 472.9 | 722.2 | 1216 | 2748 | 8153 | 3832 | 1486 | 510.2 |
| MEAN | 31.1 | 38.6 | 18.3 | 13.6 | 16.3 | 23.3 | 40.5 | 88.6 | 272 | 124 | 47.9 | 17.0 |
| MAX | 47 | 60 | 34 | 27 | 35 | 39 | 80 | 188 | 427 | 266 | 93 | 25 |
| MIN | 4.6 | 28 | 5.2 | 6.5 | 6.0 | 7.6 | 15 | 39 | 86 | 49 | 19 | 8.9 |
| AC-FT | 1910 | 2300 | 1120 | 838 | 938 | 1430 | 2410 | 5450 | 16170 | 7600 | 2950 | 1010 |
| CAL YR 1987 | TOTAL | 23155.4 | MEAN | 63.4 | MAX | 352 | MIN | 4.6 | AC-FT | 45930 | | |
| WTR YR 1988 | TOTAL | 22250.4 | MEAN | 60.8 | MAX | 427 | MIN | 4.6 | AC-FT | 44130 | | |

06727500 FOURMILE CREEK AT ORODELL, CO

LOCATION.--Lat 40°01'08", long 105°19'32", in NW¼Sec.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, 2.5 mi west of courthouse in Boulder.

DRAINAGE AREA.--24.1 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 5,760 ft above National Geodetic Vertical Datum of 1929, from topographic map. April 1, 1947 to September 30, 1953 water-stage recorder 500 feet downstream; April 1, 1978 to September 1982 crest-stage gage 200 feet downstream, at different datums.

REMARKS.--Estimated daily discharges: Dec. 24 to Mar. 9, and Aug. 11 to Sept. 11. Records good except for estimated daily discharges, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years (water years 1947-53, 1983-88), 6.94 ft³/s, 5,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 256 ft³/s, June 6, 1949, gage height, 3.66 ft, site and datum then in use; no flow, Sept. 1-7, 15-18, 1948, and Sept. 5-11, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90 ft³/s at 1915 May 20, gage height, 3.46 ft; no flow, Sept. 5-

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-------|-----------|--------|---------|------------|-------|------|-------|-------|-------|-------|
| 1 | .62 | 1.1 | 1.4 | .98 | .96 | .96 | 3.2 | 16 | 24 | 5.1 | .73 | .04 |
| 2 | .63 | 1.1 | 1.3 | .98 | .96 | 1.2 | 3.6 | 18 | 21 | 4.5 | .71 | .03 |
| 3 | .67 | 1.1 | 1.2 | .98 | .96 | 1.4 | 3.7 | 17 | 19 | 4.4 | .71 | .02 |
| 4 | .61 | 1.1 | 1.2 | .98 | .96 | 1.6 | 4.2 | 16 | 19 | 4.0 | 1.0 | .01 |
| 5 | .64 | 1.1 | 1.3 | .98 | .96 | 1.8 | 4.5 | 15 | 20 | 4.3 | .92 | .00 |
| 6 | .69 | 1.1 | 1.3 | .96 | .96 | 2.0 | 4.4 | 15 | 19 | 3.3 | .76 | .00 |
| 7 | .76 | 1.2 | 1.2 | .96 | .96 | 2.2 | 5.3 | 15 | 18 | 3.6 | .87 | .00 |
| 8 | .76 | 1.2 | 1.3 | .96 | .96 | 2.5 | 6.1 | 14 | 18 | 4.4 | .98 | .00 |
| 9 | .79 | 1.1 | 1.3 | .96 | .96 | 2.9 | 6.1 | 13 | 18 | 3.4 | .76 | .00 |
| 10 | .79 | 1.0 | 1.3 | .96 | .96 | 2.1 | 5.7 | 12 | 17 | 3.2 | .76 | .00 |
| 11 | .84 | .97 | 1.3 | .96 | .96 | 2.0 | 5.6 | 11 | 16 | 3.2 | .70 | .00 |
| 12 | .86 | .93 | 1.3 | .96 | .96 | 1.6 | 5.9 | 11 | 15 | 2.4 | .64 | .36 |
| 13 | .86 | .91 | 1.3 | .96 | .96 | 1.7 | 6.5 | 12 | 15 | 2.0 | .56 | 1.1 |
| 14 | 1.4 | .95 | 1.3 | .96 | .96 | 2.1 | 7.4 | 13 | 14 | 1.7 | .50 | 1.8 |
| 15 | 1.4 | 1.4 | 1.3 | .96 | .96 | 2.4 | 7.9 | 15 | 13 | 1.6 | .50 | 1.8 |
| 16 | 1.4 | 1.2 | 1.3 | .96 | .96 | 2.1 | 8.3 | 16 | 13 | 1.5 | .60 | 1.1 |
| 17 | 1.3 | 1.3 | 1.3 | .96 | .96 | 2.0 | 14 | 16 | 12 | 1.3 | .54 | .78 |
| 18 | 1.1 | 1.3 | 1.3 | .96 | .96 | 2.2 | 19 | 21 | 11 | 1.2 | .50 | .66 |
| 19 | 1.1 | 1.3 | 1.2 | .96 | .96 | 2.3 | 24 | 44 | 11 | 1.7 | .50 | .60 |
| 20 | 1.1 | 1.3 | 1.2 | .96 | .96 | 2.1 | 24 | 78 | 11 | 1.7 | .50 | .63 |
| 21 | 1.1 | 1.3 | 1.2 | .96 | .96 | 2.2 | 25 | 80 | 11 | 1.2 | .45 | .56 |
| 22 | 1.2 | 1.2 | 1.1 | .96 | .96 | 2.4 | 26 | 66 | 10 | .92 | .40 | .41 |
| 23 | 1.2 | 1.2 | 1.1 | .96 | .96 | 2.6 | 23 | 52 | 9.8 | .79 | .35 | .37 |
| 24 | 1.1 | 1.1 | 1.0 | .96 | .96 | 2.9 | 20 | 41 | 9.1 | .83 | .30 | .36 |
| 25 | 1.1 | 1.3 | 1.0 | .96 | .96 | 2.4 | 18 | 34 | 8.3 | .76 | .25 | .31 |
| 26 | 1.1 | 1.8 | 1.0 | .96 | .96 | 2.6 | 17 | 29 | 8.0 | .79 | .20 | .27 |
| 27 | 1.1 | 1.8 | 1.0 | .96 | .96 | 2.9 | 16 | 27 | 7.6 | .78 | .15 | .27 |
| 28 | 1.1 | 1.6 | 1.0 | .96 | .96 | 3.3 | 15 | 26 | 7.6 | .74 | .10 | .30 |
| 29 | 1.0 | 1.6 | 1.0 | .96 | .96 | 3.1 | 14 | 26 | 7.2 | .85 | .09 | .34 |
| 30 | 1.1 | 1.5 | 1.0 | .96 | --- | 2.9 | 15 | 27 | 6.1 | .76 | .07 | .43 |
| 31 | 1.3 | --- | .98 | .96 | --- | 2.7 | --- | 26 | --- | .71 | .05 | --- |
| TOTAL | 30.72 | 37.06 | 36.98 | 29.86 | 27.84 | 69.16 | 358.4 | 822 | 408.7 | 67.63 | 16.15 | 12.55 |
| MEAN | .99 | 1.24 | 1.19 | .96 | .96 | 2.23 | 11.9 | 26.5 | 13.6 | 2.18 | .52 | .42 |
| MAX | 1.4 | 1.8 | 1.4 | .98 | .96 | 3.3 | 26 | 80 | 24 | 5.1 | 1.0 | 1.8 |
| MIN | .61 | .91 | .98 | .96 | .96 | .96 | 3.2 | 11 | 6.1 | .71 | .05 | .00 |
| AC-FT | 61 | 74 | 73 | 59 | 55 | 137 | 711 | 1630 | 811 | 134 | 32 | 25 |
| CAL YR 1987 | TOTAL 2697.44 | | MEAN 7.39 | MAX 59 | MIN .50 | AC-FT 5350 | | | | | | |
| WTR YR 1988 | TOTAL 1917.05 | | MEAN 5.24 | MAX 80 | MIN .00 | AC-FT 3800 | | | | | | |

PLATTE RIVER BASIN

83

06729500 SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO

LOCATION.--Lat 39°55'52", long 105°17'43", in SE¼ 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.

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

GAGE.--Water-stage recorder. 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: Water year 1987; Dec. 9 to Jan. 21, Feb. 1-3, 6, Feb. 21-23, and Mar. 1-2; water year 1988, Dec. 14-18, Dec. 24 to Feb. 22, Mar. 8, 12-15, and Mar. 17-18. Records fair except for estimated daily discharges, which are poor. 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.

AVERAGE DISCHARGE.--31 years (water years 1957-87), 62.2 ft³/s; 45,060 acre-ft/yr, 32 years (water years 1957-88), 62.2 ft³/s; 45,060 acre-ft/yr, unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,390 ft³/s, Sept. 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; no flow Oct. 15, 1932.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 350 ft³/s at 2300 June 8, gage height, 2.96 ft; minimum daily, 3.0 ft³/s, Dec. 22.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 474 ft³/s at 1830 May 20, gage height, 3.21 ft; minimum daily, 3.0 ft³/s, Jan. 16-19, Jan. 29 to Feb. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|------|------|------|-------|------|------|------|
| 1 | 19 | 16 | 16 | 9.0 | 8.0 | 18 | 24 | 66 | 158 | 167 | 26 | 26 |
| 2 | 21 | 16 | 16 | 9.0 | 9.0 | 21 | 30 | 69 | 161 | 142 | 28 | 25 |
| 3 | 26 | 16 | 16 | 9.0 | 9.0 | 22 | 35 | 76 | 167 | 132 | 24 | 25 |
| 4 | 25 | 16 | 12 | 9.0 | 9.4 | 24 | 38 | 76 | 172 | 117 | 24 | 25 |
| 5 | 24 | 16 | 7.6 | 9.0 | 8.8 | 25 | 38 | 81 | 175 | 108 | 25 | 25 |
| 6 | 24 | 16 | 7.6 | 8.0 | 9.0 | 28 | 40 | 90 | 197 | 104 | 27 | 25 |
| 7 | 24 | 20 | 8.2 | 8.0 | 8.6 | 29 | 45 | 92 | 210 | 86 | 27 | 25 |
| 8 | 17 | 19 | 7.6 | 8.0 | 8.2 | 30 | 52 | 95 | 234 | 83 | 26 | 25 |
| 9 | 12 | 18 | 9.0 | 11 | 8.2 | 29 | 56 | 108 | 253 | 88 | 28 | 25 |
| 10 | 11 | 18 | 7.0 | 12 | 8.2 | 29 | 56 | 113 | 214 | 90 | 26 | 25 |
| 11 | 12 | 17 | 4.0 | 13 | 8.2 | 29 | 58 | 110 | 207 | 90 | 25 | 29 |
| 12 | 11 | 17 | 4.0 | 13 | 8.2 | 29 | 63 | 108 | 164 | 92 | 24 | 27 |
| 13 | 11 | 16 | 5.0 | 12 | 8.2 | 29 | 58 | 133 | 125 | 90 | 24 | 27 |
| 14 | 12 | 16 | 5.0 | 11 | 8.2 | 29 | 68 | 153 | 142 | 88 | 32 | 28 |
| 15 | 11 | 16 | 5.0 | 9.0 | 7.7 | 29 | 88 | 158 | 184 | 86 | 38 | 28 |
| 16 | 10 | 16 | 5.0 | 11 | 7.6 | 30 | 99 | 167 | 197 | 72 | 38 | 21 |
| 17 | 14 | 12 | 4.0 | 12 | 7.6 | 30 | 130 | 188 | 207 | 65 | 45 | 16 |
| 18 | 18 | 8.8 | 4.0 | 12 | 10 | 30 | 158 | 197 | 207 | 63 | 51 | 15 |
| 19 | 18 | 8.8 | 4.0 | 13 | 16 | 30 | 158 | 197 | 197 | 62 | 50 | 15 |
| 20 | 18 | 8.8 | 4.0 | 8.0 | 14 | 31 | 133 | 188 | 172 | 60 | 50 | 14 |
| 21 | 18 | 12 | 4.0 | 8.0 | 12 | 30 | 94 | 184 | 144 | 56 | 39 | 14 |
| 22 | 24 | 16 | 3.0 | 6.5 | 12 | 30 | 90 | 188 | 139 | 54 | 31 | 14 |
| 23 | 24 | 16 | 7.0 | 4.7 | 11 | 30 | 88 | 188 | 147 | 50 | 29 | 14 |
| 24 | 24 | 16 | 9.0 | 3.4 | 9.4 | 30 | 81 | 191 | 153 | 39 | 27 | 14 |
| 25 | 24 | 16 | 9.0 | 4.0 | 10 | 24 | 75 | 194 | 144 | 33 | 31 | 14 |
| 26 | 24 | 16 | 9.0 | 5.0 | 13 | 19 | 74 | 191 | 125 | 32 | 32 | 14 |
| 27 | 24 | 16 | 9.0 | 5.0 | 14 | 20 | 69 | 178 | 117 | 32 | 32 | 14 |
| 28 | 24 | 16 | 9.0 | 4.0 | 13 | 22 | 63 | 172 | 117 | 31 | 32 | 14 |
| 29 | 24 | 16 | 8.0 | 4.0 | --- | 20 | 65 | 164 | 130 | 30 | 32 | 14 |
| 30 | 24 | 18 | 8.0 | 6.0 | --- | 18 | 74 | 158 | 158 | 30 | 31 | 14 |
| 31 | 21 | --- | 8.0 | 8.0 | --- | 20 | --- | 161 | --- | 28 | 28 | --- |
| TOTAL | 593 | 465.4 | 234.0 | 264.6 | 276.5 | 814 | 2200 | 4434 | 5117 | 2300 | 982 | 611 |
| MEAN | 19.1 | 15.5 | 7.55 | 8.54 | 9.87 | 26.3 | 73.3 | 143 | 171 | 74.2 | 31.7 | 20.4 |
| MAX | 26 | 20 | 16 | 13 | 16 | 31 | 158 | 197 | 253 | 167 | 51 | 29 |
| MIN | 10 | 8.8 | 3.0 | 3.4 | 7.6 | 18 | 24 | 66 | 117 | 28 | 24 | 14 |
| AC-FT | 1180 | 923 | 464 | 525 | 548 | 1610 | 4360 | 8790 | 10150 | 4560 | 1950 | 1210 |

CAL YR 1986 TOTAL 22395.4 MEAN 61.4 MAX 274 MIN 3.0 AC-FT 44420
WTR YR 1987 TOTAL 18291.5 MEAN 50.1 MAX 253 MIN 3.0 AC-FT 36280

06729500 SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|------|---------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 1 | 16 | 17 | 15 | 11 | 3.0 | 17 | 31 | 88 | 295 | 197 | 33 | 10 |
| 2 | 20 | 17 | 11 | 10 | 3.0 | 17 | 36 | 90 | 328 | 210 | 33 | 10 |
| 3 | 20 | 17 | 8.2 | 9.0 | 3.0 | 16 | 37 | 90 | 354 | 207 | 34 | 9.9 |
| 4 | 20 | 17 | 7.1 | 8.0 | 3.0 | 16 | 39 | 90 | 359 | 204 | 34 | 9.9 |
| 5 | 20 | 17 | 7.1 | 7.0 | 5.0 | 16 | 39 | 92 | 364 | 144 | 33 | 9.9 |
| 6 | 20 | 17 | 7.1 | 6.0 | 7.0 | 16 | 33 | 92 | 383 | 99 | 33 | 8.8 |
| 7 | 15 | 18 | 6.5 | 5.0 | 7.0 | 16 | 31 | 94 | 398 | 95 | 34 | 8.2 |
| 8 | 12 | 17 | 5.6 | 5.0 | 8.0 | 16 | 32 | 94 | 393 | 97 | 33 | 8.2 |
| 9 | 12 | 16 | 11 | 5.0 | 8.0 | 16 | 31 | 94 | 403 | 97 | 31 | 8.2 |
| 10 | 12 | 16 | 17 | 6.0 | 8.0 | 16 | 30 | 95 | 378 | 90 | 31 | 8.2 |
| 11 | 12 | 16 | 17 | 6.0 | 7.0 | 15 | 30 | 94 | 364 | 88 | 30 | 9.4 |
| 12 | 12 | 19 | 16 | 7.0 | 7.0 | 14 | 29 | 86 | 368 | 92 | 26 | 11 |
| 13 | 12 | 22 | 17 | 7.0 | 8.0 | 13 | 36 | 117 | 368 | 85 | 22 | 14 |
| 14 | 14 | 22 | 15 | 5.0 | 8.0 | 12 | 41 | 156 | 341 | 75 | 18 | 19 |
| 15 | 12 | 23 | 13 | 4.0 | 8.0 | 12 | 51 | 156 | 299 | 72 | 19 | 16 |
| 16 | 12 | 20 | 11 | 3.0 | 8.0 | 12 | 62 | 156 | 279 | 69 | 19 | 14 |
| 17 | 12 | 18 | 9.0 | 3.0 | 8.0 | 10 | 68 | 178 | 249 | 54 | 16 | 13 |
| 18 | 12 | 19 | 7.0 | 3.0 | 10 | 8.0 | 68 | 217 | 228 | 46 | 16 | 13 |
| 19 | 12 | 19 | 5.2 | 3.0 | 13 | 6.0 | 76 | 307 | 238 | 51 | 17 | 19 |
| 20 | 17 | 16 | 4.7 | 5.0 | 13 | 15 | 83 | 428 | 245 | 44 | 18 | 25 |
| 21 | 22 | 14 | 11 | 6.0 | 14 | 15 | 85 | 393 | 260 | 40 | 18 | 26 |
| 22 | 24 | 14 | 14 | 7.0 | 15 | 15 | 94 | 336 | 299 | 34 | 15 | 17 |
| 23 | 17 | 13 | 13 | 8.0 | 15 | 16 | 95 | 328 | 319 | 30 | 11 | 9.4 |
| 24 | 17 | 14 | 12 | 8.0 | 15 | 18 | 95 | 291 | 319 | 30 | 11 | 9.4 |
| 25 | 17 | 14 | 10 | 8.0 | 15 | 20 | 95 | 264 | 319 | 27 | 10 | 8.8 |
| 26 | 16 | 15 | 11 | 7.0 | 15 | 19 | 94 | 256 | 283 | 24 | 9.9 | 8.8 |
| 27 | 16 | 14 | 12 | 7.0 | 15 | 19 | 94 | 275 | 242 | 23 | 9.9 | 8.8 |
| 28 | 17 | 15 | 12 | 5.0 | 16 | 24 | 90 | 295 | 200 | 33 | 10 | 8.8 |
| 29 | 16 | 15 | 13 | 3.0 | 16 | 27 | 90 | 291 | 231 | 57 | 10 | 8.2 |
| 30 | 17 | 15 | 13 | 3.0 | --- | 27 | 90 | 291 | 204 | 43 | 9.9 | 8.2 |
| 31 | 17 | --- | 12 | 3.0 | --- | 27 | --- | 295 | --- | 34 | 9.9 | --- |
| TOTAL | 490 | 506 | 343.5 | 183.0 | 281.0 | 506.0 | 1805 | 6129 | 9310 | 2491 | 654.6 | 358.1 |
| MEAN | 15.8 | 16.9 | 11.1 | 5.90 | 9.69 | 16.3 | 60.2 | 198 | 310 | 80.4 | 21.1 | 11.9 |
| MAX | 24 | 23 | 17 | 11 | 16 | 27 | 95 | 428 | 403 | 210 | 34 | 26 |
| MIN | 12 | 13 | 4.7 | 3.0 | 3.0 | 6.0 | 29 | 86 | 200 | 23 | 9.9 | 8.2 |
| AC-FT | 972 | 1000 | 681 | 363 | 557 | 1000 | 3580 | 12160 | 18470 | 4940 | 1300 | 710 |
| CAL YR 1987 | TOTAL | | 18338.6 | MEAN | 50.2 | MAX | 253 | MIN | 3.4 | AC-FT | 36370 | |
| WTR YR 1988 | TOTAL | | 23057.2 | MEAN | 63.0 | MAX | 428 | MIN | 3.0 | AC-FT | 45730 | |

85

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, 50 ft upstream from bridge on North 75th Street, 0.2 mi downstream from Boulder feeder ditch, 6 mi northeast of Boulder.

PERIOD OF RECORD.--October 1986 to Current Year.

REMARKS.--Estimated daily discharges: Nov. 28, Dec. 14-17, 25-26, and Dec. 29 to Jan. 12. Records good except for estimated daily discharges, which are poor. Flow is partially regulated by Barker Reservoir, and affected by Boulder feeder ditch and Boulder sewage treatment plant. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 663 ft³/s at 2200 May 18, gage height, 6.33 ft; minimum daily, 20 ft³/s, Dec. 26.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|------|------|------|------|------|------|------|-------|-------|-------|------|
| 1 | 32 | 74 | 38 | 29 | 38 | 62 | 28 | 37 | 88 | 208 | 259 | 64 |
| 2 | 30 | 84 | 57 | 30 | 30 | 86 | 39 | 51 | 73 | 165 | 258 | 68 |
| 3 | 24 | 78 | 49 | 31 | 47 | 67 | 34 | 46 | 77 | 140 | 255 | 62 |
| 4 | 27 | 69 | 49 | 32 | 31 | 60 | 38 | 48 | 73 | 153 | 284 | 62 |
| 5 | 35 | 59 | 51 | 33 | 41 | 49 | 26 | 53 | 73 | 189 | 220 | 58 |
| 6 | 39 | 60 | 54 | 35 | 30 | 48 | 35 | 74 | 118 | 185 | 211 | 64 |
| 7 | 38 | 51 | 51 | 36 | 44 | 40 | 33 | 109 | 162 | 161 | 209 | 60 |
| 8 | 36 | 53 | 48 | 37 | 33 | 47 | 51 | 122 | 138 | 157 | 206 | 60 |
| 9 | 37 | 45 | 44 | 38 | 48 | 50 | 41 | 102 | 106 | 149 | 198 | 68 |
| 10 | 35 | 47 | 48 | 39 | 30 | 39 | 28 | 102 | 102 | 137 | 200 | 64 |
| 11 | 49 | 46 | 43 | 40 | 43 | 45 | 39 | 127 | 100 | 136 | 210 | 74 |
| 12 | 56 | 57 | 30 | 41 | 39 | 38 | 31 | 141 | 111 | 108 | 196 | 113 |
| 13 | 63 | 66 | 27 | 42 | 36 | 28 | 86 | 161 | 134 | 110 | 193 | 84 |
| 14 | 65 | 61 | 29 | 34 | 46 | 27 | 61 | 160 | 179 | 116 | 199 | 95 |
| 15 | 101 | 91 | 32 | 37 | 35 | 23 | 60 | 169 | 335 | 134 | 207 | 87 |
| 16 | 56 | 81 | 35 | 37 | 47 | 22 | 26 | 188 | 295 | 144 | 202 | 60 |
| 17 | 79 | 78 | 39 | 38 | 48 | 25 | 31 | 211 | 278 | 143 | 213 | 61 |
| 18 | 57 | 54 | 45 | 32 | 35 | 24 | 56 | 400 | 279 | 138 | 205 | 60 |
| 19 | 78 | 69 | 43 | 40 | 52 | 26 | 36 | 564 | 330 | 135 | 190 | 54 |
| 20 | 79 | 58 | 34 | 29 | 42 | 26 | 62 | 455 | 288 | 141 | 153 | 52 |
| 21 | 50 | 61 | 28 | 29 | 52 | 25 | 61 | 314 | 262 | 156 | 135 | 49 |
| 22 | 44 | 51 | 34 | 28 | 46 | 35 | 76 | 221 | 329 | 167 | 100 | 50 |
| 23 | 58 | 46 | 25 | 40 | 57 | 25 | 36 | 179 | 268 | 157 | 99 | 39 |
| 24 | 47 | 42 | 22 | 39 | 56 | 29 | 63 | 108 | 278 | 144 | 101 | 29 |
| 25 | 56 | 48 | 21 | 41 | 70 | 27 | 31 | 70 | 261 | 152 | 89 | 31 |
| 26 | 52 | 51 | 20 | 42 | 70 | 21 | 54 | 110 | 253 | 158 | 78 | 38 |
| 27 | 50 | 46 | 21 | 39 | 66 | 31 | 30 | 130 | 320 | 149 | 92 | 37 |
| 28 | 55 | 45 | 24 | 44 | 67 | 22 | 45 | 91 | 315 | 159 | 84 | 34 |
| 29 | 80 | 44 | 25 | 63 | 67 | 33 | 28 | 92 | 305 | 179 | 66 | 34 |
| 30 | 63 | 45 | 26 | 49 | --- | 25 | 32 | 127 | 263 | 198 | 59 | 37 |
| 31 | 99 | --- | 27 | 41 | --- | 33 | --- | 111 | --- | 218 | 60 | --- |
| TOTAL | 1670 | 1760 | 1119 | 1165 | 1346 | 1138 | 1297 | 4873 | 6193 | 4786 | 5231 | 1748 |
| MEAN | 53.9 | 58.7 | 36.1 | 37.6 | 46.4 | 36.7 | 43.2 | 157 | 206 | 154 | 169 | 58.3 |
| MAX | 101 | 91 | 57 | 63 | 70 | 86 | 86 | 564 | 335 | 218 | 284 | 113 |
| MIN | 24 | 42 | 20 | 28 | 30 | 21 | 26 | 37 | 73 | 108 | 59 | 29 |
| AC-FT | 3310 | 3490 | 2220 | 2310 | 2670 | 2260 | 2570 | 9670 | 12280 | 9490 | 10380 | 3470 |
| CAL YR 1987 | TOTAL | 3724 | 3.3 | MEAN | 102 | MAX | 887 | MIN | 20 | AC-FT | 7386 | 0 |
| WTR YR 1988 | TOTAL | 3232 | 6 | MEAN | 88.3 | MAX | 564 | MIN | 20 | AC-FT | 6412 | 0 |

PLATTE RIVER BASIN

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO

LOCATION.--Lat 40°09'08", long 105°00'52", in NW¼SW¼ 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.

WATER-DISCHARGE RECORDS

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

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 discharges: Dec. 25 to Mar. 7. Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain, transbasin, and storage diversions, diversions for irrigation, water-treatment plants, and return flows from irrigated areas.

AVERAGE DISCHARGE.--35 years (water years, 1928-49, 1952-55, 1979-88), 66.3 ft³/s; 48,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,410 ft³/s, Sept. 3, 1938, gage height, 6.94 ft, site and datum then in use, from rating curve extended above 340 ft³/s, on basis of slope-area measurement of peak flow; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 540 ft³/s at 1415 May 20, gage height, 2.71 ft; minimum daily, 1.7 ft³/s, June 3, and Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|--------|--------|-------|-------|-------|
| 1 | 28 | 21 | 82 | 60 | 60 | 60 | 52 | 19 | 12 | 18 | 4.5 | 2.7 |
| 2 | 24 | 21 | 83 | 60 | 60 | 60 | 60 | 20 | 2.4 | 8.7 | 2.4 | 3.0 |
| 3 | 25 | 37 | 79 | 60 | 60 | 60 | 58 | 20 | 1.7 | 8.2 | 3.2 | 3.8 |
| 4 | 22 | 75 | 81 | 60 | 60 | 60 | 63 | 11 | 2.0 | 8.8 | 28 | 4.4 |
| 5 | 22 | 81 | 79 | 60 | 60 | 60 | 50 | 2.8 | 4.8 | 23 | 2.9 | 4.6 |
| 6 | 45 | 89 | 84 | 60 | 60 | 60 | 53 | 1.9 | 13 | 23 | 2.6 | 2.8 |
| 7 | 60 | 88 | 82 | 60 | 60 | 60 | 48 | 23 | 67 | 5.7 | 3.0 | 2.5 |
| 8 | 60 | 80 | 76 | 60 | 60 | 57 | 56 | 19 | 66 | 9.2 | 3.6 | 2.5 |
| 9 | 58 | 71 | 71 | 60 | 60 | 59 | 69 | 24 | 38 | 5.6 | 4.6 | 1.7 |
| 10 | 55 | 69 | 70 | 60 | 60 | 61 | 52 | 11 | 56 | 5.7 | 6.6 | 2.3 |
| 11 | 62 | 72 | 75 | 60 | 60 | 66 | 54 | 18 | 26 | 7.6 | 9.2 | 2.3 |
| 12 | 68 | 65 | 60 | 60 | 60 | 62 | 45 | 8.4 | 44 | 8.6 | 12 | 30 |
| 13 | 66 | 89 | 59 | 60 | 60 | 55 | 67 | 3.6 | 76 | 8.9 | 13 | 15 |
| 14 | 100 | 89 | 57 | 60 | 60 | 51 | 75 | 3.9 | 112 | 8.3 | 9.6 | 13 |
| 15 | 83 | 125 | 80 | 60 | 60 | 47 | 61 | 4.5 | 301 | 6.6 | 10 | 42 |
| 16 | 78 | 129 | 77 | 60 | 60 | 46 | 56 | 5.0 | 271 | 7.5 | 11 | 13 |
| 17 | 82 | 110 | 90 | 60 | 60 | 47 | 42 | 6.1 | 259 | 8.4 | 9.9 | 5.0 |
| 18 | 77 | 90 | 68 | 60 | 60 | 48 | 68 | 40 | 236 | 8.3 | 9.7 | 3.6 |
| 19 | 78 | 91 | 67 | 60 | 60 | 46 | 51 | 320 | 256 | 9.4 | 7.6 | 4.5 |
| 20 | 76 | 86 | 62 | 60 | 60 | 48 | 60 | 443 | 236 | 8.6 | 6.1 | 4.1 |
| 21 | 73 | 82 | 67 | 60 | 60 | 44 | 74 | 294 | 137 | 10 | 5.7 | 3.5 |
| 22 | 72 | 81 | 62 | 60 | 60 | 52 | 88 | 184 | 138 | 6.8 | 6.9 | 10 |
| 23 | 80 | 74 | 55 | 60 | 60 | 44 | 58 | 156 | 108 | 6.8 | 6.8 | 23 |
| 24 | 77 | 71 | 54 | 60 | 60 | 45 | 65 | 102 | 47 | 4.3 | 4.8 | 17 |
| 25 | 59 | 69 | 60 | 60 | 60 | 45 | 58 | 37 | 55 | 4.9 | 5.4 | 13 |
| 26 | 19 | 72 | 60 | 60 | 60 | 35 | 54 | 47 | 52 | 6.6 | 4.9 | 13 |
| 27 | 22 | 82 | 60 | 60 | 60 | 40 | 48 | 71 | 37 | 5.7 | 4.3 | 20 |
| 28 | 16 | 82 | 60 | 60 | 60 | 26 | 44 | 47 | 98 | 7.2 | 4.0 | 19 |
| 29 | 22 | 85 | 60 | 60 | 60 | 38 | 48 | 47 | 49 | 7.4 | 3.9 | 17 |
| 30 | 18 | 86 | 60 | 60 | --- | 33 | 19 | 49 | 56 | 3.4 | 3.3 | 16 |
| 31 | 33 | --- | 60 | 60 | --- | 52 | --- | 41 | --- | 3.4 | 2.7 | --- |
| TOTAL | 1660 | 2362 | 2140 | 1860 | 1740 | 1567 | 1696 | 2079.2 | 2856.9 | 264.6 | 212.2 | 314.3 |
| MEAN | 53.5 | 78.7 | 69.0 | 60.0 | 60.0 | 50.5 | 56.5 | 67.1 | 95.2 | 8.54 | 6.85 | 10.5 |
| MAX | 100 | 129 | 90 | 60 | 60 | 66 | 88 | 443 | 301 | 23 | 28 | 42 |
| MIN | 16 | 21 | 54 | 60 | 60 | 26 | 19 | 1.9 | 1.7 | 3.4 | 2.4 | 1.7 |
| AC-FT | 3290 | 4690 | 4240 | 3690 | 3450 | 3110 | 3360 | 4120 | 5670 | 525 | 421 | 623 |

CAL YR 1987 TOTAL 29842.9 MEAN 81.8 MAX 568 MIN 4.3 AC-FT 59190
WTR YR 1988 TOTAL 18752.2 MEAN 51.2 MAX 443 MIN 1.7 AC-FT 37190

PLATTE RIVER BASIN

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO--Continued

87

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML) | HARD- NESS TOTAL (MG/L AS CACO3) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|---|---|
| OCT 05... | 1055 | 22 | 720 | 9.1 | -- | -- | -- | -- | 330 |
| NOV 03... | 1130 | 32 | 787 | 8.0 | 12.0 | 12.0 | K70 | K80 | 260 |
| JAN 05... | 1400 | 60 | 810 | 7.7 | 0.0 | 9.7 | 390 | 230 | 270 |
| MAR 14... | 1115 | 50 | 885 | 7.9 | 5.5 | 13.6 | K<5 | K60 | 260 |
| JUN 27... | 1240 | 30 | 376 | 9.1 | 24.0 | 14.0 | 84 | 280 | 150 |
| SEP 07... | 1300 | 2.4 | 1130 | 9.1 | 21.5 | 20.0 | K20 | K15 | 400 |

| 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) | 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) |
|-----------|--|--|--|---|---|---|---|---|--|
| OCT 05... | 60 | 43 | 82 | 2 | 5.0 | 271 | 200 | 38 | 1.3 |
| NOV 03... | 48 | 33 | 65 | 2 | 7.8 | 172 | 150 | 43 | 1.0 |
| JAN 05... | 50 | 35 | 74 | 2 | 10 | 177 | 140 | 49 | 1.1 |
| MAR 14... | 50 | 34 | 73 | 2 | 9.3 | 207 | 160 | 57 | 0.8 |
| JUN 27... | 30 | 18 | 28 | 1 | 2.6 | 97 | 82 | 12 | 0.6 |
| SEP 07... | 56 | 64 | 87 | 2 | 2.9 | 229 | 290 | 24 | 1.1 |

| DATE | SILICA, DIS- SOLVED (MG/L AS SI02) | SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) | SOLIDS, DIS- SOLVED (TONS PER AC-FT) | SOLIDS, DIS- SOLVED (TONS PER DAY) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
|-----------|---|---|---|---|---|--|--|--|
| OCT 05... | 0.88 | 609 | 0.83 | 37.0 | 3.7 | 1.1 | 21 | 7 |
| NOV 03... | 8.2 | 486 | 0.66 | 41.7 | 6.0 | 2.0 | 310 | 47 |
| JAN 05... | 11 | 520 | 0.71 | 84.3 | 10 | -- | 62 | 120 |
| MAR 14... | 6.8 | 515 | 0.70 | 69.5 | -- | -- | 63 | 79 |
| JUN 27... | 6.5 | 243 | 0.33 | 19.6 | 1.1 | 0.33 | 23 | 15 |
| SEP 07... | 4.3 | 669 | 0.91 | 4.26 | 0.56 | 0.03 | 18 | 11 |

K BASED ON NON-IDEAL COLONY COUNT.

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

LOCATION.--Lat 40°15'29", long 104°52'45", in SE¼NW¼ 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. 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.--Estimated daily discharges: Dec. 24-26, Dec. 28 to Feb. 12, and Mar. 29-30. Records good except for estimated daily discharges, which are poor. 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.

AVERAGE DISCHARGE.--63 years (water years 1905-6, 1928-88), 216 ft³/s; 156,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft³/s, Sept. 3, 1938, gage height, 8.93 ft, site and datum then in use, from rating curve extended above 4,700 ft³/s; minimum daily, 12 ft³/s, Apr. 23, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 848 ft³/s at 1845 May 20, gage height, 3.49 ft; minimum daily, 55 ft³/s, May 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | | | | | | | | | | | | |
|-------------|-------------|------|------|------|----------|------|------|-------|----------|-------|-------|------|--------|--|--|--|--------------|--|--|--|--------------|--|--|--|
| 1 | 138 | 153 | 156 | 90 | 110 | 171 | 131 | 84 | 207 | 280 | 210 | 191 | | | | | | | | | | | | |
| 2 | 130 | 145 | 158 | 90 | 105 | 200 | 129 | 89 | 163 | 234 | 215 | 189 | | | | | | | | | | | | |
| 3 | 122 | 142 | 154 | 90 | 105 | 191 | 135 | 92 | 154 | 226 | 208 | 193 | | | | | | | | | | | | |
| 4 | 119 | 147 | 155 | 90 | 105 | 179 | 142 | 80 | 168 | 212 | 364 | 161 | | | | | | | | | | | | |
| 5 | 118 | 144 | 151 | 90 | 105 | 161 | 126 | 72 | 173 | 221 | 350 | 150 | | | | | | | | | | | | |
| 6 | 119 | 146 | 150 | 90 | 110 | 153 | 118 | 69 | 176 | 223 | 328 | 148 | | | | | | | | | | | | |
| 7 | 128 | 153 | 149 | 90 | 120 | 147 | 117 | 73 | 210 | 200 | 326 | 149 | | | | | | | | | | | | |
| 8 | 125 | 148 | 142 | 90 | 125 | 136 | 122 | 94 | 229 | 226 | 337 | 150 | | | | | | | | | | | | |
| 9 | 122 | 140 | 137 | 90 | 130 | 139 | 133 | 91 | 219 | 226 | 328 | 146 | | | | | | | | | | | | |
| 10 | 119 | 136 | 137 | 95 | 140 | 145 | 118 | 84 | 272 | 210 | 308 | 144 | | | | | | | | | | | | |
| 11 | 128 | 138 | 143 | 100 | 135 | 151 | 122 | 73 | 258 | 215 | 275 | 140 | | | | | | | | | | | | |
| 12 | 142 | 136 | 129 | 105 | 150 | 138 | 118 | 72 | 260 | 185 | 256 | 233 | | | | | | | | | | | | |
| 13 | 141 | 134 | 128 | 100 | 175 | 132 | 114 | 63 | 300 | 208 | 252 | 220 | | | | | | | | | | | | |
| 14 | 171 | 148 | 124 | 105 | 183 | 128 | 137 | 60 | 327 | 206 | 243 | 204 | | | | | | | | | | | | |
| 15 | 171 | 190 | 132 | 105 | 173 | 126 | 124 | 59 | 438 | 209 | 242 | 237 | | | | | | | | | | | | |
| 16 | 161 | 192 | 135 | 100 | 195 | 124 | 126 | 70 | 472 | 215 | 239 | 189 | | | | | | | | | | | | |
| 17 | 161 | 179 | 145 | 100 | 175 | 122 | 112 | 55 | 474 | 214 | 254 | 155 | | | | | | | | | | | | |
| 18 | 150 | 176 | 152 | 95 | 165 | 122 | 121 | 103 | 468 | 208 | 253 | 145 | | | | | | | | | | | | |
| 19 | 152 | 176 | 154 | 90 | 169 | 120 | 125 | 485 | 456 | 215 | 243 | 134 | | | | | | | | | | | | |
| 20 | 146 | 169 | 139 | 95 | 169 | 118 | 117 | 779 | 425 | 252 | 241 | 134 | | | | | | | | | | | | |
| 21 | 148 | 162 | 130 | 100 | 183 | 117 | 122 | 626 | 320 | 251 | 232 | 118 | | | | | | | | | | | | |
| 22 | 147 | 155 | 133 | 105 | 183 | 117 | 159 | 466 | 292 | 227 | 232 | 111 | | | | | | | | | | | | |
| 23 | 149 | 148 | 125 | 100 | 183 | 115 | 151 | 410 | 300 | 215 | 225 | 128 | | | | | | | | | | | | |
| 24 | 143 | 148 | 115 | 100 | 183 | 115 | 119 | 358 | 230 | 196 | 216 | 115 | | | | | | | | | | | | |
| 25 | 127 | 145 | 105 | 100 | 185 | 115 | 132 | 280 | 234 | 190 | 203 | 105 | | | | | | | | | | | | |
| 26 | 120 | 147 | 100 | 100 | 185 | 109 | 108 | 243 | 308 | 181 | 217 | 105 | | | | | | | | | | | | |
| 27 | 130 | 153 | 89 | 105 | 181 | 113 | 112 | 257 | 305 | 177 | 217 | 107 | | | | | | | | | | | | |
| 28 | 132 | 151 | 85 | 110 | 177 | 107 | 104 | 252 | 322 | 174 | 232 | 105 | | | | | | | | | | | | |
| 29 | 134 | 153 | 89 | 110 | 165 | 111 | 108 | 230 | 295 | 190 | 224 | 107 | | | | | | | | | | | | |
| 30 | 138 | 156 | 95 | 115 | --- | 115 | 100 | 208 | 305 | 213 | 208 | 107 | | | | | | | | | | | | |
| 31 | 165 | --- | 90 | 110 | --- | 118 | --- | 203 | --- | 206 | 195 | --- | | | | | | | | | | | | |
| TOTAL | 4296 | 4610 | 4026 | 3055 | 4469 | 4155 | 3702 | 6180 | 8760 | 6605 | 7873 | 4520 | | | | | | | | | | | | |
| MEAN | 139 | 154 | 130 | 98.5 | 154 | 134 | 123 | 199 | 292 | 213 | 254 | 151 | | | | | | | | | | | | |
| MAX | 171 | 192 | 158 | 115 | 195 | 200 | 159 | 779 | 474 | 280 | 364 | 237 | | | | | | | | | | | | |
| MIN | 118 | 134 | 85 | 90 | 105 | 107 | 100 | 55 | 154 | 174 | 195 | 105 | | | | | | | | | | | | |
| AC-FT | 8520 | 9140 | 7990 | 6060 | 8860 | 8240 | 7340 | 12260 | 17380 | 13100 | 15620 | 8970 | | | | | | | | | | | | |
| CAL YR 1987 | TOTAL 86416 | | | | | | | | | | | | | | | | | | | | | | | |
| WTR YR 1988 | TOTAL 62251 | | | | MEAN 170 | | | | MAX 1130 | | | | MIN 85 | | | | AC-FT 171400 | | | | AC-FT 123500 | | | |

PLATTE RIVER BASIN

89

06733000 BIG THOMPSON RIVER AT ESTES PARK, CO

LOCATION.--Lat 40°22'42", long 105°30'48", in NW¼NW¼ 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 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: Water year 1987, Nov. 9 to Mar. 11, Mar. 14, 17-21, Apr. 3, 13-14. Water year 1988, Nov. 9, 10, 16-19, Nov. 28 to Mar. 1, 11-19, and Mar. 22 to Apr. 2. 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) were 0 acre-ft during water year 1987, 616 acre-ft during water year 1988.

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

AVERAGE DISCHARGE.--41 years, 127 ft³/s; 92,010 acre-ft/yr; 42 years, 127 ft³/s; 92,010 acre-ft/yr, adjusted for inflow from Alva B. Adams tunnel Aug. 10, 1947, to Aug. 2, 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,500 ft³/s July 15, 1982, caused by failure of Lawn Lake Dam, gage height, indeterminate; maximum natural discharge, 1,660 ft³/s June 18, 1949, gage height, 3.16 ft, site and datum then in use; maximum known gage height, 6.89 ft, June 17, 1965; minimum discharge not determined.

EXTREMES FOR WATER YEAR 1987.--Peak discharges greater than base discharge of 600 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| June 9 | 0815 | *913 | *5.43 | No other peak greater than base discharge. | | | |

Minimum daily, 10 ft³/s, many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| June 7 | 0130 | *871 | *5.22 | No other peak greater than base discharge. | | | |

Minimum daily, 8.5 ft³/s, Jan. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|----------|----------|--------|--------------|------|------|-------|-------|-------|------|------|
| 1 | 56 | 41 | 40 | 13 | 11 | 11 | 13 | 250 | 287 | 302 | 238 | 60 |
| 2 | 56 | 49 | 39 | 14 | 11 | 11 | 15 | 265 | 305 | 270 | 188 | 60 |
| 3 | 76 | 49 | 38 | 15 | 11 | 10 | 17 | 206 | 287 | 246 | 165 | 58 |
| 4 | 71 | 46 | 38 | 15 | 10 | 11 | 19 | 165 | 306 | 225 | 147 | 59 |
| 5 | 65 | 44 | 39 | 15 | 10 | 11 | 16 | 149 | 343 | 205 | 128 | 60 |
| 6 | 60 | 45 | 41 | 15 | 10 | 11 | 16 | 147 | 373 | 191 | 118 | 56 |
| 7 | 62 | 45 | 39 | 14 | 11 | 12 | 17 | 165 | 414 | 180 | 126 | 54 |
| 8 | 63 | 44 | 36 | 14 | 11 | 13 | 20 | 203 | 471 | 174 | 143 | 53 |
| 9 | 63 | 44 | 32 | 13 | 11 | 12 | 19 | 263 | 740 | 167 | 129 | 49 |
| 10 | 63 | 41 | 28 | 15 | 12 | 13 | 20 | 296 | 624 | 163 | 120 | 46 |
| 11 | 65 | 42 | 28 | 15 | 12 | 17 | 21 | 301 | 509 | 158 | 111 | 45 |
| 12 | 61 | 38 | 29 | 14 | 11 | 18 | 24 | 312 | 463 | 222 | 107 | 44 |
| 13 | 53 | 36 | 29 | 14 | 12 | 17 | 20 | 378 | 447 | 204 | 101 | 41 |
| 14 | 53 | 38 | 27 | 14 | 12 | 18 | 20 | 434 | 442 | 166 | 96 | 49 |
| 15 | 51 | 38 | 26 | 13 | 12 | 16 | 30 | 455 | 415 | 149 | 86 | 70 |
| 16 | 53 | 37 | 26 | 12 | 12 | 16 | 37 | 527 | 418 | 142 | 87 | 64 |
| 17 | 54 | 37 | 24 | 11 | 12 | 16 | 45 | 661 | 389 | 141 | 81 | 64 |
| 18 | 53 | 38 | 23 | 11 | 11 | 16 | 60 | 519 | 339 | 154 | 76 | 58 |
| 19 | 53 | 38 | 22 | 11 | 11 | 17 | 74 | 446 | 326 | 142 | 70 | 52 |
| 20 | 60 | 40 | 21 | 10 | 10 | 17 | 85 | 423 | 305 | 135 | 67 | 49 |
| 21 | 60 | 42 | 20 | 11 | 10 | 17 | 74 | 436 | 295 | 136 | 66 | 45 |
| 22 | 58 | 45 | 18 | 11 | 10 | 17 | 76 | 400 | 274 | 146 | 73 | 42 |
| 23 | 56 | 42 | 18 | 12 | 10 | 16 | 90 | 385 | 271 | 148 | 90 | 40 |
| 24 | 53 | 45 | 16 | 12 | 11 | 18 | 116 | 372 | 266 | 141 | 97 | 38 |
| 25 | 50 | 45 | 14 | 13 | 11 | 19 | 140 | 338 | 252 | 137 | 97 | 36 |
| 26 | 48 | 43 | 14 | 13 | 11 | 18 | 153 | 321 | 248 | 140 | 92 | 35 |
| 27 | 46 | 45 | 14 | 13 | 10 | 16 | 190 | 283 | 244 | 158 | 84 | 34 |
| 28 | 44 | 45 | 14 | 12 | 11 | 15 | 174 | 248 | 238 | 171 | 77 | 33 |
| 29 | 42 | 43 | 14 | 11 | --- | 14 | 213 | 237 | 264 | 156 | 72 | 33 |
| 30 | 42 | 42 | 14 | 10 | --- | 13 | 219 | 223 | 287 | 165 | 66 | 33 |
| 31 | 44 | --- | 14 | 11 | --- | 14 | --- | 238 | --- | 180 | 62 | --- |
| TOTAL | 1734 | 1267 | 795 | 397 | 307 | 460 | 2033 | 10046 | 10842 | 5414 | 3260 | 1460 |
| MEAN | 55.9 | 42.2 | 25.6 | 12.8 | 11.0 | 14.8 | 67.8 | 324 | 361 | 175 | 105 | 48.7 |
| MAX | 76 | 49 | 41 | 15 | 12 | 19 | 219 | 661 | 740 | 302 | 238 | 70 |
| MIN | 42 | 36 | 14 | 10 | 10 | 10 | 13 | 147 | 238 | 135 | 62 | 33 |
| AC-FT | 3440 | 2510 | 1580 | 787 | 609 | 912 | 4030 | 19930 | 21510 | 10740 | 6470 | 2900 |
| CAL YR 1986 | TOTAL 60379 | MEAN 165 | MAX 1040 | MIN 10 | AC-FT 119800 | | | | | | | |
| WTR YR 1987 | TOTAL 38015 | MEAN 104 | MAX 740 | MIN 10 | AC-FT 75400 | | | | | | | |

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DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|------|-------|-------|---------|---------|-------------|-------|-------|-------|------|------|
| 1 | 31 | 28 | 17 | 11 | 10 | 11 | 18 | 101 | 345 | 346 | 135 | 48 |
| 2 | 30 | 31 | 18 | 11 | 11 | 11 | 19 | 101 | 319 | 317 | 127 | 49 |
| 3 | 29 | 29 | 18 | 12 | 11 | 12 | 20 | 85 | 410 | 322 | 124 | 48 |
| 4 | 28 | 26 | 18 | 11 | 11 | 13 | 22 | 79 | 611 | 304 | 123 | 44 |
| 5 | 26 | 25 | 19 | 12 | 12 | 13 | 23 | 78 | 761 | 312 | 113 | 43 |
| 6 | 26 | 26 | 18 | 12 | 11 | 11 | 23 | 97 | 685 | 306 | 108 | 39 |
| 7 | 26 | 25 | 17 | 12 | 10 | 13 | 30 | 89 | 702 | 293 | 103 | 36 |
| 8 | 25 | 23 | 13 | 13 | 11 | 15 | 35 | 77 | 661 | 270 | 111 | 33 |
| 9 | 25 | 23 | 13 | 12 | 11 | 15 | 33 | 68 | 692 | 251 | 98 | 33 |
| 10 | 25 | 27 | 18 | 12 | 11 | 17 | 37 | 66 | 675 | 227 | 88 | 33 |
| 11 | 24 | 24 | 15 | 13 | 10 | 15 | 30 | 62 | 678 | 219 | 82 | 35 |
| 12 | 23 | 21 | 13 | 13 | 12 | 13 | 34 | 83 | 645 | 212 | 77 | 51 |
| 13 | 24 | 22 | 12 | 12 | 12 | 11 | 44 | 146 | 557 | 199 | 74 | 53 |
| 14 | 32 | 23 | 12 | 13 | 12 | 12 | 47 | 226 | 480 | 203 | 71 | 60 |
| 15 | 32 | 21 | 13 | 13 | 12 | 13 | 49 | 263 | 480 | 194 | 69 | 54 |
| 16 | 29 | 22 | 13 | 12 | 12 | 12 | 52 | 299 | 497 | 182 | 69 | 46 |
| 17 | 25 | 22 | 14 | 11 | 11 | 11 | 67 | 366 | 507 | 168 | 72 | 41 |
| 18 | 24 | 23 | 14 | 10 | 11 | 10 | 62 | 430 | 523 | 158 | 73 | 38 |
| 19 | 24 | 24 | 13 | 9.5 | 11 | 12 | 70 | 465 | 559 | 163 | 67 | 34 |
| 20 | 22 | 25 | 12 | 9.0 | 12 | 15 | 68 | 347 | 567 | 155 | 62 | 32 |
| 21 | 21 | 24 | 11 | 8.5 | 13 | 17 | 75 | 252 | 556 | 138 | 62 | 31 |
| 22 | 21 | 27 | 10 | 9.0 | 13 | 17 | 80 | 202 | 596 | 130 | 63 | 30 |
| 23 | 22 | 25 | 10 | 9.5 | 12 | 18 | 69 | 174 | 527 | 124 | 61 | 30 |
| 24 | 22 | 20 | 9.5 | 10 | 12 | 17 | 62 | 193 | 554 | 119 | 59 | 29 |
| 25 | 25 | 21 | 9.5 | 9.0 | 12 | 17 | 58 | 285 | 501 | 119 | 56 | 28 |
| 26 | 24 | 19 | 9.5 | 9.0 | 12 | 20 | 51 | 327 | 523 | 123 | 53 | 26 |
| 27 | 22 | 17 | 10 | 10 | 12 | 20 | 48 | 375 | 488 | 120 | 59 | 25 |
| 28 | 21 | 17 | 11 | 11 | 12 | 19 | 48 | 427 | 455 | 131 | 59 | 25 |
| 29 | 22 | 17 | 11 | 12 | 12 | 18 | 52 | 491 | 455 | 146 | 54 | 24 |
| 30 | 28 | 17 | 12 | 12 | --- | 17 | 72 | 577 | 386 | 139 | 52 | 24 |
| 31 | 32 | --- | 11 | 11 | --- | 16 | --- | 500 | --- | 130 | 50 | --- |
| TOTAL | 790 | 694 | 414.5 | 344.5 | 334 | 451 | 1398 | 7331 | 16395 | 6220 | 2474 | 1122 |
| MEAN | 25.5 | 23.1 | 13.4 | 11.1 | 11.5 | 14.5 | 46.6 | 236 | 546 | 201 | 79.8 | 37.4 |
| MAX | 32 | 31 | 19 | 13 | 13 | 20 | 80 | 577 | 761 | 346 | 135 | 60 |
| MIN | 21 | 17 | 9.5 | 8.5 | 10 | 10 | 18 | 62 | 319 | 119 | 50 | 24 |
| AC-FT | 1570 | 1380 | 822 | 683 | 662 | 895 | 2770 | 14540 | 32520 | 12340 | 4910 | 2230 |
| CAL YR 1987 | TOTAL 36117.5 | | | | | | | | | | | |
| WTR YR 1988 | TOTAL 37968.0 | | | | | | | | | | | |
| | | | MEAN | 99.0 | MAX 740 | MIN 9.5 | AC-FT 71640 | | | | | |
| | | | MEAN | 104 | MAX 761 | MIN 8.5 | AC-FT 75310 | | | | | |

PLATTE RIVER BASIN

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°22'30", long 105°29'13", in SE¼NW¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, at tunnel entrance at south end of Olympus Dam on Lake Estes, 1.9 mi east of Estes Park.

PERIOD OF RECORD.--September 1970 to 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 1987 TO SEPTEMBER 1988

| | | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | HARD- NESS TOTAL (MG/L AS CACO3) | CALCIUM DIS- SOLVED (MG/L AS CA) | |
|------|-------|--|---|---|---|--|--|--|--|--|---|
| JAN | 14... | 0930 | 443 | 55 | 7.9 | 3.0 | 9.2 | 290 | K15 | 22 | 6.7 |
| APR | 14... | 0930 | 101 | 60 | 7.2 | 8.0 | 10.0 | -- | -- | 22 | 6.5 |
| MAY | 17... | 0900 | 206 | 40 | 6.9 | 10.0 | 8.2 | K<1 | K4 | -- | -- |
| JUL | 11... | 0930 | 499 | 21 | 7.1 | 16.0 | 7.6 | 35 | K9 | 8 | 2.4 |
| DATE | | 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- 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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) |
| OCT | 19... | 0.97 | 1.9 | 0.2 | 0.6 | 19 | 4.0 | 2.8 | 0.3 | 3.6 | 31 |
| JAN | 14... | 1.3 | 2.2 | 0.2 | 0.9 | 24 | 5.0 | 0.7 | 0.2 | 4.6 | 36 |
| APR | 14... | 1.3 | 2.8 | 0.3 | 0.9 | 24 | 5.9 | 1.1 | 0.2 | 5.4 | 39 |
| MAY | 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | 11... | 0.50 | 1.1 | 0.2 | 0.3 | 9.0 | 4.6 | 0.5 | 0.1 | 3.4 | 18 |
| DATE | | 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 DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | |
| OCT | 19... | 0.04 | 30.9 | <0.01 | <0.10 | 0.02 | 0.03 | <0.01 | 49 | 4 | |
| JAN | 14... | 0.05 | 43.1 | 0.01 | <0.10 | 0.02 | 0.02 | <0.01 | 31 | 3 | |
| APR | 14... | 0.05 | 10.5 | <0.01 | <0.10 | 0.02 | 0.03 | 0.01 | 110 | 1 | |
| MAY | 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| JUL | 11... | 0.02 | 24.7 | <0.01 | <0.10 | <0.01 | 0.01 | 0.01 | 60 | <1 | |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

06735500 BIG THOMPSON RIVER NEAR ESTES PARK, CO

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LOCATION.--Lat 40°22'35", long 105°29'06", in NE¼NE¼ 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 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 (272,100 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. Several observations of 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.

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, 646 ft³/s at 0500 June 23, gage height, 4.56 ft; minimum daily, 8.3, ft³/s, Jan. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|-------|-------|-------|--------|-------|-------|------|------|------|
| 1 | 28 | 55 | 20 | 9.2 | 9.8 | 9.9 | 9.5 | 74 | 251 | 274 | 126 | 50 |
| 2 | 28 | 58 | 20 | 9.0 | 9.8 | 9.4 | 11 | 97 | 140 | 234 | 130 | 48 |
| 3 | 27 | 53 | 18 | 9.0 | 9.7 | 9.3 | 11 | 100 | 124 | 211 | 183 | 50 |
| 4 | 28 | 51 | 18 | 8.6 | 9.7 | 9.7 | 11 | 97 | 206 | 214 | 179 | 48 |
| 5 | 27 | 48 | 17 | 8.3 | 10 | 10 | 11 | 88 | 405 | 198 | 175 | 45 |
| 6 | 29 | 49 | 17 | 8.5 | 9.9 | 11 | 30 | 87 | 579 | 205 | 166 | 43 |
| 7 | 28 | 45 | 17 | 8.3 | 9.8 | 11 | 31 | 101 | 469 | 203 | 162 | 41 |
| 8 | 27 | 45 | 17 | 8.6 | 9.8 | 11 | 31 | 100 | 481 | 156 | 156 | 37 |
| 9 | 25 | 44 | 18 | 8.8 | 9.8 | 15 | 32 | 86 | 445 | 132 | 102 | 34 |
| 10 | 25 | 46 | 17 | 8.8 | 11 | 15 | 32 | 78 | 470 | 115 | 91 | 33 |
| 11 | 25 | 49 | 17 | 8.9 | 11 | 15 | 32 | 75 | 457 | 129 | 81 | 34 |
| 12 | 25 | 45 | 17 | 8.7 | 12 | 16 | 30 | 70 | 456 | 130 | 72 | 40 |
| 13 | 28 | 43 | 17 | 14 | 11 | 16 | 35 | 93 | 427 | 130 | 69 | 92 |
| 14 | 71 | 43 | 17 | 14 | 12 | 15 | 44 | 104 | 338 | 130 | 68 | 128 |
| 15 | 70 | 43 | 17 | 14 | 12 | 16 | 47 | 236 | 267 | 130 | 61 | 156 |
| 16 | 69 | 43 | 17 | 14 | 12 | 16 | 49 | 267 | 356 | 130 | 61 | 143 |
| 17 | 68 | 45 | 16 | 14 | 12 | 16 | 49 | 220 | 372 | 130 | 61 | 146 |
| 18 | 61 | 38 | 17 | 14 | 12 | 15 | 68 | 279 | 539 | 129 | 64 | 142 |
| 19 | 46 | 39 | 18 | 14 | 12 | 10 | 49 | 340 | 559 | 130 | 65 | 138 |
| 20 | 35 | 23 | 17 | 14 | 11 | 10 | 47 | 380 | 591 | 130 | 58 | 143 |
| 21 | 29 | 20 | 18 | 14 | 11 | 10 | 48 | 129 | 597 | 129 | 55 | 138 |
| 22 | 33 | 20 | 18 | 12 | 11 | 10 | 47 | 128 | 591 | 130 | 53 | 110 |
| 23 | 32 | 20 | 14 | 12 | 11 | 10 | 48 | 128 | 629 | 123 | 56 | 112 |
| 24 | 33 | 20 | 9.9 | 14 | 10 | 10 | 47 | 127 | 407 | 118 | 53 | 130 |
| 25 | 34 | 20 | 9.6 | 13 | 10 | 9.8 | 48 | 152 | 428 | 114 | 52 | 128 |
| 26 | 38 | 20 | 9.4 | 14 | 9.8 | 8.9 | 47 | 243 | 382 | 113 | 55 | 129 |
| 27 | 52 | 20 | 9.5 | 10 | 9.8 | 9.4 | 46 | 284 | 404 | 116 | 54 | 146 |
| 28 | 54 | 20 | 9.4 | 9.9 | 9.8 | 9.1 | 47 | 135 | 372 | 113 | 61 | 147 |
| 29 | 52 | 20 | 9.4 | 11 | 10 | 9.2 | 46 | 191 | 341 | 122 | 60 | 151 |
| 30 | 55 | 20 | 8.7 | 12 | --- | 9.3 | 46 | 250 | 340 | 130 | 55 | 142 |
| 31 | 58 | --- | 8.5 | 9.7 | --- | 9.0 | --- | 331 | --- | 129 | 53 | --- |
| TOTAL | 1240 | 1105 | 473.4 | 348.3 | 308.7 | 361.0 | 1129.5 | 5070 | 12423 | 4577 | 2737 | 2924 |
| MEAN | 40.0 | 36.8 | 15.3 | 11.2 | 10.6 | 11.6 | 37.6 | 164 | 414 | 148 | 88.3 | 97.5 |
| MAX | 71 | 58 | 20 | 14 | 12 | 16 | 68 | 380 | 629 | 274 | 183 | 156 |
| MIN | 25 | 20 | 8.5 | 8.3 | 9.7 | 8.9 | 9.5 | 70 | 124 | 113 | 52 | 33 |
| AC-FT | 2460 | 2190 | 939 | 691 | 612 | 716 | 2240 | 10060 | 24640 | 9080 | 5430 | 5800 |

CAL YR 1987 TOTAL 39400.2 MEAN 108 MAX 760 MIN 8.5 AC-FT 78150
WTR YR 1988 TOTAL 32696.9 MEAN 89.3 MAX 629 MIN 8.3 AC-FT 64850

PLATTE RIVER BASIN

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

LOCATION.--Lat 40°36'00", long 105°10'06", in NW¼SW¼ sec.6, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on right bank near abutment of Horsetooth Dam on tributaries to Cache la Poudre River, 4.8 mi west of city hall in Fort Collins. Water-quality sampling at three sites in reservoir.

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.

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, May 10, elevation, 5,422.40 ft; minimum, observed, 63,160 acre-ft, Sept. 29, 30, elevation, 5,378.66 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| Date | Elevation | Contents (acre-feet) | Change in contents (acre-feet) |
|-----------------------|-----------|-------------------------|-----------------------------------|
| Sept. 30. | 5,396.08 | 88,630 | - |
| Oct. 31. | 5,393.94 | 85,290 | -3,340 |
| Nov. 30. | 5,395.88 | 88,320 | +3,030 |
| Dec. 31. | 5,401.78 | 97,820 | +9,500 |
| CAL YR 1987. | - | - | -660 |
| Jan. 31. | 5,406.92 | 106,500 | +8,680 |
| Feb. 29. | 5,415.28 | 121,300 | +14,800 |
| Mar. 31. | 5,418.74 | 127,700 | +6,400 |
| Apr. 30. | 5,419.98 | 130,000 | +2,300 |
| May 31. | 5,418.56 | 127,400 | -2,600 |
| June 30. | 5,419.46 | 129,000 | +1,600 |
| July 31. | 5,405.54 | 104,100 | -24,900 |
| Aug. 31. | 5,390.20 | 79,600 | -24,500 |
| Sept. 30. | 5,378.66 | 63,160 | -16,440 |
| WTR YR 1988 | | | -25,470 |

PLATTE RIVER BASIN

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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 1987 TO SEPTEMBER 1988

| | | SAM- PLING DEPTH (FEET) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-------|------|----------------------------------|--------------------------------|--------------------------------------|-------------------------------------|
| DATE | TIME | | | | |
| JUL | | | | | |
| 07... | 1110 | 0.1 | 7.5 | 21.5 | 6.6 |
| 07... | 1111 | 5.0 | 7.4 | 21.5 | 6.5 |
| 07... | 1112 | 10.0 | 7.4 | 20.5 | 6.4 |
| 07... | 1113 | 20.0 | 7.5 | 17.0 | 6.2 |
| 07... | 1114 | 25.0 | 7.5 | 13.5 | 6.3 |
| 07... | 1115 | 30.0 | 7.6 | 12.5 | 6.3 |
| 07... | 1116 | 40.0 | 7.6 | 10.5 | 6.8 |
| 07... | 1117 | 50.0 | 7.6 | 9.5 | 6.6 |
| 07... | 1118 | 60.0 | 7.6 | 9.0 | 6.6 |
| 07... | 1119 | 70.0 | 7.6 | 9.0 | 6.8 |
| 07... | 1120 | 75.0 | 7.6 | 9.0 | 6.6 |
| 07... | 1121 | 80.0 | 7.6 | 9.0 | 6.6 |
| 07... | 1122 | 90.0 | 7.6 | 9.0 | 6.5 |
| 07... | 1123 | 100 | 7.6 | 8.5 | 6.7 |
| 07... | 1124 | 110 | 7.6 | 8.5 | 6.7 |
| 07... | 1125 | 120 | 7.6 | 8.0 | 6.7 |
| 07... | 1126 | 125 | 7.6 | 8.0 | 6.6 |
| 07... | 1127 | 130 | 7.6 | 8.0 | 6.6 |
| 07... | 1128 | 140 | 7.6 | 8.0 | 6.6 |
| 07... | 1129 | 150 | 7.6 | 8.0 | 6.5 |
| 07... | 1130 | 160 | 7.5 | 7.5 | 6.3 |
| 07... | 1131 | 170 | 7.6 | 7.5 | 6.0 |

| 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) |
|-------|------|----------------------------------|---|--------------------------------|--------------------------------------|--|-------------------------------------|
| JUL | | | | | | | |
| 07... | 1150 | 0.1 | 61 | 7.5 | 21.5 | 79.0 | 6.6 |
| 07... | 1205 | 160 | 63 | 7.5 | 7.5 | -- | 6.3 |

| DATE | COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | 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 TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) |
|-------|--|--|--|---|---|--|---|
| JUL | | | | | | | |
| 07... | K7 | K<1 | 45 | <0.01 | <0.10 | 0.01 | 0.01 |
| 07... | -- | -- | 46 | <0.01 | 0.11 | <0.01 | 0.08 |

K BASED ON NON-IDEAL COLONY COUNT.

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

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 1987 TO SEPTEMBER 1988

| | | SAM- PLING DEPTH (FEET) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | | |
|------------------------------------|--|--|--|---|---|--|---|
| DATE | TIME | | | | | | |
| JUL | | | | | | | |
| 07... | 1341 | 0.1 | 7.3 | 22.0 | 6.7 | | |
| 07... | 1342 | 5.0 | 7.3 | 22.0 | 6.7 | | |
| 07... | 1343 | 10.0 | 7.3 | 21.5 | 6.4 | | |
| 07... | 1344 | 20.0 | 7.2 | 21.5 | 6.3 | | |
| 07... | 1345 | 25.0 | 7.2 | 21.0 | 6.4 | | |
| 07... | 1346 | 30.0 | 7.5 | 15.0 | 6.0 | | |
| 07... | 1347 | 40.0 | 7.6 | 11.5 | 6.3 | | |
| 07... | 1348 | 50.0 | 7.6 | 9.5 | 6.7 | | |
| 07... | 1349 | 60.0 | 7.6 | 9.5 | 6.5 | | |
| 07... | 1350 | 70.0 | 7.6 | 9.0 | 6.6 | | |
| 07... | 1351 | 75.0 | 7.6 | 9.0 | 6.7 | | |
| 07... | 1352 | 80.0 | 7.6 | 9.0 | 6.6 | | |
| 07... | 1353 | 90.0 | 7.6 | 8.5 | 6.6 | | |
| 07... | 1354 | 100 | 7.6 | 8.5 | 6.7 | | |
| 07... | 1355 | 110 | 7.6 | 8.5 | 6.4 | | |
| 07... | 1356 | 120 | 7.6 | 8.5 | 6.3 | | |
| 07... | 1357 | 125 | 7.6 | 8.5 | 6.3 | | |
| 07... | 1358 | 130 | 7.6 | 8.5 | 6.1 | | |
| | | | | | | | |
| 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) |
| JUL | | | | | | | |
| 07... | 1415 | 0.1 | 58 | 7.3 | 22.0 | 83.0 | 6.7 |
| 07... | 1430 | 130 | 61 | 7.6 | 8.5 | -- | 6.1 |
| | | | | | | | |
| DATE | COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | 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 TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) |
| JUL | | | | | | | |
| 07... | K5 | K<1 | 39 | <0.01 | <0.10 | <0.01 | 0.01 |
| 07... | -- | -- | 45 | <0.01 | 0.10 | <0.01 | 0.02 |
| K BASED ON NON-IDEAL COLONY COUNT. | | | | | | | |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

403317105090000 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

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WATER-QUALITY RECORDS

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

REMARKS.--Samples collected at various depths near center of reservoir, near Dixon Canyon Dam.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SAM- PLING DEPTH (FEET) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-------|------|----------------------------------|--------------------------------|--------------------------------------|-------------------------------------|
| JUL | | | | | |
| 07... | 1240 | 0.1 | 7.4 | 22.0 | 6.6 |
| 07... | 1241 | 5.0 | 7.5 | 21.5 | 6.6 |
| 07... | 1242 | 10.0 | 7.5 | 21.5 | 6.6 |
| 07... | 1243 | 20.0 | 7.4 | 21.5 | 6.4 |
| 07... | 1244 | 25.0 | 7.4 | 20.0 | 5.9 |
| 07... | 1245 | 30.0 | 7.5 | 15.0 | 5.9 |
| 07... | 1246 | 40.0 | 7.6 | 11.0 | 6.4 |
| 07... | 1247 | 50.0 | 7.6 | 9.5 | 6.4 |
| 07... | 1248 | 60.0 | 7.6 | 9.5 | 6.5 |
| 07... | 1249 | 70.0 | 7.6 | 9.0 | 6.7 |
| 07... | 1250 | 75.0 | 7.6 | 9.0 | 6.6 |
| 07... | 1251 | 80.0 | 7.6 | 9.0 | 6.6 |
| 07... | 1252 | 90.0 | 7.6 | 9.0 | 6.8 |
| 07... | 1253 | 100 | 7.6 | 8.5 | 6.6 |
| 07... | 1254 | 110 | 7.6 | 8.5 | 6.6 |
| 07... | 1255 | 120 | 7.6 | 8.5 | 6.6 |
| 07... | 1256 | 125 | 7.6 | 8.5 | 6.8 |
| 07... | 1257 | 130 | 7.6 | 8.5 | 6.8 |
| 07... | 1258 | 140 | 7.6 | 8.5 | 6.5 |
| 07... | 1259 | 150 | 7.6 | 8.5 | 6.6 |
| 07... | 1300 | 160 | 7.6 | 8.5 | 6.5 |
| 07... | 1301 | 170 | 7.5 | 8.5 | 6.6 |

| 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) |
|-------|------|----------------------------------|---|--------------------------------|--------------------------------------|--|-------------------------------------|
| JUL | | | | | | | |
| 07... | 1315 | 0.1 | 57 | 7.4 | 22.0 | 76.0 | 6.6 |
| 07... | 1330 | 160 | 58 | 7.6 | 8.5 | -- | 6.5 |

| DATE | COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | 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 TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) |
|-------|--|--|--|---|---|--|---|
| JUL | | | | | | | |
| 07... | K2 | K<1 | 42 | <0.01 | <0.10 | <0.01 | 0.01 |
| 07... | -- | -- | 46 | <0.01 | 0.10 | <0.01 | 0.02 |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

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

LOCATION.--Lat 40°25'18", long 105°13'34", in SW¼SW¼ sec.3, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, on right bank at mouth of canyon, 400 ft upstream from Handy Ditch diversion dam, and 6.0 mi east of Drake.

DRAINAGE AREA.--305 mi².

PERIOD OF RECORD.--August 1887 to September 1892, May 1895 to September 1903, October 1926 to September 1933 (no winter records prior to October 1932, except water years 1927-28), April 1938 to September 1949, March 1951 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as Big Thompson Creek at Arkins 1887-92, Big Thompson Creek near Arkins 1901-3, and as Thompson River at mouth of canyon, near Drake 1927-30, 1938-47.

REVISED RECORDS.--WSP 1310: 1891, 1927. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,305.47 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Oct. 1, 1949, to Sept. 18, 1977, at present site, datum 8.00 ft lower, Sept. 19, 1977, to July 27, 1980, at present site, datum 7.37 ft, lower. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1949.

REMARKS.--Estimated daily discharges, water year 1987: Nov. 10-13, Dec. 5 to Feb. 3, Mar. 9 to Apr. 2, 9-13, May 5-9, 11, 12, 15-19, 22-24, and May 27 to June 3. Water year 1988, Nov. 20-23, and Dec. 14 to Mar. 18. Records fair. Diversions upstream from station for irrigation. Diversions from Colorado River basin to Big Thompson River basin upstream from station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Part of the natural flow of the Big Thompson River has also been diverted through Olympus tunnel since May 17, 1955, 249,200 acre-ft diverted during water year 1987; 272,100 acre-ft diverted during water year 1988, and Dille tunnel since Apr. 20, 1959, 33,280 acre-ft, diverted during water year 1987; 14,030 acre-ft, diverted during water year 1988, and returned to the river just downstream from this station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft³/s, July 31, 1976, gage height, 19.86 ft, from floodmarks, from slope-area measurements of peak flow; no flow at times in 1976 (all flow above station diverted through Olympus and Dille tunnels after flood of July 31, 1976), 1979-80 (all flow above station diverted through Dille tunnel).

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 738 ft³/s at 1700 Apr. 30, gage height, 3.87 ft; minimum daily, 15 ft³/s, Jan. 19, 20, Feb. 24, 25.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 730 ft³/s at 0630 June 8, gage height, 3.70 ft; minimum daily, 14 ft³/s, Dec. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|-------|------|------|------|------|
| 1 | 74 | 66 | 63 | 20 | 21 | 20 | 38 | 678 | 95 | 146 | 77 | 84 |
| 2 | 73 | 64 | 58 | 20 | 22 | 22 | 38 | 502 | 120 | 139 | 70 | 81 |
| 3 | 81 | 67 | 52 | 20 | 22 | 24 | 43 | 478 | 150 | 141 | 66 | 78 |
| 4 | 80 | 71 | 57 | 20 | 22 | 25 | 45 | 589 | 157 | 136 | 62 | 52 |
| 5 | 76 | 66 | 60 | 20 | 22 | 24 | 45 | 425 | 138 | 127 | 57 | 41 |
| 6 | 76 | 62 | 60 | 25 | 20 | 25 | 98 | 330 | 136 | 120 | 98 | 41 |
| 7 | 88 | 65 | 60 | 25 | 20 | 25 | 42 | 330 | 142 | 122 | 238 | 40 |
| 8 | 92 | 58 | 55 | 25 | 20 | 23 | 46 | 330 | 152 | 120 | 414 | 39 |
| 9 | 94 | 57 | 50 | 25 | 20 | 22 | 45 | 299 | 334 | 118 | 448 | 38 |
| 10 | 92 | 50 | 45 | 25 | 20 | 22 | 45 | 360 | 191 | 115 | 430 | 38 |
| 11 | 95 | 50 | 55 | 25 | 21 | 20 | 45 | 400 | 113 | 111 | 436 | 37 |
| 12 | 92 | 50 | 55 | 24 | 21 | 21 | 45 | 415 | 75 | 124 | 360 | 37 |
| 13 | 88 | 45 | 50 | 23 | 21 | 22 | 45 | 508 | 84 | 118 | 340 | 36 |
| 14 | 84 | 69 | 40 | 22 | 22 | 28 | 48 | 588 | 98 | 111 | 325 | 37 |
| 15 | 80 | 64 | 40 | 20 | 22 | 30 | 51 | 565 | 122 | 107 | 148 | 65 |
| 16 | 78 | 61 | 35 | 20 | 22 | 28 | 55 | 230 | 111 | 104 | 73 | 80 |
| 17 | 78 | 55 | 35 | 17 | 23 | 30 | 60 | 260 | 99 | 113 | 65 | 81 |
| 18 | 79 | 55 | 35 | 16 | 23 | 32 | 73 | 260 | 89 | 116 | 64 | 80 |
| 19 | 78 | 58 | 35 | 15 | 23 | 36 | 92 | 220 | 77 | 115 | 61 | 74 |
| 20 | 81 | 58 | 35 | 15 | 22 | 30 | 122 | 157 | 66 | 111 | 57 | 72 |
| 21 | 88 | 57 | 35 | 16 | 20 | 29 | 120 | 96 | 101 | 84 | 47 | 66 |
| 22 | 94 | 57 | 35 | 17 | 19 | 30 | 200 | 85 | 115 | 75 | 46 | 62 |
| 23 | 95 | 50 | 35 | 19 | 17 | 27 | 239 | 70 | 86 | 74 | 50 | 61 |
| 24 | 91 | 60 | 37 | 20 | 15 | 28 | 275 | 65 | 77 | 74 | 60 | 56 |
| 25 | 88 | 54 | 35 | 20 | 15 | 28 | 295 | 86 | 73 | 71 | 70 | 60 |
| 26 | 84 | 60 | 30 | 21 | 16 | 28 | 300 | 71 | 81 | 69 | 73 | 56 |
| 27 | 80 | 55 | 25 | 22 | 16 | 30 | 320 | 90 | 86 | 74 | 68 | 54 |
| 28 | 76 | 57 | 25 | 22 | 17 | 30 | 365 | 90 | 121 | 75 | 60 | 51 |
| 29 | 77 | 58 | 20 | 22 | --- | 31 | 350 | 90 | 171 | 81 | 53 | 49 |
| 30 | 71 | 61 | 20 | 21 | --- | 31 | 503 | 90 | 159 | 74 | 49 | 43 |
| 31 | 67 | --- | 20 | 21 | --- | 32 | --- | 90 | --- | 74 | 73 | --- |
| TOTAL | 2570 | 1760 | 1292 | 643 | 564 | 833 | 4088 | 8847 | 3619 | 3239 | 4538 | 1689 |
| MEAN | 82.9 | 58.7 | 41.7 | 20.7 | 20.1 | 26.9 | 136 | 285 | 121 | 104 | 146 | 56.3 |
| MAX | 95 | 71 | 63 | 25 | 23 | 36 | 503 | 678 | 334 | 146 | 448 | 84 |
| MIN | 67 | 45 | 20 | 15 | 15 | 20 | 38 | 65 | 66 | 69 | 46 | 36 |
| AC-FT | 5100 | 3490 | 2560 | 1280 | 1120 | 1650 | 8110 | 17550 | 7180 | 6420 | 9000 | 3350 |

CAL YR 1986 TOTAL 57031 MEAN 156 MAX 936 MIN 13 AC-FT 113100
WTR YR 1987 TOTAL 33682 MEAN 92.3 MAX 678 MIN 15 AC-FT 66810

PLATTE RIVER BASIN

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|---------|--------|-------------|------|------|-------|-------|------|------|------|
| 1 | 43 | 38 | 35 | 15 | 16 | 19 | 31 | 100 | 359 | 124 | 73 | 64 |
| 2 | 43 | 41 | 42 | 15 | 16 | 17 | 36 | 124 | 156 | 144 | 73 | 65 |
| 3 | 42 | 45 | 43 | 16 | 16 | 17 | 41 | 127 | 103 | 144 | 107 | 63 |
| 4 | 43 | 43 | 37 | 16 | 16 | 18 | 42 | 129 | 139 | 131 | 86 | 62 |
| 5 | 43 | 43 | 34 | 15 | 16 | 18 | 43 | 122 | 450 | 120 | 139 | 61 |
| 6 | 43 | 42 | 31 | 15 | 16 | 19 | 49 | 118 | 629 | 127 | 184 | 59 |
| 7 | 43 | 41 | 29 | 16 | 16 | 19 | 57 | 124 | 643 | 120 | 179 | 58 |
| 8 | 43 | 40 | 28 | 16 | 16 | 19 | 68 | 124 | 650 | 115 | 181 | 53 |
| 9 | 41 | 38 | 26 | 16 | 17 | 21 | 66 | 109 | 629 | 73 | 137 | 50 |
| 10 | 40 | 36 | 24 | 16 | 17 | 23 | 62 | 68 | 629 | 60 | 112 | 49 |
| 11 | 40 | 38 | 24 | 17 | 17 | 23 | 64 | 48 | 622 | 70 | 100 | 52 |
| 12 | 40 | 36 | 23 | 19 | 18 | 21 | 67 | 48 | 622 | 75 | 91 | 57 |
| 13 | 40 | 37 | 23 | 22 | 18 | 21 | 70 | 57 | 589 | 74 | 85 | 77 |
| 14 | 57 | 36 | 21 | 22 | 18 | 21 | 77 | 65 | 484 | 75 | 83 | 131 |
| 15 | 64 | 39 | 20 | 22 | 19 | 24 | 86 | 221 | 392 | 74 | 80 | 159 |
| 16 | 65 | 36 | 20 | 22 | 20 | 25 | 89 | 330 | 260 | 72 | 79 | 149 |
| 17 | 63 | 39 | 21 | 22 | 20 | 26 | 98 | 276 | 538 | 64 | 79 | 134 |
| 18 | 61 | 33 | 22 | 22 | 20 | 26 | 100 | 350 | 664 | 58 | 80 | 127 |
| 19 | 51 | 34 | 23 | 21 | 20 | 24 | 104 | 442 | 708 | 58 | 80 | 122 |
| 20 | 41 | 36 | 23 | 21 | 19 | 26 | 96 | 460 | 708 | 55 | 76 | 127 |
| 21 | 40 | 34 | 23 | 21 | 19 | 28 | 96 | 157 | 669 | 54 | 73 | 127 |
| 22 | 38 | 34 | 22 | 21 | 19 | 25 | 102 | 131 | 636 | 52 | 71 | 104 |
| 23 | 39 | 33 | 21 | 20 | 20 | 25 | 96 | 165 | 643 | 52 | 70 | 96 |
| 24 | 38 | 32 | 20 | 21 | 19 | 28 | 92 | 165 | 466 | 50 | 69 | 107 |
| 25 | 39 | 33 | 18 | 20 | 19 | 25 | 91 | 187 | 436 | 58 | 67 | 111 |
| 26 | 39 | 38 | 16 | 20 | 19 | 26 | 87 | 244 | 418 | 63 | 69 | 110 |
| 27 | 40 | 32 | 16 | 19 | 19 | 26 | 84 | 300 | 414 | 65 | 69 | 108 |
| 28 | 39 | 28 | 15 | 17 | 19 | 28 | 83 | 135 | 219 | 67 | 72 | 105 |
| 29 | 38 | 30 | 15 | 17 | 19 | 21 | 83 | 146 | 130 | 69 | 73 | 110 |
| 30 | 39 | 34 | 15 | 17 | --- | 29 | 81 | 219 | 115 | 72 | 69 | 108 |
| 31 | 39 | --- | 14 | 17 | --- | 25 | --- | 375 | --- | 74 | 66 | --- |
| TOTAL | 1374 | 1099 | 744 | 576 | 523 | 713 | 2241 | 5666 | 14120 | 2509 | 2872 | 2805 |
| MEAN | 44.3 | 36.6 | 24.0 | 18.6 | 18.0 | 23.0 | 74.7 | 183 | 471 | 80.9 | 92.6 | 93.5 |
| MAX | 65 | 45 | 43 | 22 | 20 | 29 | 104 | 460 | 708 | 144 | 184 | 159 |
| MIN | 38 | 28 | 14 | 15 | 16 | 17 | 31 | 48 | 103 | 50 | 66 | 49 |
| AC-FT | 2730 | 2180 | 1480 | 1140 | 1040 | 1410 | 4450 | 11240 | 28010 | 4980 | 5700 | 5560 |
| CAL YR 1987 | TOTAL 31277 | MEAN 85.7 | MAX 678 | MIN 14 | AC-FT 62040 | | | | | | | |
| WTR YR 1988 | TOTAL 35242 | MEAN 96.3 | MAX 708 | MIN 14 | AC-FT 69900 | | | | | | | |

PLATTE RIVER BASIN

06739210 BIG THOMPSON RIVER ABOVE BUCKHORN CREEK NEAR LOVELAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°25'02", long 105°11'23", in NW¼SW¼NW¼ sec.12, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, 160 ft south of Highway 34, 1 mi above Buckhorn Creek.

DRAINAGE AREA.--314 mi².

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT | | | | | | | | | | |
| 06... | 1505 | 2.7 | 335 | 8.7 | 16.0 | 10.8 | 160 | 46 | 11 | -- |
| 28... | 1205 | 7.5 | 270 | 8.8 | 8.0 | 11.3 | 88 | 26 | 5.6 | -- |
| DEC | | | | | | | | | | |
| 16... | 1120 | 3.7 | 211 | 8.3 | 0.0 | 12.6 | 80 | 23 | 5.4 | -- |
| JAN | | | | | | | | | | |
| 26... | 1335 | 1.2 | 440 | 8.4 | 3.0 | 11.8 | 190 | 54 | 14 | 9.2 |
| FEB | | | | | | | | | | |
| 24... | 1325 | 1.2 | 325 | 8.5 | 7.0 | 12.2 | 200 | 57 | 15 | -- |
| MAR | | | | | | | | | | |
| 23... | 1125 | 1.2 | 420 | 8.7 | 8.5 | 11.6 | 200 | 57 | 14 | -- |
| APR | | | | | | | | | | |
| 19... | 1405 | 3.5 | 175 | 8.9 | 14.5 | 10.3 | 76 | 22 | 5.0 | -- |
| MAY | | | | | | | | | | |
| 18... | 1300 | 600 | 45 | 7.3 | 13.0 | 8.4 | 16 | 4.8 | 1.0 | -- |
| JUN | | | | | | | | | | |
| 22... | 1530 | 650 | 24 | 7.2 | 17.0 | 7.8 | 8 | 2.4 | 0.5 | -- |
| JUL | | | | | | | | | | |
| 13... | 0930 | 121 | 33 | 7.4 | 17.0 | 7.6 | 12 | 3.5 | 0.74 | 1.4 |
| AUG | | | | | | | | | | |
| 16... | 1245 | 123 | 55 | 7.3 | 19.0 | 7.3 | 22 | 6.9 | 1.2 | -- |
| SEP | | | | | | | | | | |
| 20... | 0940 | 60 | 60 | 8.0 | 11.0 | 8.8 | 25 | 7.3 | 1.6 | -- |

| DATE | TIME | 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|------|---|---|---|--|---|--|---|---|---|--|
| OCT | | | | | | | | | | | |
| 06... | 132 | -- | -- | -- | -- | -- | -- | -- | 0.12 | -- | -- |
| 28... | 84 | -- | -- | -- | -- | -- | -- | <0.01 | 0.03 | 0.02 | -- |
| DEC | | | | | | | | | | | |
| 16... | 66 | -- | -- | -- | -- | -- | -- | <0.01 | 0.55 | 0.02 | -- |
| JAN | | | | | | | | | | | |
| 26... | 141 | 61 | 3.8 | 0.5 | 9.8 | 234 | <0.01 | 0.56 | <0.01 | 0.02 | -- |
| FEB | | | | | | | | | | | |
| 24... | 131 | -- | -- | -- | -- | -- | -- | <0.01 | 0.43 | 0.04 | -- |
| MAR | | | | | | | | | | | |
| 23... | 135 | -- | -- | -- | -- | -- | -- | <0.01 | 0.26 | 0.02 | -- |
| APR | | | | | | | | | | | |
| 19... | 59 | -- | -- | -- | -- | -- | -- | <0.01 | 0.05 | 0.04 | -- |
| MAY | | | | | | | | | | | |
| 18... | 17 | -- | -- | -- | -- | -- | -- | <0.01 | 0.05 | <0.01 | -- |
| JUN | | | | | | | | | | | |
| 22... | 13 | -- | -- | -- | -- | -- | -- | -- | 0.07 | -- | -- |
| JUL | | | | | | | | | | | |
| 13... | 12 | 5.6 | 0.4 | 0.1 | 3.8 | 22 | <0.01 | 0.06 | <0.01 | <0.01 | -- |
| AUG | | | | | | | | | | | |
| 16... | 21 | -- | -- | -- | -- | -- | -- | <0.01 | 0.07 | <0.01 | -- |
| SEP | | | | | | | | | | | |
| 20... | 27 | -- | -- | -- | -- | -- | -- | <0.01 | 0.08 | <0.01 | -- |

PLATTE RIVER BASIN

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

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | 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 06... | -- | -- | 1 | -- | -- | -- | 3 | 2 | 70 |
| 28... | -- | -- | 1 | -- | -- | -- | 4 | 1 | 160 |
| DEC 16... | -- | -- | <1 | -- | -- | -- | 2 | 2 | 90 |
| JAN 26... | <10 | <1 | <1 | 1 | <1 | <1 | 1 | 4 | 90 |
| FEB 24... | -- | -- | 1 | -- | -- | -- | 3 | 3 | 60 |
| MAR 23... | -- | -- | <1 | -- | -- | -- | 2 | 2 | 60 |
| APR 19... | -- | -- | <1 | -- | -- | -- | 6 | 9 | 150 |
| MAY 18... | -- | -- | 1 | -- | -- | -- | 10 | 10 | 390 |
| JUN 22... | -- | -- | <1 | -- | -- | -- | 8 | 3 | 770 |
| JUL 13... | 20 | <1 | <1 | <1 | 1 | <1 | 3 | 3 | 230 |
| AUG 16... | -- | -- | 1 | -- | -- | -- | 6 | 4 | 250 |
| SEP 20... | -- | -- | 1 | -- | -- | -- | 6 | -- | 580 |

| 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, DIS- SOLVED (UG/L AS AG) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|-----------|---|--|---|---|--|--|---|--|--|
| OCT 06... | <5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |
| 28... | <5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |
| DEC 16... | <5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |
| JAN 26... | <5 | <5 | 10 | <0.1 | <0.1 | 4 | <1 | <0.1 | <3 |
| FEB 24... | <5 | -- | -- | -- | -- | -- | -- | 0.1 | -- |
| MAR 23... | <5 | -- | -- | -- | -- | -- | -- | <0.2 | -- |
| APR 19... | <5 | -- | -- | -- | -- | -- | -- | <1.0 | -- |
| MAY 18... | <5 | -- | -- | -- | -- | -- | -- | <0.5 | -- |
| JUN 22... | 5 | -- | -- | -- | -- | -- | -- | <0.5 | -- |
| JUL 13... | <5 | <5 | 20 | <0.1 | <0.1 | <1 | <1 | <0.5 | 4 |
| AUG 16... | <5 | -- | -- | -- | -- | -- | -- | <0.5 | -- |
| SEP 20... | <5 | -- | -- | -- | -- | -- | -- | 0.3 | -- |

PLATTE RIVER BASIN

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°24'02", long 105°07'20", in SW¼NE¼ sec.16, T.5 N., R.69 W., Larimer County, Hydrologic Unit 10190006, at Wilson Avenue bridge 9 mi upstream from Greeley-Loveland Ditch and 2.5 mi west of Loveland.

DRAINAGE AREA.--525 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT | | | | | | | | | | |
| 06... | 1315 | 6.4 | 850 | 8.4 | 15.0 | 12.8 | 450 | 130 | 30 | -- |
| 28... | 0950 | 3.5 | 1130 | 8.1 | 7.0 | 9.6 | 590 | 130 | 65 | -- |
| DEC | | | | | | | | | | |
| 16... | 0935 | 5.6 | -- | 8.2 | 0.0 | 10.6 | 560 | 160 | 39 | -- |
| JAN | | | | | | | | | | |
| 26... | 1120 | 2.1 | 1110 | 8.2 | 0.0 | 11.6 | 570 | 160 | 41 | 29 |
| FEB | | | | | | | | | | |
| 24... | 1535 | 1.8 | -- | 8.1 | 8.0 | 12.4 | 560 | 160 | 40 | -- |
| MAR | | | | | | | | | | |
| 22... | 0955 | 2.3 | 1060 | 8.3 | 7.0 | 11.4 | 540 | 150 | 39 | -- |
| APR | | | | | | | | | | |
| 19... | 0855 | 2.6 | 1000 | 8.1 | 10.5 | 8.5 | 490 | 140 | 35 | -- |
| MAY | | | | | | | | | | |
| 20... | 0930 | 338 | 76 | 8.0 | 9.5 | 9.0 | 33 | 10 | 1.9 | -- |
| JUN | | | | | | | | | | |
| 23... | 0830 | 350 | 160 | 7.3 | 14.5 | 8.0 | 46 | 13 | 3.3 | -- |
| JUL | | | | | | | | | | |
| 13... | 1215 | 137 | 250 | 9.0 | 19.0 | 8.0 | 110 | 30 | 7.9 | 6.6 |
| AUG | | | | | | | | | | |
| 16... | 1545 | 156 | 210 | 7.4 | 19.5 | 7.3 | 89 | 25 | 6.5 | -- |
| SEP | | | | | | | | | | |
| 20... | 1130 | 10 | 850 | 8.2 | 15.0 | 11.0 | 430 | 120 | 31 | -- |

| DATE | 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|---|---|---|--|---|--|---|---|---|--|
| OCT | | | | | | | | | | |
| 06... | 129 | -- | -- | -- | -- | -- | -- | 0.16 | -- | -- |
| 28... | 133 | -- | -- | -- | -- | -- | <0.01 | 0.20 | 0.05 | -- |
| DEC | | | | | | | | | | |
| 16... | 184 | -- | -- | -- | -- | -- | <0.01 | 0.51 | 0.07 | -- |
| JAN | | | | | | | | | | |
| 26... | 183 | 460 | 8.3 | 0.4 | 9.6 | 853 | <0.01 | 0.58 | 0.05 | 0.01 |
| FEB | | | | | | | | | | |
| 24... | 159 | -- | -- | -- | -- | -- | 0.01 | 0.43 | 0.06 | -- |
| MAR | | | | | | | | | | |
| 22... | 155 | -- | -- | -- | -- | -- | 0.01 | 0.31 | 0.07 | -- |
| APR | | | | | | | | | | |
| 19... | 144 | -- | -- | -- | -- | -- | <0.01 | 0.21 | 0.04 | -- |
| MAY | | | | | | | | | | |
| 20... | 22 | -- | -- | -- | -- | -- | <0.01 | 0.09 | 0.02 | -- |
| JUN | | | | | | | | | | |
| 23... | 27 | -- | -- | -- | -- | -- | <0.01 | 0.07 | 0.02 | -- |
| JUL | | | | | | | | | | |
| 13... | 52 | 62 | 1.2 | 0.1 | 4.5 | 152 | <0.01 | 0.05 | <0.01 | 0.01 |
| AUG | | | | | | | | | | |
| 16... | 49 | -- | -- | -- | -- | -- | <0.01 | 0.09 | 0.02 | -- |
| SEP | | | | | | | | | | |
| 20... | 134 | -- | -- | -- | -- | -- | <0.01 | 0.27 | <0.01 | -- |

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

PLATTE RIVER BASIN

06741510 BIG THOMPSON RIVER AT LOVELAND, CO

LOCATION.--Lat 40°22'43", long 105°03'38", in SE¼SE¼ sec.24, T.5 N., R.69 W., Larimer County, Hydrologic Unit 10190006, on right bank 690 ft downstream from county road bridge C-13, 1.7 mi south of sugar refinery in Loveland, and 1.9 mi downstream from Farmers Ditch diversion.

DRAINAGE AREA.--535 mi².

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Estimated daily discharges: Dec. 14 to Feb. 24. Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--City of Loveland.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,970 ft³/s, Apr. 30, 1980, gage height, 10.10 ft, from high-water mark; minimum daily, 0.80 ft³/s, May 11, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 292 ft³/s at 0945 June 5, gage height, 3.36 ft; minimum daily, 3.6 ft³/s, Jan. 23 to Feb. 6

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-----------|---------|---------|-------------|-------|-------|--------|------|------|------|-------|
| 1 | 12 | 8.4 | 5.7 | 4.6 | 3.6 | 6.8 | 30 | 6.2 | 18 | 67 | 56 | 67 |
| 2 | 11 | 8.3 | 5.4 | 4.5 | 3.6 | 9.8 | 29 | 6.7 | 23 | 63 | 48 | 74 |
| 3 | 10 | 5.8 | 5.6 | 4.5 | 3.6 | 7.6 | 27 | 7.7 | 55 | 57 | 57 | 67 |
| 4 | 7.2 | 5.1 | 5.7 | 4.4 | 3.6 | 7.0 | 26 | 7.2 | 81 | 44 | 118 | 68 |
| 5 | 7.2 | 4.9 | 5.1 | 4.4 | 3.6 | 6.8 | 17 | 8.5 | 128 | 48 | 146 | 68 |
| 6 | 7.1 | 5.3 | 5.1 | 4.4 | 3.6 | 6.9 | 6.4 | 14 | 121 | 45 | 147 | 63 |
| 7 | 6.4 | 5.4 | 5.2 | 4.3 | 3.8 | 7.3 | 6.2 | 48 | 94 | 53 | 139 | 49 |
| 8 | 5.9 | 5.0 | 5.3 | 4.2 | 3.9 | 7.6 | 6.3 | 69 | 108 | 77 | 143 | 46 |
| 9 | 5.8 | 5.6 | 5.2 | 4.2 | 4.1 | 7.3 | 6.8 | 63 | 124 | 57 | 139 | 44 |
| 10 | 5.8 | 5.6 | 5.2 | 4.2 | 4.2 | 8.9 | 6.1 | 41 | 109 | 39 | 138 | 41 |
| 11 | 5.9 | 5.7 | 5.4 | 4.2 | 4.4 | 7.2 | 6.0 | 49 | 85 | 40 | 141 | 50 |
| 12 | 5.6 | 5.4 | 4.9 | 4.1 | 4.5 | 6.9 | 6.6 | 62 | 94 | 50 | 145 | 54 |
| 13 | 5.0 | 5.7 | 5.0 | 4.0 | 4.6 | 8.0 | 6.1 | 61 | 88 | 65 | 94 | 32 |
| 14 | 5.3 | 5.6 | 5.0 | 4.0 | 4.8 | 8.7 | 6.4 | 67 | 98 | 68 | 45 | 19 |
| 15 | 5.1 | 9.1 | 5.0 | 3.9 | 5.0 | 7.1 | 5.9 | 56 | 139 | 66 | 51 | 21 |
| 16 | 5.0 | 5.7 | 5.0 | 3.9 | 5.2 | 7.0 | 6.0 | 57 | 131 | 60 | 60 | 16 |
| 17 | 4.8 | 6.4 | 5.0 | 3.9 | 5.3 | 6.8 | 6.3 | 71 | 86 | 68 | 69 | 17 |
| 18 | 4.8 | 5.9 | 5.0 | 3.8 | 5.5 | 6.7 | 6.7 | 110 | 83 | 66 | 76 | 13 |
| 19 | 4.9 | 6.0 | 5.0 | 3.8 | 5.7 | 6.8 | 6.8 | 156 | 61 | 61 | 74 | 9.8 |
| 20 | 4.9 | 5.9 | 5.0 | 3.8 | 5.9 | 6.6 | 5.9 | 88 | 65 | 60 | 68 | 5.7 |
| 21 | 4.7 | 6.2 | 5.0 | 3.7 | 6.4 | 6.8 | 5.7 | 10 | 85 | 58 | 76 | 7.1 |
| 22 | 4.6 | 6.2 | 5.0 | 3.7 | 6.4 | 6.6 | 5.0 | 8.0 | 96 | 54 | 93 | 6.7 |
| 23 | 4.6 | 6.3 | 5.0 | 3.6 | 6.4 | 6.4 | 4.0 | 16 | 85 | 46 | 92 | 7.5 |
| 24 | 4.6 | 6.0 | 5.0 | 3.6 | 6.4 | 6.7 | 4.1 | 15 | 77 | 49 | 85 | 8.9 |
| 25 | 4.6 | 6.3 | 5.0 | 3.6 | 6.6 | 6.4 | 4.5 | 13 | 108 | 48 | 83 | 8.9 |
| 26 | 4.9 | 6.1 | 5.0 | 3.6 | 6.7 | 6.1 | 4.8 | 11 | 123 | 49 | 83 | 9.9 |
| 27 | 6.2 | 5.5 | 4.9 | 3.6 | 6.6 | 6.1 | 4.5 | 26 | 118 | 51 | 84 | 8.8 |
| 28 | 6.3 | 5.3 | 4.9 | 3.6 | 6.6 | 6.0 | 5.2 | 28 | 93 | 65 | 83 | 7.6 |
| 29 | 6.6 | 5.3 | 4.8 | 3.6 | 6.6 | 6.1 | 5.6 | 13 | 97 | 59 | 83 | 5.3 |
| 30 | 6.6 | 5.4 | 4.7 | 3.6 | --- | 6.8 | 5.9 | 42 | 88 | 63 | 78 | 6.8 |
| 31 | 7.2 | --- | 4.6 | 3.6 | --- | 16 | --- | 31 | --- | 60 | 69 | --- |
| TOTAL | 190.6 | 179.4 | 157.7 | 122.9 | 147.2 | 227.8 | 272.8 | 1261.3 | 2761 | 1756 | 2863 | 902.0 |
| MEAN | 6.15 | 5.98 | 5.09 | 3.96 | 5.08 | 7.35 | 9.09 | 40.7 | 92.0 | 56.6 | 92.4 | 30.1 |
| MAX | 12 | 9.1 | 5.7 | 4.6 | 6.7 | 16 | 30 | 156 | 139 | 77 | 147 | 74 |
| MIN | 4.6 | 4.9 | 4.6 | 3.6 | 3.6 | 6.0 | 4.0 | 6.2 | 18 | 39 | 45 | 5.3 |
| AC-FT | 378 | 356 | 313 | 244 | 292 | 452 | 541 | 2500 | 5480 | 3480 | 5680 | 1790 |
| CAL YR 1987 | TOTAL 12184.8 | MEAN 33.4 | MAX 348 | MIN 4.3 | AC-FT 24170 | | | | | | | |
| WTR YR 1988 | TOTAL 10841.7 | MEAN 29.6 | MAX 156 | MIN 3.6 | AC-FT 21500 | | | | | | | |

PLATTE RIVER BASIN

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

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WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT | | | | | | | | | | |
| 06... | 1020 | 7.0 | 1100 | 8.0 | 12.0 | 9.3 | 560 | 140 | 52 | -- |
| 27... | 1505 | 6.4 | 1480 | 8.5 | 12.0 | 13.4 | 640 | 150 | 65 | -- |
| DEC | | | | | | | | | | |
| 15... | 1450 | 5.5 | 1400 | 8.4 | 0.0 | 14.6 | 650 | 160 | 60 | -- |
| JAN | | | | | | | | | | |
| 26... | 0925 | 3.6 | 1340 | 8.3 | 0.0 | 11.4 | 640 | 160 | 58 | 61 |
| FEB | | | | | | | | | | |
| 23... | 1515 | 6.4 | 1260 | 8.5 | 3.0 | 14.2 | 550 | 140 | 49 | -- |
| MAR | | | | | | | | | | |
| 21... | 1515 | 6.3 | 1330 | 8.9 | 10.5 | 8.8 | 570 | 130 | 60 | -- |
| APR | | | | | | | | | | |
| 18... | 1105 | 6.6 | 1260 | 8.4 | 10.0 | 10.2 | 580 | 150 | 50 | -- |
| MAY | | | | | | | | | | |
| 19... | 1145 | 149 | 310 | 8.0 | 12.0 | 8.4 | 120 | 29 | 12 | -- |
| JUN | | | | | | | | | | |
| 23... | 1230 | 94 | 210 | 8.0 | 19.5 | 8.2 | 82 | 22 | 6.6 | -- |
| JUL | | | | | | | | | | |
| 14... | 0930 | 62 | 420 | 7.9 | 20.0 | 7.7 | 180 | 43 | 17 | 17 |
| AUG | | | | | | | | | | |
| 17... | 0915 | 72 | 360 | 7.5 | 18.5 | 7.4 | 160 | 41 | 15 | -- |
| SEP | | | | | | | | | | |
| 21... | 1000 | 7.1 | 1090 | 8.8 | 16.0 | 8.1 | 530 | 130 | 49 | -- |

| 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|---|---|---|--|---|--|---|---|---|--|
| OCT | | | | | | | | | | |
| 06... | 176 | -- | -- | -- | -- | -- | <0.01 | 0.30 | 0.04 | -- |
| 27... | 183 | -- | -- | -- | -- | -- | -- | 0.28 | -- | -- |
| DEC | | | | | | | | | | |
| 15... | 196 | -- | -- | -- | -- | -- | <0.01 | 0.53 | 0.06 | -- |
| JAN | | | | | | | | | | |
| 26... | -- | 590 | 15 | 0.5 | 7.4 | 1050 | <0.01 | 0.72 | 0.09 | 0.02 |
| FEB | | | | | | | | | | |
| 23... | 174 | -- | -- | -- | -- | -- | 0.02 | 0.50 | 0.06 | -- |
| MAR | | | | | | | | | | |
| 21... | 155 | -- | -- | -- | -- | -- | 0.04 | 0.52 | 4.6 | -- |
| APR | | | | | | | | | | |
| 18... | 168 | -- | -- | -- | -- | -- | 0.01 | 0.31 | 0.04 | -- |
| MAY | | | | | | | | | | |
| 19... | 43 | -- | -- | -- | -- | -- | <0.01 | 0.15 | 0.07 | -- |
| JUN | | | | | | | | | | |
| 23... | 40 | -- | -- | -- | -- | -- | <0.01 | 0.06 | 0.01 | -- |
| JUL | | | | | | | | | | |
| 14... | 69 | 140 | 2.8 | 0.1 | 4.2 | 280 | <0.01 | 0.06 | <0.01 | 0.02 |
| AUG | | | | | | | | | | |
| 17... | 66 | -- | -- | -- | -- | -- | <0.01 | 0.12 | <0.01 | -- |
| SEP | | | | | | | | | | |
| 21... | 157 | -- | -- | -- | -- | -- | <0.01 | 0.22 | 0.03 | -- |

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | 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 06... | -- | -- | 1 | -- | -- | -- | 3 | 2 | 150 |
| 27... | -- | -- | 1 | -- | -- | -- | 2 | 2 | 180 |
| DEC 15... | -- | -- | <1 | -- | -- | -- | 3 | 3 | 120 |
| JAN 26... | <10 | <1 | 1 | <1 | <1 | <1 | 2 | 6 | 100 |
| FEB 23... | -- | -- | 1 | -- | -- | -- | 5 | 5 | 100 |
| MAR 21... | -- | -- | <1 | -- | -- | -- | 4 | 3 | 140 |
| APR 18... | -- | -- | <1 | -- | -- | -- | 1 | 5 | 120 |
| MAY 19... | -- | -- | 3 | -- | -- | -- | 16 | 5 | 1900 |
| JUN 23... | -- | -- | 1 | -- | -- | -- | 9 | 3 | 1400 |
| JUL 14... | 60 | <1 | <1 | <1 | 2 | <1 | 4 | 5 | 680 |
| AUG 17... | -- | -- | 1 | -- | -- | -- | 6 | 3 | 2200 |
| SEP 21... | -- | -- | 1 | -- | -- | -- | 5 | 4 | 860 |

[illegible]

PLATTE RIVER BASIN

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06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°23'00", long 105°01'45", in NW¼SE¼ sec.20, T.5 N., R.68 W., Larimer County, Hydrologic Unit 10190006, at county road 9 E bridge, about 0.3 mi upstream from outlet ditch and 2.0 mi southeast of Loveland.

DRAINAGE AREA.--540 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT | | | | | | | | | | |
| 05... | 1520 | 17 | -- | 9.1 | 19.0 | 15.0 | 420 | 99 | 41 | -- |
| 27... | 1325 | 17 | 1130 | 8.8 | 14.0 | 17.2 | 410 | 95 | 42 | -- |
| DEC | | | | | | | | | | |
| 15... | 1245 | 18 | 1320 | 8.2 | 3.0 | 13.7 | 470 | 110 | 47 | -- |
| JAN | | | | | | | | | | |
| 25... | 1255 | 17 | 1240 | 7.7 | 4.0 | 9.4 | 460 | 110 | 45 | 80 |
| FEB | | | | | | | | | | |
| 23... | 1325 | 16 | 1240 | 8.1 | 5.0 | 13.2 | 430 | 100 | 44 | -- |
| MAR | | | | | | | | | | |
| 21... | 1325 | 18 | 1200 | 8.4 | 11.5 | 10.9 | 420 | 99 | 42 | -- |
| APR | | | | | | | | | | |
| 18... | 1335 | 17 | 1200 | 8.8 | 15.0 | 11.4 | 460 | 110 | 46 | -- |
| MAY | | | | | | | | | | |
| 18... | 1615 | 109 | 410 | 7.9 | 18.0 | 7.4 | 160 | 37 | 16 | -- |
| JUN | | | | | | | | | | |
| 22... | 0930 | 125 | 340 | 7.5 | 16.5 | 8.3 | 130 | 31 | 13 | -- |
| JUL | | | | | | | | | | |
| 13... | 1430 | 77 | 520 | 8.8 | 24.0 | 9.9 | 210 | 48 | 21 | 28 |
| AUG | | | | | | | | | | |
| 17... | 1100 | 86 | 470 | 7.6 | 19.5 | 7.7 | 200 | 48 | 20 | -- |
| SEP | | | | | | | | | | |
| 20... | 1300 | 21 | 1070 | 8.6 | 18.0 | 10.7 | 430 | 99 | 45 | -- |

| 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|---|---|---|--|---|--|---|---|---|--|
| OCT | | | | | | | | | | |
| 05... | 130 | -- | -- | -- | -- | -- | -- | 7.80 | -- | -- |
| 27... | 136 | -- | -- | -- | -- | -- | 0.40 | 7.20 | 0.58 | -- |
| DEC | | | | | | | | | | |
| 15... | 149 | -- | -- | -- | -- | -- | 0.29 | 7.70 | 1.40 | -- |
| JAN | | | | | | | | | | |
| 25... | 132 | 410 | 26 | 0.7 | 9.1 | 795 | 1.60 | 7.80 | 3.10 | 4.00 |
| FEB | | | | | | | | | | |
| 23... | 138 | -- | -- | -- | -- | -- | 1.10 | 6.70 | 0.63 | -- |
| MAR | | | | | | | | | | |
| 21... | 133 | -- | -- | -- | -- | -- | 0.16 | -- | 0.06 | -- |
| APR | | | | | | | | | | |
| 18... | 130 | -- | -- | -- | -- | -- | 0.04 | 5.20 | 0.07 | -- |
| MAY | | | | | | | | | | |
| 18... | 52 | -- | -- | -- | -- | -- | 0.02 | 1.10 | 0.06 | -- |
| JUN | | | | | | | | | | |
| 22... | 45 | -- | -- | -- | -- | -- | <0.01 | 1.00 | 0.02 | -- |
| JUL | | | | | | | | | | |
| 13... | 77 | 170 | 6.6 | 0.3 | 4.9 | 349 | 0.01 | 1.80 | <0.01 | 0.65 |
| AUG | | | | | | | | | | |
| 17... | 76 | -- | -- | -- | -- | -- | <0.01 | 0.02 | 0.01 | -- |
| SEP | | | | | | | | | | |
| 20... | 137 | -- | -- | -- | -- | -- | 0.04 | 2.40 | <0.01 | -- |

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO--Continued
WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | 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 05... | -- | -- | <1 | -- | -- | -- | 6 | 4 | 120 |
| 27... | -- | -- | 1 | -- | -- | -- | 4 | 4 | 100 |
| DEC 15... | -- | -- | <1 | -- | -- | -- | 8 | 8 | 100 |
| JAN 25... | 10 | <1 | <1 | 1 | <1 | 1 | 15 | 9 | 420 |
| FEB 23... | -- | -- | 1 | -- | -- | -- | 14 | 8 | 180 |
| MAR 21... | -- | -- | <1 | -- | -- | -- | 3 | 1 | 120 |
| APR 18... | -- | -- | <1 | -- | -- | -- | 5 | 4 | 120 |
| MAY 18... | -- | -- | 1 | -- | -- | -- | 6 | 4 | 1700 |
| JUN 22... | -- | -- | 1 | -- | -- | -- | 8 | 2 | 1100 |
| JUL 13... | <10 | 1 | <1 | <1 | 1 | <1 | 5 | 7 | 780 |
| AUG 17... | -- | -- | 1 | -- | -- | -- | 7 | 3 | 1200 |
| SEP 20... | -- | -- | <1 | -- | -- | -- | 5 | 5 | 170 |

[illegible]

PLATTE RIVER BASIN

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

109

WATER-QUALITY RECORDS

LOCATION.--Lat 40°23'51", long 104°59'32", in NW¼SW¼ sec.15, T.5 N., R.68 W., Larimer County, Hydrologic Unit 10190006, at bridge on Big Thompson River on north bound lane of Interstate Highway 25 (I-25), 1.5 mi downstream from Hillsboro Ditch, 4.5 mi east of Loveland.

DRAINAGE AREA.--571 mi².

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT | | | | | | | | | | |
| 05... | 1335 | 2.6 | -- | 8.7 | 15.0 | 13.0 | 670 | 150 | 72 | -- |
| 27... | 1045 | 3.8 | 1230 | 8.1 | 8.5 | 10.8 | 520 | 140 | 42 | -- |
| DEC | | | | | | | | | | |
| 15... | 1045 | 2.9 | 1700 | 8.2 | 0.5 | 14.6 | 630 | 140 | 69 | -- |
| JAN | | | | | | | | | | |
| 25... | 1040 | 16 | 1320 | 8.2 | 0.0 | 13.4 | 500 | 110 | 54 | 82 |
| FEB | | | | | | | | | | |
| 23... | 1135 | 17 | 1325 | 8.4 | 1.5 | 13.0 | 510 | 110 | 58 | -- |
| MAR | | | | | | | | | | |
| 21... | 1045 | 18 | 1370 | 8.6 | 7.5 | 13.4 | 520 | 110 | 59 | -- |
| APR | | | | | | | | | | |
| 18... | 1515 | 21 | 1390 | 8.8 | 17.0 | 15.4 | 570 | 130 | 60 | -- |
| MAY | | | | | | | | | | |
| 19... | 0900 | 127 | 450 | 7.8 | 13.0 | 7.4 | 170 | 39 | 18 | -- |
| JUN | | | | | | | | | | |
| 21... | 1310 | 52 | 580 | 8.4 | 23.0 | 9.3 | 230 | 53 | 23 | -- |
| JUL | | | | | | | | | | |
| 12... | 1330 | 57 | 620 | 8.5 | 23.0 | 10.1 | 270 | 63 | 27 | 37 |
| AUG | | | | | | | | | | |
| 17... | 1300 | 61 | 540 | 7.9 | 21.0 | 8.8 | 230 | 56 | 23 | -- |
| SEP | | | | | | | | | | |
| 21... | 1215 | 7.3 | 1300 | 8.4 | 17.5 | 11.6 | 540 | 120 | 59 | -- |

| 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|---|---|---|--|---|--|---|---|---|--|
| OCT | | | | | | | | | | |
| 05... | 233 | -- | -- | -- | -- | -- | -- | 2.90 | -- | -- |
| 27... | 204 | -- | -- | -- | -- | -- | 0.13 | 4.90 | 0.05 | -- |
| DEC | | | | | | | | | | |
| 15... | 268 | -- | -- | -- | -- | -- | 0.05 | 5.40 | 0.26 | -- |
| JAN | | | | | | | | | | |
| 25... | 198 | 490 | 23 | 0.9 | 8.3 | 964 | 0.71 | 5.50 | 1.40 | 2.70 |
| FEB | | | | | | | | | | |
| 23... | 200 | -- | -- | -- | -- | -- | 0.92 | 3.80 | 0.64 | -- |
| MAR | | | | | | | | | | |
| 21... | 182 | -- | -- | -- | -- | -- | 0.13 | 4.80 | 0.06 | -- |
| APR | | | | | | | | | | |
| 18... | 187 | -- | -- | -- | -- | -- | 0.05 | 3.90 | 0.07 | -- |
| MAY | | | | | | | | | | |
| 19... | 62 | -- | -- | -- | -- | -- | 0.02 | 0.66 | 0.09 | -- |
| JUN | | | | | | | | | | |
| 21... | 80 | -- | -- | -- | -- | -- | <0.01 | 0.92 | 0.01 | -- |
| JUL | | | | | | | | | | |
| 12... | 104 | 220 | 6.4 | 0.3 | 4.2 | 430 | 0.01 | 0.92 | 0.02 | 0.31 |
| AUG | | | | | | | | | | |
| 17... | 98 | -- | -- | -- | -- | -- | <0.01 | 1.00 | <0.01 | -- |
| SEP | | | | | | | | | | |
| 21... | 183 | -- | -- | -- | -- | -- | 0.08 | 1.80 | <0.01 | -- |

PLATTE RIVER BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | 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 05... | -- | -- | <1 | -- | -- | -- | 3 | 2 | 190 |
| 27... | -- | -- | 1 | -- | -- | -- | 4 | 2 | 150 |
| DEC 15... | -- | -- | <1 | -- | -- | -- | 4 | 7 | 160 |
| JAN 25... | <10 | <1 | <1 | <1 | <1 | <1 | 6 | 7 | 320 |
| FEB 23... | -- | -- | 1 | -- | -- | -- | 8 | 9 | 290 |
| MAR 21... | -- | -- | <1 | -- | -- | -- | 3 | <1 | 160 |
| APR 18... | -- | -- | <1 | -- | -- | -- | 3 | 3 | 310 |
| MAY 19... | -- | -- | 1 | -- | -- | -- | 20 | 3 | 3700 |
| JUN 21... | -- | -- | 1 | -- | -- | -- | 8 | 2 | 200 |
| JUL 12... | 10 | 1 | <1 | <1 | 2 | <1 | 7 | 3 | 1300 |
| AUG 17... | -- | -- | 1 | -- | -- | -- | 7 | 3 | 1700 |
| SEP 21... | -- | -- | <1 | -- | -- | -- | 15 | 5 | 360 |

[illegible]

PLATTE RIVER BASIN

111

06742500 CARTER LAKE NEAR BERTHOUD, CO

LOCATION.--Lat 40°19'28", long 105°12'41", in SE¼ sec.10, T.4 N., R.70 W., Larimer County, Hydrologic Unit 10190006, in hoist house 293 ft from right abutment of Carter Lake Dam on Dry Creek, 7.0 mi west of Berthoud, and 8.9 mi upstream from mouth. Water-quality sampling site near center of reservoir.

RESERVOIR ELEVATIONS AND CONTENTS RECORDS

PERIOD OF RECORD.--March 1954 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 13 days. Datum of gage is 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, 108,900 acre-ft, Apr. 27, 28 elevation, 5,758.98 ft; minimum contents, 49,040 acre-ft, Oct. 13, elevation, 5,700.16 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| Date | Elevation | Contents (acre-feet) | Change in contents (acre-feet) |
|-----------------------|-----------|-------------------------|-----------------------------------|
| Sept. 30. | 5,703.70 | 52,170 | - |
| Oct. 31. | 5,709.34 | 57,300 | +5,130 |
| Nov. 30. | 5,719.40 | 66,880 | +9,580 |
| Dec. 31. | 5,725.22 | 72,640 | +5,760 |
| CAL YR 1987. | | | -18,080 |
| Jan. 31. | 5,736.61 | 84,340 | +11,700 |
| Feb. 29. | 5,737.86 | 85,660 | +1,320 |
| Mar. 31. | 5,753.70 | 102,900 | +17,240 |
| Apr. 30. | 5,758.84 | 108,700 | +5,800 |
| May 31. | 5,747.32 | 95,840 | -12,860 |
| June 30. | 5,747.48 | 96,020 | +180 |
| July 31. | 5,742.04 | 90,110 | -5,910 |
| Aug. 31. | 5,725.86 | 73,280 | -16,830 |
| Sept. 30. | 5,733.40 | 80,990 | +7,710 |
| WTR YR 1988 | | | +28,820 |

PLATTE RIVER BASIN

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 1987 TO SEPTEMBER 1988

| DATE | TIME | SAM- PLING DEPTH (FEET) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-------|------|----------------------------------|--------------------------------|--------------------------------------|-------------------------------------|
| JUL | | | | | |
| 08... | 0850 | 0.1 | 7.7 | 20.5 | 6.8 |
| 08... | 0851 | 5.0 | 7.7 | 20.5 | 6.9 |
| 08... | 0852 | 10.0 | 7.7 | 20.5 | 7.1 |
| 08... | 0853 | 20.0 | 7.7 | 19.0 | 7.3 |
| 08... | 0854 | 25.0 | 7.8 | 16.5 | 7.5 |
| 08... | 0855 | 30.0 | 7.9 | 11.0 | 7.1 |
| 08... | 0856 | 40.0 | 7.9 | 10.0 | 7.0 |
| 08... | 0857 | 50.0 | 7.8 | 9.5 | 6.8 |
| 08... | 0858 | 60.0 | 7.8 | 9.0 | 7.0 |
| 08... | 0859 | 70.0 | 7.8 | 9.0 | 6.7 |
| 08... | 0900 | 75.0 | 7.8 | 9.0 | 7.0 |
| 08... | 0901 | 80.0 | 7.7 | 9.0 | 7.0 |
| 08... | 0902 | 90.0 | 7.7 | 8.5 | 6.6 |
| 08... | 0903 | 100 | 7.7 | 8.5 | 6.6 |
| 08... | 0904 | 110 | 7.7 | 8.5 | 6.8 |
| 08... | 0905 | 120 | 7.7 | 8.0 | 6.1 |
| 08... | 0906 | 125 | 7.7 | 7.5 | 5.7 |
| 08... | 0907 | 130 | 7.7 | 7.5 | 5.5 |
| 08... | 0908 | 140 | 7.6 | 7.0 | 5.5 |

| 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) |
|-------|------|----------------------------------|---|--------------------------------|--------------------------------------|--|-------------------------------------|
| JUL | | | | | | | |
| 08... | 0930 | 0.1 | 75 | 7.7 | 20.5 | 96.0 | 6.8 |
| 08... | 0945 | 140 | 66 | 7.6 | 7.0 | -- | 5.5 |

| DATE | COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | 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 TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) |
|-------|--|--|--|---|---|--|---|
| JUL | | | | | | | |
| 08... | K14 | K2 | 48 | <0.01 | <0.10 | 0.02 | 0.02 |
| 08... | -- | -- | 48 | <0.01 | <0.10 | 0.01 | 0.02 |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

113

402009105130700 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY RECORDS

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

REMARKS.--Samples collected at various depths near center of reservoir.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SAM- PLING DEPTH (FEET) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-------|------|----------------------------------|--------------------------------|--------------------------------------|-------------------------------------|
| JUL | | | | | |
| 08... | 1000 | 0.1 | 7.8 | 20.5 | 7.3 |
| 08... | 1001 | 5.0 | 7.8 | 20.5 | 7.3 |
| 08... | 1002 | 10.0 | 7.8 | 20.5 | 7.2 |
| 08... | 1003 | 20.0 | 8.0 | 15.5 | 7.9 |
| 08... | 1004 | 25.0 | 8.1 | 12.0 | 8.3 |
| 08... | 1005 | 30.0 | 7.9 | 10.5 | 7.2 |
| 08... | 1006 | 40.0 | 7.8 | 9.5 | 6.8 |
| 08... | 1007 | 50.0 | 7.8 | 9.5 | 7.0 |
| 08... | 1008 | 60.0 | 7.8 | 9.0 | 7.0 |
| 08... | 1009 | 70.0 | 7.7 | 9.0 | 7.0 |
| 08... | 1010 | 75.0 | 7.7 | 9.0 | 7.1 |
| 08... | 1011 | 80.0 | 7.7 | 9.0 | 6.7 |
| 08... | 1012 | 90.0 | 7.7 | 8.5 | 6.8 |
| 08... | 1013 | 100 | 7.7 | 8.5 | 6.6 |
| 08... | 1014 | 110 | 7.6 | 8.0 | 6.6 |
| 08... | 1015 | 120 | 7.6 | 8.0 | 6.2 |
| 08... | 1016 | 125 | 7.6 | 7.5 | 6.1 |
| 08... | 1017 | 130 | 7.6 | 7.5 | 5.8 |
| 08... | 1018 | 140 | 7.6 | 7.0 | 5.7 |
| 08... | 1019 | 150 | 7.6 | 6.5 | 4.5 |

| 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) |
|-------|------|----------------------------------|---|--------------------------------|--------------------------------------|--|-------------------------------------|
| JUL | | | | | | | |
| 08... | 1030 | 0.1 | 74 | 7.8 | 20.5 | 104 | 7.3 |
| 08... | 1045 | 140 | 67 | 7.6 | 6.5 | -- | 5.7 |

| DATE | COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | 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 TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) |
|-------|--|--|--|---|---|--|---|
| JUL | | | | | | | |
| 08... | K2 | K<1 | 45 | <0.01 | <0.10 | <0.01 | <0.01 |
| 08... | -- | -- | 41 | <0.01 | <0.10 | <0.01 | 0.02 |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

402053105125800 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SAM- PLING DEPTH (FEET) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-------|------|----------------------------------|--------------------------------|--------------------------------------|-------------------------------------|
| JUL | | | | | |
| 08... | 1110 | 0.1 | 7.7 | 22.0 | 7.4 |
| 08... | 1111 | 5.0 | 7.7 | 21.5 | 7.3 |
| 08... | 1112 | 10.0 | 7.7 | 21.0 | 7.4 |
| 08... | 1113 | 20.0 | 7.7 | 19.0 | 7.6 |
| 08... | 1114 | 25.0 | 7.8 | 15.5 | 8.1 |
| 08... | 1115 | 30.0 | 7.9 | 12.5 | 7.5 |
| 08... | 1116 | 40.0 | 7.8 | 10.0 | 6.9 |
| 08... | 1117 | 50.0 | 7.7 | 9.5 | 6.9 |
| 08... | 1118 | 60.0 | 7.7 | 9.5 | 7.1 |
| 08... | 1119 | 70.0 | 7.6 | 9.0 | 7.0 |
| 08... | 1120 | 75.0 | 7.7 | 9.0 | 6.9 |
| 08... | 1121 | 80.0 | 7.7 | 9.0 | 6.8 |
| 08... | 1122 | 90.0 | 7.7 | 9.0 | 6.8 |
| 08... | 1123 | 100 | 7.7 | 8.5 | 6.7 |
| 08... | 1124 | 110 | 7.6 | 8.5 | 6.8 |
| 08... | 1125 | 120 | 7.6 | 8.0 | 6.4 |

| 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) |
|-------|------|----------------------------------|---|--------------------------------|--------------------------------------|--|-------------------------------------|
| JUL | | | | | | | |
| 08... | 1130 | 0.1 | 72 | 7.7 | 22.0 | 111 | 7.4 |
| 08... | 1145 | 120 | 58 | 7.6 | 8.0 | -- | 6.4 |

| DATE | COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | 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 TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) |
|-------|--|--|--|---|---|--|---|
| JUL | | | | | | | |
| 08... | K6 | K<1 | 53 | <0.01 | <0.10 | <0.01 | 0.01 |
| 08... | -- | -- | 44 | <0.01 | <0.10 | <0.01 | 0.02 |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

115

06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°32'24", long 105°52'56", in SE¼SE¼ sec.26, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft downstream from unnamed tributary and Colorado Highway 14 culvert crossing, 1.5 mi northeast of Cameron Pass, 1.5 mi southwest of Joe Wright Dam, and 8 mi east of Gould.

DRAINAGE AREA.--3.01 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 9,990 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 21-22, and Nov. 8 to May 17. Records good except for estimated daily discharges, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 7.70 ft³/s; 5,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 238 ft³/s, July 7, 1983, gage height, 2.20 ft; maximum gage height, 5.41 ft, May 27, 1983 (backwater from ice); minimum daily discharge, 0.20 ft³/s, Jan. 30 to Apr. 4, 1979, and Feb. 9 to Apr. 9, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 148 ft³/s at 1730 June 10, gage height, 1.84 ft; minimum daily, 0.48 ft³/s, Mar. 4-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|
| 1 | .87 | 1.2 | .98 | .76 | .62 | .50 | .60 | 1.4 | 52 | 44 | 9.0 | 2.9 |
| 2 | .87 | 1.2 | .97 | .76 | .62 | .49 | .60 | 1.4 | 50 | 42 | 8.3 | 3.1 |
| 3 | .87 | 1.2 | .97 | .76 | .61 | .49 | .62 | 1.5 | 62 | 40 | 7.9 | 3.0 |
| 4 | .87 | 1.2 | .95 | .76 | .61 | .48 | .62 | 1.5 | 84 | 38 | 7.6 | 2.9 |
| 5 | .87 | 1.3 | .94 | .75 | .60 | .48 | .64 | 1.6 | 97 | 36 | 6.9 | 2.8 |
| 6 | .87 | 1.0 | .93 | .75 | .60 | .48 | .64 | 1.7 | 109 | 34 | 6.8 | 2.8 |
| 7 | 1.0 | 1.0 | .92 | .75 | .60 | .48 | .66 | 1.7 | 113 | 32 | 7.4 | 2.6 |
| 8 | .96 | 1.2 | .91 | .74 | .59 | .48 | .66 | 1.8 | 113 | 30 | 6.9 | 2.5 |
| 9 | .87 | 1.2 | .90 | .74 | .58 | .48 | .68 | 1.8 | 114 | 28 | 6.4 | 2.5 |
| 10 | .87 | 1.2 | .89 | .74 | .58 | .48 | .68 | 1.9 | 116 | 26 | 6.1 | 2.5 |
| 11 | 1.0 | 1.2 | .88 | .74 | .57 | .48 | .70 | 1.9 | 116 | 24 | 5.9 | 2.8 |
| 12 | 1.0 | 1.2 | .87 | .73 | .56 | .48 | .70 | 2.7 | 107 | 23 | 5.7 | 3.1 |
| 13 | .96 | 1.2 | .86 | .73 | .56 | .48 | .72 | 4.3 | 97 | 22 | 5.4 | 3.1 |
| 14 | 1.0 | 1.2 | .85 | .72 | .56 | .48 | .73 | 6.2 | 92 | 21 | 5.1 | 3.0 |
| 15 | 1.2 | 1.2 | .84 | .72 | .56 | .48 | .76 | 9.2 | 86 | 20 | 4.9 | 2.8 |
| 16 | 1.2 | 1.2 | .83 | .71 | .55 | .48 | .78 | 14 | 91 | 19 | 4.8 | 2.8 |
| 17 | 1.2 | 1.1 | .82 | .71 | .54 | .48 | .82 | 18 | 97 | 17 | 5.2 | 2.7 |
| 18 | 1.2 | 1.1 | .81 | .70 | .54 | .48 | .84 | 24 | 101 | 16 | 4.8 | 2.5 |
| 19 | 1.2 | 1.1 | .80 | .70 | .54 | .49 | .88 | 16 | 101 | 16 | 4.4 | 2.6 |
| 20 | 1.2 | 1.1 | .80 | .70 | .53 | .50 | .90 | 13 | 99 | 14 | 4.3 | 2.3 |
| 21 | 1.2 | 1.1 | .80 | .69 | .52 | .51 | .95 | 17 | 99 | 13 | 4.4 | 2.1 |
| 22 | 1.2 | 1.1 | .80 | .68 | .52 | .52 | .97 | 14 | 101 | 12 | 3.5 | 2.2 |
| 23 | 1.2 | 1.1 | .80 | .68 | .52 | .52 | 1.0 | 12 | 90 | 12 | 3.9 | 2.1 |
| 24 | 1.0 | 1.1 | .79 | .68 | .52 | .53 | 1.0 | 17 | 84 | 11 | 3.8 | 2.0 |
| 25 | .96 | 1.1 | .79 | .67 | .51 | .54 | 1.1 | 24 | 80 | 11 | 3.7 | 2.0 |
| 26 | 1.2 | 1.0 | .78 | .66 | .51 | .54 | 1.1 | 26 | 75 | 10 | 3.6 | 2.0 |
| 27 | 1.3 | 1.0 | .78 | .65 | .50 | .55 | 1.2 | 34 | 68 | 9.8 | 3.6 | 2.0 |
| 28 | 1.2 | 1.0 | .78 | .64 | .50 | .56 | 1.2 | 42 | 60 | 10 | 3.4 | 2.0 |
| 29 | 1.2 | 1.0 | .78 | .64 | .50 | .57 | 1.3 | 52 | 54 | 9.7 | 3.4 | 2.4 |
| 30 | 1.0 | 1.0 | .77 | .64 | --- | .58 | 1.3 | 65 | 48 | 9.3 | 3.3 | 2.0 |
| 31 | 1.2 | --- | .77 | .63 | --- | .59 | --- | 61 | --- | 9.0 | 3.2 | --- |
| TOTAL | 32.74 | 33.8 | 26.36 | 21.93 | 16.12 | 15.68 | 25.35 | 489.6 | 2656 | 658.8 | 163.6 | 76.1 |
| MEAN | 1.06 | 1.13 | .85 | .71 | .56 | .51 | .84 | 15.8 | 88.5 | 21.3 | 5.28 | 2.54 |
| MAX | 1.3 | 1.3 | .98 | .76 | .62 | .59 | 1.3 | 65 | 116 | 44 | 9.0 | 3.1 |
| MIN | .87 | 1.0 | .77 | .63 | .50 | .48 | .60 | 1.4 | 48 | 9.0 | 3.2 | 2.0 |
| AC-FT | 65 | 67 | 52 | 43 | 32 | 31 | 50 | 971 | 5270 | 1310 | 325 | 151 |

CAL YR 1987 TOTAL 2725.93 MEAN 7.47 MAX 63 MIN .35 AC-FT 5410
WTR YR 1988 TOTAL 4216.08 MEAN 11.5 MAX 116 MIN .48 AC-FT 8360

LOCATION.--Lat 40°33'43", long 105°52'09", in SE¼NE¼ sec.24, T.7 N., R.76 W., Larimer County, Hydrologic Unit 101900007, on left bank 500 ft downstream from unnamed tributary, 2,000 ft downstream from Joe Wright Dam, and 3 mi southwest of Chambers Lake.

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.

REMARKS.--Estimated daily discharges: Nov. 7 to Apr. 14. Records good except for estimated daily discharges, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181 ft³/s, June 9, 1988, gage height, 2.32 ft; maximum gage height, 2.46 ft, June 30, 1978; minimum daily discharge, 0.22 ft³/s, Apr. 14, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 181 ft³/s at 2200 June 9, gage height, 2.32 ft; minimum daily, 0.51 ft³/s, Oct. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-------|-----------|---------|---------|-------------|-------|--------|------|-------|-------|---------|
| 1 | .89 | .79 | .69 | .59 | .56 | .54 | .54 | 1.3 | 31 | 51 | 5.5 | 45 |
| 2 | .79 | .79 | .68 | .59 | .56 | .54 | .54 | 1.1 | 32 | 51 | 5.3 | 44 |
| 3 | .79 | .72 | .68 | .59 | .56 | .54 | .54 | .84 | 33 | 51 | 5.2 | 44 |
| 4 | .79 | .71 | .68 | .59 | .56 | .54 | .54 | 1.2 | 34 | 50 | 5.2 | 44 |
| 5 | .79 | .71 | .67 | .59 | .56 | .54 | .54 | 2.6 | 52 | 50 | 5.2 | 44 |
| 6 | .79 | .71 | .66 | .59 | .56 | .54 | .54 | 1.3 | 71 | 50 | 5.2 | 45 |
| 7 | .79 | .72 | .66 | .59 | .56 | .54 | .54 | 1.1 | 104 | 49 | 17 | 47 |
| 8 | .79 | .73 | .66 | .58 | .56 | .54 | .54 | .82 | 124 | 43 | 26 | 52 |
| 9 | .79 | .74 | .65 | .58 | .56 | .54 | .54 | 8.0 | 152 | 38 | 23 | 58 |
| 10 | .76 | .76 | .65 | .58 | .56 | .54 | .54 | 15 | 168 | 23 | 10 | 66 |
| 11 | .71 | .77 | .64 | .58 | .56 | .54 | .54 | 23 | 145 | 14 | 18 | 75 |
| 12 | .71 | .78 | .64 | .58 | .56 | .54 | .54 | 36 | 103 | 18 | 24 | 84 |
| 13 | .71 | .79 | .63 | .58 | .56 | .54 | .54 | 37 | 81 | 21 | 21 | 97 |
| 14 | .79 | .78 | .62 | .58 | .56 | .54 | .54 | 43 | 82 | 25 | 21 | 103 |
| 15 | .79 | .77 | .61 | .58 | .56 | .54 | .55 | 48 | 89 | 29 | 21 | 100 |
| 16 | .79 | .77 | .61 | .58 | .56 | .54 | .66 | 53 | 99 | 30 | 21 | 98 |
| 17 | .75 | .76 | .61 | .58 | .56 | .54 | .74 | 67 | 100 | 28 | 22 | 96 |
| 18 | .75 | .76 | .61 | .58 | .56 | .54 | .68 | 88 | 97 | 26 | 25 | 94 |
| 19 | .70 | .76 | .61 | .58 | .55 | .54 | .76 | 107 | 94 | 25 | 24 | 99 |
| 20 | .71 | .74 | .60 | .58 | .55 | .54 | .79 | 89 | 93 | 22 | 24 | 103 |
| 21 | .71 | .74 | .60 | .58 | .55 | .54 | .92 | 57 | 94 | 18 | 22 | 100 |
| 22 | .65 | .74 | .60 | .57 | .55 | .54 | .82 | 42 | 97 | 18 | 21 | 98 |
| 23 | .51 | .73 | .60 | .57 | .55 | .54 | .66 | 28 | 105 | 17 | 21 | 95 |
| 24 | .61 | .72 | .60 | .57 | .55 | .54 | .63 | 29 | 127 | 17 | 22 | 78 |
| 25 | .71 | .72 | .60 | .57 | .55 | .54 | .63 | 29 | 143 | 17 | 31 | .71 |
| 26 | .71 | .71 | .60 | .57 | .55 | .54 | .63 | 29 | 144 | 17 | 46 | .63 |
| 27 | .71 | .70 | .60 | .56 | .55 | .54 | .58 | 30 | 136 | 16 | 46 | .63 |
| 28 | .71 | .70 | .60 | .56 | .54 | .54 | .63 | 31 | 118 | 14 | 46 | .60 |
| 29 | .71 | .70 | .60 | .56 | .54 | .54 | .74 | 32 | 81 | 14 | 45 | .64 |
| 30 | .77 | .70 | .60 | .56 | --- | .54 | 1.1 | 33 | 51 | 13 | 45 | .63 |
| 31 | .79 | --- | .59 | .56 | --- | .54 | --- | 32 | --- | 8.1 | 45 | --- |
| TOTAL | 22.97 | 22.22 | 19.45 | 17.90 | 16.11 | 16.74 | 19.08 | 996.26 | 2880 | 863.1 | 718.6 | 1812.84 |
| MEAN | .74 | .74 | .63 | .58 | .56 | .54 | .64 | 32.1 | 96.0 | 27.8 | 23.2 | 60.4 |
| MAX | .89 | .79 | .69 | .59 | .56 | .54 | 1.1 | 107 | 168 | 51 | 46 | 103 |
| MIN | .51 | .70 | .59 | .56 | .54 | .54 | .54 | .82 | 31 | 8.1 | 5.2 | .60 |
| AC-FT | 46 | 44 | 39 | 36 | 32 | 33 | 38 | 1980 | 5710 | 1710 | 1430 | 3600 |
| CAL YR 1987 | TOTAL 3877.27 | | MEAN 10.6 | MAX 111 | MIN .37 | AC-FT 7690 | | | | | | |
| WTR YR 1988 | TOTAL 7405.27 | | MEAN 20.2 | MAX 168 | MIN .51 | AC-FT 14690 | | | | | | |

PLATTE RIVER BASIN

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06751490 NORTH FORK CACHE LA POUDE RIVER AT LIVERMORE, CO.

LOCATION.--Lat 40°47'15", long 105°15'06", in SW¼SE¼ 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, 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. 15 to Feb. 22, and Mar. 10-17. Records good except for estimated daily discharges, which are poor. Natural flow affected by transbasin diversions, storage reservoirs, and irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 503 ft³/s, May 20, 1988, gage height, 9.84 ft; minimum daily, 2.6 ft³/s, Sept. 2, 3, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 503 ft³/s at 0700 May 20, gage height, 9.84 ft; minimum daily, 2.6 ft³/s, Sept. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 1 | 3.1 | 6.8 | 4.7 | 3.2 | 4.3 | 6.6 | 13 | 43 | 326 | 32 | 5.2 | 3.2 |
| 2 | 3.0 | 12 | 4.0 | 3.2 | 4.4 | 7.6 | 22 | 42 | 288 | 28 | 4.7 | 2.6 |
| 3 | 3.1 | 8.0 | 4.1 | 3.2 | 4.5 | 7.0 | 27 | 43 | 277 | 24 | 4.4 | 2.6 |
| 4 | 2.9 | 7.0 | 4.1 | 3.2 | 4.7 | 6.7 | 36 | 41 | 286 | 23 | 7.1 | 2.7 |
| 5 | 2.8 | 7.0 | 4.0 | 3.2 | 4.8 | 6.5 | 47 | 40 | 263 | 23 | 5.4 | 2.8 |
| 6 | 2.9 | 7.0 | 3.6 | 3.2 | 4.9 | 7.3 | 51 | 38 | 284 | 22 | 4.9 | 2.7 |
| 7 | 3.0 | 7.3 | 3.7 | 3.2 | 5.0 | 7.1 | 57 | 42 | 275 | 22 | 5.1 | 3.6 |
| 8 | 3.0 | 7.0 | 4.7 | 3.2 | 5.1 | 6.9 | 63 | 83 | 265 | 22 | 5.6 | 4.4 |
| 9 | 3.1 | 7.0 | 3.8 | 3.3 | 5.2 | 6.9 | 60 | 96 | 229 | 19 | 4.9 | 4.1 |
| 10 | 2.8 | 7.0 | 4.0 | 3.3 | 5.3 | 7.0 | 54 | 95 | 215 | 19 | 4.3 | 4.8 |
| 11 | 3.0 | 7.0 | 4.5 | 3.3 | 5.4 | 7.1 | 59 | 95 | 210 | 17 | 4.2 | 6.1 |
| 12 | 2.9 | 6.6 | 4.6 | 3.3 | 5.5 | 7.2 | 56 | 93 | 203 | 16 | 3.8 | 8.2 |
| 13 | 2.8 | 6.2 | 3.8 | 3.3 | 5.6 | 7.2 | 61 | 102 | 183 | 14 | 3.8 | 11 |
| 14 | 2.8 | 6.2 | 3.8 | 3.3 | 5.8 | 7.3 | 64 | 128 | 183 | 11 | 3.6 | 11 |
| 15 | 3.0 | 10 | 3.6 | 3.7 | 5.9 | 7.4 | 69 | 163 | 163 | 8.1 | 2.8 | 10 |
| 16 | 3.8 | 7.1 | 3.3 | 3.7 | 6.0 | 7.4 | 74 | 203 | 135 | 7.9 | 3.4 | 9.0 |
| 17 | 7.1 | 7.6 | 3.1 | 3.7 | 6.1 | 7.5 | 78 | 229 | 115 | 7.9 | 3.8 | 7.2 |
| 18 | 7.8 | 7.3 | 3.1 | 3.8 | 6.2 | 7.6 | 77 | 260 | 100 | 8.4 | 3.8 | 7.7 |
| 19 | 7.4 | 7.9 | 3.1 | 3.8 | 6.4 | 9.1 | 72 | 389 | 88 | 8.6 | 3.8 | 8.5 |
| 20 | 7.4 | 7.2 | 3.1 | 3.8 | 6.5 | 9.6 | 72 | 474 | 72 | 7.9 | 3.3 | 8.3 |
| 21 | 8.0 | 8.4 | 3.1 | 3.8 | 6.6 | 8.5 | 74 | 390 | 60 | 7.4 | 3.3 | 8.3 |
| 22 | 9.2 | 6.9 | 3.1 | 3.8 | 6.7 | 8.8 | 88 | 346 | 48 | 6.6 | 3.3 | 8.0 |
| 23 | 9.2 | 6.2 | 3.1 | 3.8 | 6.9 | 10 | 81 | 305 | 40 | 6.3 | 3.5 | 12 |
| 24 | 8.7 | 4.1 | 3.1 | 3.8 | 8.4 | 13 | 76 | 289 | 35 | 6.2 | 3.2 | 9.8 |
| 25 | 8.0 | 3.6 | 3.1 | 3.8 | 6.9 | 12 | 64 | 279 | 39 | 5.4 | 3.3 | 7.6 |
| 26 | 7.5 | 3.6 | 3.1 | 3.8 | 6.0 | 12 | 50 | 277 | 41 | 5.6 | 3.7 | 7.9 |
| 27 | 7.4 | 3.9 | 3.1 | 3.8 | 5.6 | 13 | 40 | 309 | 41 | 7.5 | 4.0 | 8.3 |
| 28 | 7.0 | 3.9 | 3.1 | 4.2 | 6.1 | 16 | 29 | 350 | 37 | 6.5 | 3.9 | 7.0 |
| 29 | 7.0 | 4.2 | 3.1 | 4.2 | 6.4 | 13 | 34 | 362 | 42 | 5.8 | 6.0 | 6.3 |
| 30 | 7.6 | 4.6 | 3.1 | 4.3 | --- | 16 | 39 | 389 | 37 | 5.4 | 5.0 | 5.8 |
| 31 | 8.8 | --- | 3.2 | 4.3 | --- | 21 | --- | 393 | --- | 5.4 | 4.4 | --- |
| TOTAL | 166.1 | 198.6 | 110.9 | 111.5 | 167.2 | 290.3 | 1687 | 6388 | 4580 | 408.9 | 131.5 | 201.5 |
| MEAN | 5.36 | 6.62 | 3.58 | 3.60 | 5.77 | 9.36 | 56.2 | 206 | 153 | 13.2 | 4.24 | 6.72 |
| MAX | 9.2 | 12 | 4.7 | 4.3 | 8.4 | 21 | 88 | 474 | 326 | 32 | 7.1 | 12 |
| MIN | 2.8 | 3.6 | 3.1 | 3.2 | 4.3 | 6.5 | 13 | 38 | 35 | 5.4 | 2.8 | 2.6 |
| AC-FT | 329 | 394 | 220 | 221 | 332 | 576 | 3350 | 12670 | 9080 | 811 | 261 | 400 |
| CAL YR 1987 | TOTAL | 4027.9 | MEAN | 11.0 | MAX | 107 | MIN | 2.8 | AC-FT | 7990 | | |
| WTR YR 1988 | TOTAL | 14441.5 | MEAN | 39.5 | MAX | 474 | MIN | 2.6 | AC-FT | 28640 | | |

PLATTE RIVER BASIN

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 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) | HARD- NESS TOTAL (MG/L AS CACO3) | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) | SULFATE DIS- SOLVED (MG/L AS SO4) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|---|--|--|---|
| OCT | | | | | | | | | | | |
| 08... | 1035 | 2.9 | 490 | 8.4 | 8.5 | 8.1 | K8 | 250 | 64 | 21 | 13 |
| 29... | 0945 | 7.1 | 330 | 8.2 | 6.0 | 10.4 | K8 | 160 | 45 | 12 | 12 |
| DEC | | | | | | | | | | | |
| 17... | 1105 | 3.1 | -- | 8.3 | 0.0 | 10.8 | K20 | 240 | 63 | 19 | 19 |
| JAN | | | | | | | | | | | |
| 28... | 1145 | 4.3 | 395 | 8.3 | 0.0 | 11.2 | K5 | 180 | 48 | 14 | 17 |
| FEB | | | | | | | | | | | |
| 26... | 1055 | 9.4 | 355 | 8.6 | 1.0 | 12.1 | K11 | 150 | 40 | 12 | 15 |
| MAR | | | | | | | | | | | |
| 24... | 1005 | 13 | 165 | 8.6 | 3.0 | 11.4 | K60 | 98 | 28 | 6.8 | 14 |
| APR | | | | | | | | | | | |
| 21... | 1045 | 73 | 138 | 8.5 | 7.0 | 9.2 | K140 | 52 | 15 | 3.5 | 17 |
| MAY | | | | | | | | | | | |
| 17... | 0955 | 235 | 132 | 8.3 | 11.0 | 9.2 | K50 | 51 | 15 | 3.3 | 13 |
| JUN | | | | | | | | | | | |
| 21... | 1505 | 61 | 160 | 8.7 | 19.0 | 8.3 | -- | 80 | 23 | 5.6 | 12 |
| JUL | | | | | | | | | | | |
| 13... | 0955 | 15 | 290 | 8.4 | 15.0 | 8.3 | K420 | 140 | 39 | 10 | 11 |
| AUG | | | | | | | | | | | |
| 11... | 1025 | 4.5 | 445 | 8.4 | 15.5 | 8.5 | 160 | 220 | 61 | 17 | 13 |
| SEP | | | | | | | | | | | |
| 09... | 1045 | 4.3 | 435 | 8.3 | 12.5 | 8.6 | 230 | 230 | 59 | 21 | 19 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) | 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- PHOROUS TOTAL (MG/L AS P) |
|-------|---|--|--|---|--|---|--|---|--|---|
| OCT | | | | | | | | | | |
| 08... | 0.40 | 285 | 1 | <0.01 | <0.10 | <0.10 | 0.01 | <0.01 | 1.1 | <0.01 |
| 29... | 6.3 | 188 | 3 | <0.01 | <0.10 | <0.10 | 0.01 | 0.02 | 0.7 | 0.01 |
| DEC | | | | | | | | | | |
| 17... | 15 | 265 | 6 | <0.01 | 0.20 | 0.12 | <0.01 | 0.02 | 0.7 | 0.04 |
| JAN | | | | | | | | | | |
| 28... | 12 | 226 | 1 | <0.01 | 0.30 | 0.24 | 0.02 | <0.01 | 0.6 | 0.03 |
| FEB | | | | | | | | | | |
| 26... | 9.6 | 193 | 5 | 0.01 | 0.20 | 0.24 | 0.01 | 0.02 | 0.2 | 0.02 |
| MAR | | | | | | | | | | |
| 24... | 10 | 152 | 7 | <0.01 | <0.10 | <0.10 | <0.01 | 0.02 | 0.4 | 0.02 |
| APR | | | | | | | | | | |
| 21... | 3.5 | 97 | 26 | <0.01 | <0.10 | <0.10 | 0.05 | 0.02 | 0.8 | 0.06 |
| MAY | | | | | | | | | | |
| 17... | 2.4 | 85 | 18 | <0.01 | <0.10 | <0.10 | 0.01 | <0.01 | 0.4 | 0.03 |
| JUN | | | | | | | | | | |
| 21... | 3.0 | 131 | 14 | <0.01 | <0.10 | <0.10 | 0.02 | 0.05 | 0.6 | <0.01 |
| JUL | | | | | | | | | | |
| 13... | 6.5 | 194 | 15 | <0.01 | <0.10 | <0.10 | 0.01 | 0.02 | <0.2 | 0.06 |
| AUG | | | | | | | | | | |
| 11... | 8.0 | 267 | 2 | <0.01 | <0.10 | <0.10 | 0.02 | 0.02 | 0.5 | 0.04 |
| SEP | | | | | | | | | | |
| 09... | 8.5 | 282 | 1 | <0.01 | <0.10 | <0.10 | <0.01 | 0.02 | 0.6 | 0.02 |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | ARSENIC DIS- SOLVED (UG/L AS AS) | BORON, DIS- SOLVED (UG/L AS B) | CYANIDE DIS- SOLVED (MG/L AS CN) | CADMIUM DIS- SOLVED (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, DIS- SOLVED (UG/L AS CU) | IRON, TOTAL RECOV- ERABLE (UG/L AS FE) | IRON, DIS- SOLVED (UG/L AS FE) |
|-------|--|--|--|--|---|--|---|--|
| OCT | | | | | | | | |
| 08... | 1 | -- | -- | <1 | <10 | <10 | 140 | 28 |
| 29... | 1 | -- | -- | <1 | <10 | <10 | 130 | 23 |
| DEC | | | | | | | | |
| 17... | 1 | -- | -- | <1 | <1 | <10 | 110 | 7 |
| JAN | | | | | | | | |
| 28... | 1 | 40 | <0.01 | <1 | <1 | <10 | 150 | 15 |
| FEB | | | | | | | | |
| 26... | 1 | -- | -- | <1 | <1 | <10 | 200 | 16 |
| MAR | | | | | | | | |
| 24... | <1 | -- | -- | <1 | <1 | <10 | 340 | 37 |
| APR | | | | | | | | |
| 21... | <1 | 20 | <0.01 | <1 | <1 | <10 | 1400 | 180 |
| MAY | | | | | | | | |
| 17... | 1 | -- | -- | <1 | <1 | <10 | 890 | 47 |
| JUN | | | | | | | | |
| 21... | 1 | 20 | <0.01 | <1 | <1 | <10 | 510 | 480 |
| JUL | | | | | | | | |
| 13... | 2 | -- | -- | <1 | 2 | <10 | 650 | 70 |
| AUG | | | | | | | | |
| 11... | 2 | -- | -- | <1 | 1 | <10 | 200 | 12 |
| SEP | | | | | | | | |
| 09... | 2 | 60 | <0.01 | <1 | <1 | <10 | 80 | 32 |

| 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) | MERCURY DIS- SOLVED (UG/L AS HG) | NICKEL, DIS- SOLVED (UG/L AS NI) | SELE- NIUM, DIS- SOLVED (UG/L AS SE) | SILVER, DIS- SOLVED (UG/L AS AG) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|-------|--|---|--|--|--|---|--|--|
| OCT | | | | | | | | |
| 08... | <5 | 20 | 17 | -- | 4 | <1 | <1.0 | 3 |
| 29... | 6 | 20 | 9 | -- | 2 | <1 | <1 | <3 |
| DEC | | | | | | | | |
| 17... | <5 | 10 | 12 | -- | 3 | <1 | 1.0 | 3 |
| JAN | | | | | | | | |
| 28... | <5 | 10 | 10 | <0.1 | 5 | <1 | <1.0 | 13 |
| FEB | | | | | | | | |
| 26... | <5 | 20 | 11 | -- | 1 | <1 | <1.0 | 3 |
| MAR | | | | | | | | |
| 24... | <5 | 20 | 13 | -- | 3 | <1 | <1.0 | 4 |
| APR | | | | | | | | |
| 21... | <5 | 50 | 11 | <0.1 | 3 | <1 | <1.0 | 3 |
| MAY | | | | | | | | |
| 17... | <5 | 70 | 10 | -- | 3 | <1 | <1.0 | <3 |
| JUN | | | | | | | | |
| 21... | <5 | 30 | 14 | <0.10 | 5 | <1 | <1.0 | 22 |
| JUL | | | | | | | | |
| 13... | <5 | 60 | 30 | -- | 2 | <1 | <1.0 | 7 |
| AUG | | | | | | | | |
| 11... | <5 | 30 | 16 | -- | 4 | <1 | <1.0 | 4 |
| SEP | | | | | | | | |
| 09... | <5 | 40 | 14 | <0.10 | 1 | <1 | 2.0 | 8 |

PLATTE RIVER BASIN

06751490 NORTH FORK CACHE LA POUDE RIVER AT LIVERMORE,CO--Continued
 SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDEED (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) |
|-------|------|---|---|---|
| OCT | | | | |
| 08... | 1035 | 2.9 | 4 | 0.03 |
| 29... | 0945 | 7.1 | 13 | 0.25 |
| DEC | | | | |
| 17... | 1105 | 3.1 | 27 | 0.23 |
| JAN | | | | |
| 28... | 1145 | 4.3 | 14 | 0.16 |
| FEB | | | | |
| 26... | 1055 | 9.4 | 11 | 0.28 |
| MAR | | | | |
| 24... | 1005 | 13 | 82 | 2.9 |
| APR | | | | |
| 21... | 1045 | 73 | 39 | 7.7 |
| MAY | | | | |
| 17... | 0955 | 235 | 106 | 67 |
| JUN | | | | |
| 21... | 1505 | 61 | 5 | 0.82 |
| JUL | | | | |
| 13... | 0955 | 15 | 11 | 0.45 |
| AUG | | | | |
| 11... | 1025 | 4.5 | 5 | 0.06 |
| SEP | | | | |
| 09... | 1045 | 4.3 | 1 | 0.01 |

PLATTE RIVER BASIN

121

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

LOCATION.--Lat 40°39'52", long 105°13'26", in NW¼ 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. Elevation of gage is 5,220 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges water year 1987: Dec. 3, Dec. 5 to Mar. 11, Mar. 22, 26-27; water year 1988: Oct. 7-9, Dec. 12 to Mar. 12, and Mar. 15. Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transbasin and transmountain diversions (see elsewhere in this report), diversions upstream from station for irrigation of about 50,000 acres, most of which is downstream from station, 43,890 acre-ft diverted during water year 1987, and diversions for municipal use, 8,870 acre-ft diverted during water year 1987; 101,570 acre-ft diverted during water year 1988, and diversions for municipal use, 45,710 acre-ft diverted during water year 1988.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred May 20, 1904; maximum discharge determined, 21,000 ft³/s, June 9, 1891 (from reports of State Engineer of Colorado), caused by failure of Chambers Lake Dam; minimum daily discharge, 1.6 ft³/s, Nov. 20, 28, 1948, caused by diversion of Poudre Valley Canal, 0.5 mi upstream.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 1,670 ft³/s at 1145 June 9, gage height, 4.70 ft; minimum daily, 10 ft³/s, Jan. 23.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,740 ft³/s at 0430 June 11, gage height, 5.47 ft; minimum daily, 16 ft³/s, Sept. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|------|
| 1 | 67 | 66 | 35 | 20 | 25 | 15 | 25 | 329 | 544 | 525 | 477 | 85 |
| 2 | 61 | 45 | 28 | 20 | 25 | 15 | 22 | 375 | 616 | 395 | 460 | 95 |
| 3 | 80 | 48 | 20 | 25 | 25 | 20 | 24 | 334 | 669 | 294 | 416 | 111 |
| 4 | 91 | 56 | 14 | 25 | 25 | 25 | 28 | 185 | 704 | 237 | 400 | 106 |
| 5 | 76 | 48 | 16 | 25 | 25 | 25 | 30 | 66 | 778 | 245 | 370 | 149 |
| 6 | 91 | 52 | 20 | 25 | 25 | 30 | 30 | 48 | 832 | 233 | 294 | 208 |
| 7 | 74 | 58 | 25 | 25 | 25 | 30 | 24 | 33 | 808 | 219 | 294 | 219 |
| 8 | 82 | 42 | 40 | 25 | 25 | 30 | 29 | 40 | 1020 | 216 | 342 | 219 |
| 9 | 85 | 34 | 35 | 25 | 25 | 35 | 32 | 120 | 1490 | 219 | 351 | 205 |
| 10 | 80 | 32 | 35 | 25 | 20 | 35 | 32 | 210 | 1380 | 205 | 347 | 195 |
| 11 | 80 | 30 | 35 | 30 | 20 | 30 | 28 | 265 | 1160 | 192 | 338 | 155 |
| 12 | 76 | 40 | 35 | 30 | 20 | 28 | 36 | 325 | 1080 | 208 | 329 | 120 |
| 13 | 64 | 39 | 35 | 30 | 20 | 30 | 36 | 448 | 991 | 226 | 320 | 133 |
| 14 | 61 | 59 | 35 | 30 | 20 | 34 | 29 | 800 | 974 | 212 | 320 | 111 |
| 15 | 64 | 72 | 35 | 30 | 20 | 32 | 29 | 824 | 848 | 188 | 320 | 80 |
| 16 | 62 | 59 | 40 | 25 | 20 | 34 | 42 | 948 | 856 | 160 | 320 | 69 |
| 17 | 59 | 262 | 40 | 20 | 20 | 27 | 58 | 1100 | 816 | 192 | 316 | 76 |
| 18 | 58 | 347 | 40 | 20 | 20 | 26 | 67 | 991 | 740 | 245 | 273 | 80 |
| 19 | 59 | 145 | 40 | 15 | 15 | 28 | 78 | 872 | 704 | 245 | 277 | 69 |
| 20 | 61 | 46 | 40 | 15 | 20 | 29 | 98 | 808 | 669 | 237 | 265 | 64 |
| 21 | 64 | 42 | 35 | 15 | 20 | 15 | 85 | 748 | 642 | 249 | 241 | 61 |
| 22 | 70 | 52 | 35 | 15 | 15 | 20 | 76 | 603 | 544 | 307 | 240 | 56 |
| 23 | 69 | 32 | 35 | 10 | 15 | 21 | 76 | 762 | 501 | 316 | 290 | 52 |
| 24 | 70 | 216 | 30 | 15 | 20 | 20 | 95 | 824 | 495 | 277 | 316 | 46 |
| 25 | 59 | 237 | 30 | 15 | 15 | 15 | 144 | 596 | 501 | 269 | 338 | 43 |
| 26 | 55 | 42 | 30 | 20 | 15 | 14 | 160 | 551 | 400 | 265 | 312 | 45 |
| 27 | 53 | 39 | 25 | 20 | 15 | 13 | 185 | 551 | 347 | 286 | 286 | 43 |
| 28 | 53 | 41 | 20 | 20 | 15 | 12 | 226 | 501 | 356 | 347 | 205 | 42 |
| 29 | 55 | 43 | 20 | 20 | --- | 16 | 303 | 454 | 454 | 380 | 133 | 40 |
| 30 | 52 | 46 | 20 | 20 | --- | 14 | 307 | 483 | 570 | 380 | 113 | 49 |
| 31 | 55 | --- | 20 | 20 | --- | 27 | --- | 477 | --- | 400 | 104 | --- |
| TOTAL | 2086 | 2370 | 943 | 675 | 570 | 745 | 2434 | 15671 | 22489 | 8369 | 9407 | 3026 |
| MEAN | 67.3 | 79.0 | 30.4 | 21.8 | 20.4 | 24.0 | 81.1 | 506 | 750 | 270 | 303 | 101 |
| MAX | 91 | 347 | 40 | 30 | 25 | 35 | 307 | 1100 | 1490 | 525 | 477 | 219 |
| MIN | 52 | 30 | 14 | 10 | 15 | 12 | 22 | 33 | 347 | 160 | 104 | 40 |
| AC-FT | 4140 | 4700 | 1870 | 1340 | 1130 | 1480 | 4830 | 31080 | 44610 | 16600 | 18660 | 6000 |

CAL YR 1986 TOTAL 159700.0 MEAN 438 MAX 3490 MIN 8.0 AC-FT 316800
WTR YR 1987 TOTAL 68785 MEAN 188 MAX 1490 MIN 10 AC-FT 136400

PLATTE RIVER BASIN

122

06752000 CACHE LA POUDE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|----------|----------|--------|--------------|------|------|-------|-------|-------|-------|------|
| 1 | 78 | 47 | 34 | 27 | 24 | 25 | 45 | 242 | 1340 | 767 | 322 | 77 |
| 2 | 38 | 48 | 48 | 27 | 24 | 24 | 57 | 258 | 1260 | 700 | 396 | 62 |
| 3 | 36 | 48 | 47 | 26 | 24 | 24 | 59 | 154 | 1240 | 683 | 395 | 52 |
| 4 | 35 | 47 | 42 | 26 | 24 | 25 | 62 | 69 | 1520 | 689 | 365 | 46 |
| 5 | 35 | 43 | 40 | 27 | 23 | 25 | 70 | 58 | 1560 | 650 | 329 | 41 |
| 6 | 35 | 41 | 38 | 28 | 22 | 26 | 71 | 91 | 1540 | 618 | 295 | 38 |
| 7 | 35 | 40 | 38 | 27 | 22 | 26 | 74 | 172 | 1910 | 623 | 297 | 37 |
| 8 | 34 | 40 | 37 | 26 | 23 | 27 | 90 | 164 | 2160 | 578 | 314 | 35 |
| 9 | 34 | 38 | 35 | 27 | 24 | 29 | 91 | 156 | 2390 | 528 | 303 | 31 |
| 10 | 34 | 33 | 36 | 29 | 24 | 29 | 77 | 192 | 2320 | 528 | 305 | 37 |
| 11 | 35 | 35 | 41 | 29 | 24 | 28 | 159 | 211 | 2320 | 518 | 302 | 43 |
| 12 | 33 | 33 | 36 | 29 | 26 | 28 | 168 | 197 | 2110 | 450 | 274 | 50 |
| 13 | 34 | 36 | 30 | 28 | 27 | 24 | 45 | 293 | 1850 | 414 | 262 | 58 |
| 14 | 40 | 36 | 27 | 27 | 28 | 24 | 35 | 475 | 1530 | 450 | 245 | 69 |
| 15 | 45 | 48 | 24 | 27 | 28 | 26 | 33 | 646 | 1430 | 389 | 276 | 72 |
| 16 | 52 | 30 | 22 | 26 | 28 | 27 | 29 | 794 | 1350 | 307 | 294 | 43 |
| 17 | 46 | 24 | 19 | 26 | 28 | 30 | 29 | 933 | 1320 | 298 | 289 | 33 |
| 18 | 42 | 44 | 20 | 25 | 27 | 40 | 44 | 1320 | 1460 | 286 | 300 | 28 |
| 19 | 39 | 37 | 21 | 25 | 26 | 39 | 61 | 1590 | 1480 | 278 | 266 | 23 |
| 20 | 39 | 42 | 20 | 25 | 26 | 36 | 62 | 1300 | 1520 | 272 | 267 | 21 |
| 21 | 36 | 48 | 21 | 25 | 26 | 39 | 62 | 1000 | 1510 | 262 | 277 | 20 |
| 22 | 35 | 44 | 22 | 24 | 26 | 227 | 66 | 743 | 1610 | 254 | 293 | 16 |
| 23 | 32 | 36 | 21 | 24 | 26 | 351 | 66 | 605 | 1540 | 267 | 273 | 19 |
| 24 | 31 | 39 | 20 | 23 | 27 | 156 | 66 | 633 | 1430 | 269 | 266 | 30 |
| 25 | 35 | 42 | 18 | 23 | 27 | 41 | 156 | 715 | 1220 | 269 | 278 | 36 |
| 26 | 40 | 36 | 19 | 23 | 26 | 40 | 216 | 647 | 1270 | 248 | 246 | 45 |
| 27 | 39 | 40 | 21 | 23 | 26 | 44 | 191 | 630 | 1210 | 270 | 183 | 26 |
| 28 | 37 | 53 | 25 | 24 | 25 | 50 | 192 | 999 | 1150 | 301 | 190 | 30 |
| 29 | 36 | 28 | 27 | 24 | 25 | 40 | 193 | 1480 | 1030 | 306 | 169 | 30 |
| 30 | 37 | 32 | 29 | 23 | --- | 51 | 205 | 1780 | 874 | 292 | 124 | 73 |
| 31 | 46 | --- | 28 | 23 | --- | 44 | --- | 1710 | --- | 288 | 88 | --- |
| TOTAL | 1203 | 1188 | 906 | 796 | 736 | 1645 | 2774 | 20257 | 46454 | 13052 | 8483 | 1221 |
| MEAN | 38.8 | 39.6 | 29.2 | 25.7 | 25.4 | 53.1 | 92.5 | 653 | 1548 | 421 | 274 | 40.7 |
| MAX | 78 | 53 | 48 | 29 | 28 | 351 | 216 | 1780 | 2390 | 767 | 396 | 77 |
| MIN | 31 | 24 | 18 | 23 | 22 | 24 | 29 | 58 | 874 | 248 | 88 | 16 |
| AC-FT | 2390 | 2360 | 1800 | 1580 | 1460 | 3260 | 5500 | 40180 | 92140 | 25890 | 16830 | 2420 |
| CAL YR 1987 | TOTAL 66683 | MEAN 183 | MAX 1490 | MIN 10 | AC-FT 132300 | | | | | | | |
| WTR YR 1988 | TOTAL 98715 | MEAN 270 | MAX 2390 | MIN 16 | AC-FT 195800 | | | | | | | |

PLATTE RIVER BASIN

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

123

WATER-QUALITY RECORDS

LOCATION.--Lat 40°36'11", long 105°05'43", in NE¼SE¼ 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 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT 1987 | | | | | | | | | | |
| 28... | 0900 | 3.3 | 440 | 8.2 | 8.0 | 10.6 | 250 | 74 | 17 | -- |
| NOV | | | | | | | | | | |
| 25... | 1300 | 2.9 | 380 | 8.5 | 7.0 | 10.2 | 230 | 65 | 16 | -- |
| DEC | | | | | | | | | | |
| 24... | 1400 | 7.0 | 430 | 8.5 | 0.0 | 11.8 | 230 | 65 | 17 | -- |
| JAN 1988 | | | | | | | | | | |
| 27... | 1550 | 14 | 420 | 8.5 | 1.5 | 10.2 | 190 | 56 | 13 | 9.6 |
| FEB | | | | | | | | | | |
| 25... | 1525 | 3.9 | 440 | 8.5 | 4.5 | 11.6 | 210 | 60 | 15 | -- |
| MAR | | | | | | | | | | |
| 23... | 1425 | 2.3 | 370 | 8.6 | 13.0 | 10.8 | 240 | 48 | 29 | -- |
| APR | | | | | | | | | | |
| 20... | 1455 | 2.0 | 490 | 8.5 | 17.0 | 9.6 | 220 | 60 | 16 | -- |
| MAY | | | | | | | | | | |
| 17... | 1225 | 239 | 78 | 8.5 | 13.0 | 9.4 | 30 | 8.7 | 1.9 | -- |
| JUN | | | | | | | | | | |
| 21... | 1025 | 472 | 54 | 8.4 | 14.0 | 8.7 | 18 | 5.3 | 1.2 | -- |
| JUL | | | | | | | | | | |
| 12... | 1310 | 17 | 185 | 8.6 | 19.0 | 8.6 | 80 | 23 | 5.5 | 5.3 |
| AUG | | | | | | | | | | |
| 10... | 1505 | 16 | 290 | 8.4 | 21.0 | 9.0 | 110 | 31 | 7.7 | -- |
| SEP | | | | | | | | | | |
| 07... | 1425 | 7.8 | 390 | 8.1 | 17.5 | 8.7 | 220 | 62 | 15 | -- |

| 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|----------|---|---|---|--|---|--|---|---|---|--|
| OCT 1987 | | | | | | | | | | |
| 28... | 187 | -- | -- | -- | -- | -- | <0.01 | 1.10 | 0.01 | -- |
| NOV | | | | | | | | | | |
| 25... | 176 | -- | -- | -- | -- | -- | <0.01 | 1.20 | 0.01 | -- |
| DEC | | | | | | | | | | |
| 24... | 181 | -- | -- | -- | -- | -- | <0.01 | 0.41 | 0.03 | -- |
| JAN 1988 | | | | | | | | | | |
| 27... | 139 | 67 | 2.9 | 0.4 | 9.4 | 244 | <0.01 | 0.66 | <0.01 | <0.01 |
| FEB | | | | | | | | | | |
| 25... | 167 | -- | -- | -- | -- | -- | <0.01 | 0.79 | 0.03 | -- |
| MAR | | | | | | | | | | |
| 23... | 126 | -- | -- | -- | -- | -- | <0.01 | 0.61 | 0.01 | -- |
| APR | | | | | | | | | | |
| 20... | 182 | -- | -- | -- | -- | -- | 0.01 | 0.73 | 0.02 | -- |
| MAY | | | | | | | | | | |
| 17... | 28 | -- | -- | -- | -- | -- | <0.01 | 0.02 | 0.03 | -- |
| JUN | | | | | | | | | | |
| 21... | 18 | -- | -- | -- | -- | -- | <0.01 | 0.04 | 0.01 | -- |
| JUL | | | | | | | | | | |
| 12... | 71 | 20 | 3.0 | 0.4 | 8.1 | 103 | <0.01 | 0.37 | <0.01 | 0.02 |
| AUG | | | | | | | | | | |
| 10... | 98 | -- | -- | -- | -- | -- | <0.01 | 0.36 | 0.06 | -- |
| SEP | | | | | | | | | | |
| 07... | 146 | -- | -- | -- | -- | -- | -- | 0.41 | -- | -- |

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | 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 1987 | | | | | | | | | |
| 28... | -- | -- | <1 | -- | -- | -- | 3 | 4 | 180 |
| NOV | | | | | | | | | |
| 25... | -- | -- | <1 | -- | -- | -- | 2 | 2 | 130 |
| DEC | | | | | | | | | |
| 24... | -- | -- | <1 | -- | -- | -- | 2 | 1 | 420 |
| JAN 1988 | | | | | | | | | |
| 27... | <10 | <1 | <1 | 2 | 1 | <1 | 4 | 5 | 1000 |
| FEB | | | | | | | | | |
| 25... | -- | -- | <1 | -- | -- | -- | 7 | 9 | 330 |
| MAR | | | | | | | | | |
| 23... | -- | -- | <1 | -- | -- | -- | 2 | 3 | 540 |
| APR | | | | | | | | | |
| 20... | -- | -- | <1 | -- | -- | -- | 3 | 5 | 300 |
| MAY | | | | | | | | | |
| 17... | -- | -- | <1 | -- | -- | -- | 6 | 8 | 720 |
| JUN | | | | | | | | | |
| 21... | -- | -- | <1 | -- | -- | -- | 4 | 4 | 530 |
| JUL | | | | | | | | | |
| 12... | 30 | <1 | <1 | <1 | <1 | 1 | 7 | 4 | 1200 |
| AUG | | | | | | | | | |
| 10... | -- | -- | <1 | -- | -- | -- | 7 | 8 | 350 |
| SEP | | | | | | | | | |
| 07... | -- | -- | 4 | -- | -- | -- | 8 | 9 | 360 |

[illegible]

125

LOCATION.--Lat 40°35'41", long 105°04'29", in NW¼NW¼ sec.12, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on right bank 357 ft downstream from College Ave. Bridge, (U.S. Highway 287) in Fort Collins. Prior to May 22, 1987, at site 4,600 ft downstream.

WATER-DISCHARGE RECORDS

GAGE---Water-stage recorder. Elevation of gage is 4,940 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 22, 1987 at site 4,600 ft downstream, at different datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,660 ft³/s, June 21, 1983, gage height, 8.31 ft; maximum gage height, 8.84 ft, Aug. 1, 1976, from floodmarks, site and datum then in use; no flow, Aug. 18, 19, and Sept. 4, 18, 19, 1987, and many days in 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|--------------------------|------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|------------------------------------|------------------------------------|----------------------------------|--------------------------------------|----------------------------|---------------------------------------|-----------------------------------|-----------------------------------|
| 1 | 2.9 | 2.5 | 2.5 | 4.0 | 7.8 | 7.3 | .14 | 2.1 | 125 | 14 | 13 | 17 |
| 2 | 3.8 | 5.2 | 2.5 | 4.8 | 7.0 | 8.4 | .28 | 2.1 | 32 | 33 | 5.9 | 12 |
| 3 | 5.5 | 3.1 | 2.5 | 5.5 | 6.6 | 6.1 | .00 | 1.9 | 126 | 22 | 12 | 8.9 |
| 4 | 6.6 | 3.1 | 2.6 | 5.5 | 6.6 | 2.9 | .00 | 2.9 | 257 | 39 | 12 | 6.5 |
| 5 | 5.8 | 2.7 | 2.6 | 5.0 | 6.6 | 2.5 | .00 | .89 | 227 | 98 | 11 | 4.4 |
| 6 | 3.1 | 2.7 | 2.6 | 4.5 | 6.6 | 2.9 | .00 | .00 | 194 | 94 | 11 | 4.7 |
| 7 | 4.2 | 2.9 | 2.6 | 3.8 | 6.6 | 2.9 | .00 | .23 | 521 | 128 | 12 | 6.2 |
| 8 | 2.0 | 2.9 | 2.6 | 3.8 | 6.6 | 2.2 | .07 | .63 | 714 | 217 | 17 | 5.7 |
| 9 | .62 | 3.3 | 2.6 | 3.8 | 6.6 | 1.6 | .25 | .49 | 1010 | 215 | 15 | 7.0 |
| 10 | .97 | 3.6 | 2.6 | 3.8 | 6.6 | 1.9 | .05 | .40 | 993 | 22 | 13 | 26 |
| 11 | 2.2 | 3.1 | 2.6 | 3.9 | 6.6 | 1.6 | .00 | 5.8 | 933 | 1.7 | 12 | 21 |
| 12 | 4.1 | 2.9 | 2.8 | 4.0 | 6.4 | 1.4 | .00 | 15 | 720 | 1.6 | 13 | 28 |
| 13 | 4.4 | 2.9 | 3.1 | 4.1 | 5.6 | 1.4 | .24 | 16 | 563 | 12 | 13 | 14 |
| 14 | 4.1 | 2.7 | 4.7 | 4.2 | 5.0 | 2.0 | .11 | 22 | 343 | 19 | 9.5 | 19 |
| 15 | 2.5 | 6.0 | 5.0 | 4.3 | 4.4 | 1.9 | .00 | 43 | 313 | 34 | 7.7 | 54 |
| 16 | 1.1 | 3.1 | 4.4 | 4.5 | 3.9 | 1.6 | .00 | 119 | 238 | 48 | 9.2 | 42 |
| 17 | 1.5 | 2.5 | 3.8 | 4.5 | 3.7 | 1.6 | .03 | 168 | 209 | 20 | 13 | 4.9 |
| 18 | 1.3 | 2.5 | 3.6 | 4.7 | 3.6 | 1.3 | .00 | 416 | 303 | 2.1 | 28 | 4.8 |
| 19 | 1.6 | 2.3 | 4.7 | 5.6 | 3.5 | 1.6 | .31 | 551 | 313 | .60 | 16 | 3.8 |
| 20 | 1.9 | 2.2 | 5.2 | 6.3 | 3.5 | 1.3 | .07 | 579 | 304 | .00 | 11 | 3.3 |
| 21 | 1.8 | 2.3 | 5.2 | 7.2 | 3.4 | 1.6 | 1.8 | 321 | 301 | 1.3 | 9.5 | 2.8 |
| 22 | 1.6 | 2.7 | 5.8 | 8.5 | 3.4 | 2.3 | 3.8 | 230 | 358 | 22 | 10 | 4.5 |
| 23 | 2.0 | 3.1 | 6.1 | 9.7 | 3.3 | .92 | .00 | 20 | 280 | 25 | 10 | 3.9 |
| 24 | 1.8 | 3.1 | 6.4 | 11 | 3.3 | .00 | .11 | 2.7 | 315 | 16 | 9.0 | 5.0 |
| 25 | 1.6 | 2.7 | 6.4 | 13 | 3.2 | .00 | .24 | 46 | 303 | 16 | 22 | 6.3 |
| 26 | 2.0 | 2.7 | 5.5 | 15 | 3.0 | .00 | .13 | 153 | 238 | 13 | 23 | 8.0 |
| 27 | 1.9 | 2.7 | 5.5 | 13 | 2.9 | .00 | .33 | 186 | 17 | 12 | 14 | 8.0 |
| 28 | 1.7 | 2.7 | 5.8 | 12 | 2.8 | .00 | .24 | 208 | 23 | 12 | 19 | 3.3 |
| 29 | 1.6 | 2.7 | 5.2 | 11 | 3.6 | .00 | 1.1 | 631 | 51 | 39 | 8.4 | 4.3 |
| 30 | 2.7 | 3.3 | 4.4 | 9.8 | --- | .00 | 1.8 | 677 | 11 | 24 | 9.9 | 5.3 |
| 31 | 2.5 | --- | 3.7 | 8.8 | --- | .00 | --- | 405 | --- | 14 | 9.1 | --- |
| TOTAL MEAN MAX MIN AC-FT | 81.39 2.63 6.6 .62 161 | 90.2 3.01 6.0 2.2 179 | 125.6 4.05 6.4 2.5 249 | 209.6 6.76 15 3.8 416 | 142.7 4.92 7.8 2.8 283 | 59.22 1.91 8.4 .00 117 | 11.10 .37 3.8 .00 22 | 4826.14 156 677 .00 9570 | 10335 344 1010 11 | 1215.30 39.2 217 .00 2410 | 398.2 12.8 28 5.9 790 | 344.6 11.5 54 2.8 684 |
| CAL YR 1987 WTR YR 1988 | TOTAL 22611.18 TOTAL 17839.05 | MEAN 61.9 MEAN 48.7 | MAX 745 MAX 1010 | MIN .00 MIN .00 | AC-FT 44850 AC-FT 35380 | | | | | | | |

PLATTE RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1987 to September 1988.

pH: October 1987 to September 1988.

WATER TEMPERATURE: October 1987 to September 1988.

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: Not determined.

pH: Not determined.

WATER TEMPERATURE: Not determined.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT | | | | | | | | | | |
| 07... | 1030 | 3.1 | 460 | 8.3 | 12.5 | 8.9 | 230 | 66 | 17 | -- |
| 28... | 1505 | 1.9 | 500 | 8.3 | 10.0 | 9.2 | 230 | 64 | 18 | -- |
| DEC | | | | | | | | | | |
| 16... | 1510 | 3.8 | 600 | 8.2 | 2.0 | 12.6 | 280 | 78 | 20 | -- |
| JAN | | | | | | | | | | |
| 26... | 1545 | 15 | 450 | 8.4 | 0.0 | 12.2 | 190 | 58 | 12 | 21 |
| FEB | | | | | | | | | | |
| 25... | 1340 | 3.2 | 560 | 8.4 | 5.0 | 11.8 | 240 | 66 | 18 | -- |
| MAY | | | | | | | | | | |
| 16... | 1155 | 226 | 98 | 8.4 | 12.5 | 11.8 | 40 | 12 | 2.4 | -- |
| JUN | | | | | | | | | | |
| 20... | 1230 | 338 | 55 | 8.2 | 15.0 | 8.2 | 19 | 5.5 | 1.3 | -- |
| AUG | | | | | | | | | | |
| 09... | 1125 | 16 | 220 | 8.2 | 17.0 | 8.9 | 76 | 22 | 5.2 | -- |
| SEP | | | | | | | | | | |
| 07... | 1115 | 8.2 | 368 | 8.1 | 17.5 | 8.6 | 190 | 53 | 14 | -- |

| DATE | ALKA- LINEITY 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|--|---|---|--|---|--|---|---|---|--|
| OCT | | | | | | | | | | |
| 07... | 181 | -- | -- | -- | -- | -- | -- | 0.58 | -- | -- |
| 28... | 208 | -- | -- | -- | -- | -- | <0.01 | 0.62 | 0.03 | -- |
| DEC | | | | | | | | | | |
| 16... | 218 | -- | -- | -- | -- | -- | <0.01 | 1.10 | 0.04 | -- |
| JAN | | | | | | | | | | |
| 26... | 139 | 68 | 22 | 0.4 | 9.5 | 279 | 0.02 | 0.64 | 0.03 | 0.02 |
| FEB | | | | | | | | | | |
| 25... | 173 | -- | -- | -- | -- | -- | 0.01 | 0.62 | 0.03 | -- |
| MAY | | | | | | | | | | |
| 16... | 36 | -- | -- | -- | -- | -- | <0.01 | 0.04 | 0.03 | -- |
| JUN | | | | | | | | | | |
| 20... | 19 | -- | -- | -- | -- | -- | <0.01 | 0.06 | <0.01 | -- |
| AUG | | | | | | | | | | |
| 09... | 66 | -- | -- | -- | -- | -- | <0.01 | 0.04 | 0.02 | -- |
| SEP | | | | | | | | | | |
| 07... | 138 | -- | -- | -- | -- | -- | <0.01 | 0.12 | 0.01 | -- |

PLATTE RIVER BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | 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... | -- | -- | 1 | -- | -- | -- | 3 | 2 | 290 |
| 28... | -- | -- | 2 | -- | -- | -- | 3 | 1 | 270 |
| DEC | | | | | | | | | |
| 16... | -- | -- | <1 | -- | -- | -- | 3 | 2 | 300 |
| JAN | | | | | | | | | |
| 26... | 10 | <1 | 1 | <1 | 1 | <1 | 6 | 4 | 1000 |
| FEB | | | | | | | | | |
| 25... | -- | -- | 1 | -- | -- | -- | 9 | 8 | 290 |
| MAY | | | | | | | | | |
| 16... | -- | -- | 1 | -- | -- | -- | 5 | 5 | 1100 |
| JUN | | | | | | | | | |
| 20... | -- | -- | <1 | -- | -- | -- | 3 | 5 | 490 |
| AUG | | | | | | | | | |
| 09... | -- | -- | <1 | -- | -- | -- | 9 | 7 | 220 |
| SEP | | | | | | | | | |
| 07... | -- | -- | 1 | -- | -- | -- | 8 | 6 | 210 |

| 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, DIS- SOLVED (UG/L AS AG) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|-------|---|--|---|---|--|--|---|--|--|
| OCT | | | | | | | | | |
| 07... | <5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |
| 28... | <5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |
| DEC | | | | | | | | | |
| 16... | 5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |
| JAN | | | | | | | | | |
| 26... | 9 | <5 | 30 | <0.1 | <0.1 | 3 | 1 | <0.1 | <3 |
| FEB | | | | | | | | | |
| 25... | <5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |
| MAY | | | | | | | | | |
| 16... | <5 | -- | -- | -- | -- | -- | -- | <0.5 | -- |
| JUN | | | | | | | | | |
| 20... | <5 | -- | -- | -- | -- | -- | -- | <0.5 | -- |
| AUG | | | | | | | | | |
| 09... | <5 | -- | -- | -- | -- | -- | -- | 0.9 | -- |
| SEP | | | | | | | | | |
| 07... | <5 | -- | -- | -- | -- | -- | -- | <0.1 | -- |

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

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

[illegible]

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

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PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

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

TEMPERATURE, WATER (DEG C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

PLATTE RIVER BASIN

131

06752270 CACHE LA POUDE RIVER BELOW FORT COLLINS, CO

LOCATION.--Lat 40°34'01", long 105°01'36", in NW¼NE¼ 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 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|
| OCT | | | | | | | | | | |
| 25... | 0830 | 5.4 | 750 | 8.5 | 9.0 | 8.8 | 390 | 100 | 33 | -- |
| NOV | | | | | | | | | | |
| 25... | 1500 | 7.2 | 730 | 8.7 | 5.0 | 11.2 | 370 | 98 | 30 | -- |
| DEC | | | | | | | | | | |
| 26... | 1130 | 6.4 | 580 | 8.3 | 0.0 | 12.0 | 370 | 97 | 31 | -- |
| JAN | | | | | | | | | | |
| 27... | 1410 | 5.7 | 860 | 8.5 | 5.0 | 14.2 | 380 | 100 | 31 | 37 |
| FEB | | | | | | | | | | |
| 25... | 1135 | 4.5 | 800 | 8.5 | 4.0 | 14.2 | 330 | 86 | 27 | -- |
| MAR | | | | | | | | | | |
| 23... | 1205 | 5.0 | 820 | 8.6 | 10.5 | 12.6 | 320 | 84 | 27 | -- |
| APR | | | | | | | | | | |
| 20... | 1305 | 4.3 | 850 | 8.6 | 16.0 | 12.6 | 340 | 87 | 31 | -- |
| MAY | | | | | | | | | | |
| 17... | 1455 | 240 | 138 | 8.4 | 16.0 | 8.8 | 51 | 15 | 3.3 | -- |
| JUN | | | | | | | | | | |
| 23... | 1055 | 392 | 135 | 8.3 | 15.0 | 8.7 | 43 | 12 | 3.2 | -- |
| JUL | | | | | | | | | | |
| 11... | 1525 | 26 | 480 | 8.8 | 23.0 | 12.0 | 240 | 63 | 21 | 31 |
| AUG | | | | | | | | | | |
| 09... | 1445 | 39 | 460 | 8.6 | 24.5 | 11.8 | 200 | 53 | 17 | -- |
| SEP | | | | | | | | | | |
| 08... | 1005 | 22 | 650 | 8.2 | 19.0 | 10.2 | 250 | 67 | 20 | -- |

| DATE | 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|---|---|---|--|---|--|---|---|---|--|
| OCT | | | | | | | | | | |
| 25... | 198 | -- | -- | -- | -- | -- | 0.03 | 2.40 | 0.02 | -- |
| NOV | | | | | | | | | | |
| 25... | 248 | -- | -- | -- | -- | -- | 0.02 | 2.50 | 0.07 | -- |
| DEC | | | | | | | | | | |
| 26... | 247 | -- | -- | -- | -- | -- | 0.01 | 2.90 | 0.18 | -- |
| JAN | | | | | | | | | | |
| 27... | 270 | 140 | 24 | 0.7 | 11 | 503 | 0.02 | 2.60 | 0.07 | 0.02 |
| FEB | | | | | | | | | | |
| 25... | 243 | -- | -- | -- | -- | -- | 0.02 | 2.50 | 0.05 | -- |
| MAR | | | | | | | | | | |
| 23... | 241 | -- | -- | -- | -- | -- | 0.02 | 2.00 | 0.05 | -- |
| APR | | | | | | | | | | |
| 20... | 218 | -- | -- | -- | -- | -- | 0.03 | 1.00 | 0.03 | -- |
| MAY | | | | | | | | | | |
| 17... | 45 | -- | -- | -- | -- | -- | 0.02 | 0.17 | 0.11 | -- |
| JUN | | | | | | | | | | |
| 23... | 40 | -- | -- | -- | -- | -- | <0.01 | 0.22 | 0.04 | -- |
| JUL | | | | | | | | | | |
| 11... | 179 | 120 | 14 | 0.5 | 6.5 | 362 | 0.13 | 0.27 | 0.03 | 0.10 |
| AUG | | | | | | | | | | |
| 09... | 146 | -- | -- | -- | -- | -- | 0.16 | 1.30 | 0.18 | -- |
| SEP | | | | | | | | | | |
| 08... | 173 | -- | -- | -- | -- | -- | 0.29 | 1.80 | 1.2 | -- |

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | 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 25... | -- | -- | 1 | -- | -- | -- | 1 | 1 | 380 |
| NOV 25... | -- | -- | <1 | -- | -- | -- | 2 | 2 | 400 |
| DEC 26... | -- | -- | <1 | -- | -- | -- | 3 | <1 | 770 |
| JAN 27... | <10 | <1 | <1 | <1 | <1 | <1 | 3 | 3 | 350 |
| FEB 25... | -- | -- | 1 | -- | -- | -- | 4 | 6 | 360 |
| MAR 23... | -- | -- | 1 | -- | -- | -- | 4 | 11 | 480 |
| APR 20... | -- | -- | <1 | -- | -- | -- | 2 | 3 | 520 |
| MAY 17... | -- | -- | 2 | -- | -- | -- | 10 | 10 | 1100 |
| JUN 23... | -- | -- | <1 | -- | -- | -- | 3 | 5 | 380 |
| JUL 11... | <10 | 1 | <1 | <1 | <1 | <1 | 3 | 4 | 300 |
| AUG 09... | -- | -- | <1 | -- | -- | -- | 8 | 6 | 280 |
| SEP 08... | -- | -- | <1 | -- | -- | -- | 7 | 6 | 200 |

[illegible]

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LOCATION.--Lat 40°32'56", long 105°00'28", in NW¼NE¼ sec.28, T.7 N., R.68 W., Larimer County, Hydrologic Unit 101900007, on left 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.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Elevation of gage is 4,860 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 19-29, Dec. 25 to Jan. 27, Feb. 10-25, July 11-26, and Aug. 12 to Sept. 8. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,810 ft³/s, June 21, 1983, gage height, 8.02 ft; minimum daily, 1.6 ft³/s, Sept. 29, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s at 1030 June 11, gage height, 4.83 ft; minimum daily, 2.5 ft³/s, May 25, Aug. 11, Sept. 26, 27, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|
| 1 | 3.6 | 5.2 | 5.5 | 5.0 | 3.5 | 7.3 | 13 | 6.0 | 139 | 2.9 | 4.1 | 3.5 |
| 2 | 3.5 | 7.3 | 5.5 | 4.5 | 3.5 | 18 | 15 | 6.7 | 37 | 3.1 | 3.8 | 4.0 |
| 3 | 3.4 | 6.1 | 5.7 | 4.5 | 3.5 | 15 | 14 | 6.7 | 73 | 3.1 | 3.8 | 3.5 |
| 4 | 3.4 | 5.5 | 6.0 | 4.5 | 6.6 | 13 | 13 | 6.1 | 129 | 3.3 | 4.1 | 3.5 |
| 5 | 3.8 | 5.5 | 6.0 | 4.5 | 5.2 | 10 | 19 | 6.0 | 106 | 9.4 | 4.6 | 3.5 |
| 6 | 3.8 | 5.5 | 6.0 | 5.0 | 4.4 | 9.5 | 11 | 6.0 | 68 | 5.5 | 3.6 | 3.5 |
| 7 | 3.8 | 5.7 | 14 | 5.0 | 4.1 | 8.7 | 9.5 | 6.0 | 377 | 4.4 | 3.3 | 4.0 |
| 8 | 3.8 | 6.0 | 29 | 5.0 | 4.4 | 8.0 | 8.7 | 6.7 | 680 | 6.1 | 3.2 | 4.3 |
| 9 | 3.8 | 6.0 | 29 | 5.0 | 4.9 | 8.0 | 8.0 | 6.1 | 942 | 7.2 | 3.1 | 3.9 |
| 10 | 3.9 | 6.0 | 7.4 | 5.0 | 5.2 | 8.0 | 8.7 | 6.7 | 984 | 5.0 | 2.8 | 3.5 |
| 11 | 4.1 | 5.5 | 5.2 | 4.5 | 6.0 | 11 | 7.3 | 6.7 | 907 | 8.0 | 2.5 | 6.3 |
| 12 | 4.1 | 5.2 | 5.3 | 4.5 | 6.0 | 18 | 5.5 | 6.7 | 740 | 8.0 | 3.5 | 5.5 |
| 13 | 4.4 | 4.9 | 6.7 | 4.5 | 6.0 | 8.8 | 4.6 | 7.3 | 541 | 7.6 | 4.0 | 3.7 |
| 14 | 4.4 | 4.9 | 6.7 | 4.0 | 5.5 | 8.7 | 4.9 | 6.7 | 301 | 6.0 | 3.5 | 3.5 |
| 15 | 4.4 | 8.0 | 6.7 | 4.5 | 5.5 | 8.7 | 4.9 | 11 | 207 | 6.0 | 3.5 | 4.2 |
| 16 | 4.6 | 8.7 | 8.7 | 4.5 | 5.5 | 8.4 | 5.5 | 32 | 130 | 5.0 | 4.5 | 4.1 |
| 17 | 4.9 | 6.1 | 9.4 | 5.0 | 5.5 | 8.0 | 6.0 | 23 | 80 | 5.0 | 4.0 | 3.5 |
| 18 | 5.2 | 5.5 | 6.7 | 5.0 | 6.0 | 8.0 | 6.7 | 224 | 157 | 5.5 | 4.0 | 3.7 |
| 19 | 5.5 | 5.8 | 6.4 | 5.0 | 5.5 | 8.0 | 6.7 | 364 | 172 | 5.0 | 3.5 | 3.5 |
| 20 | 5.5 | 5.8 | 6.1 | 5.0 | 5.5 | 8.0 | 6.8 | 392 | 149 | 7.0 | 3.5 | 3.7 |
| 21 | 5.5 | 5.7 | 6.0 | 4.5 | 5.5 | 8.7 | 8.7 | 122 | 129 | 5.0 | 3.7 | 3.7 |
| 22 | 5.5 | 5.6 | 5.5 | 4.5 | 6.0 | 10 | 8.7 | 4.1 | 233 | 4.0 | 3.7 | 3.7 |
| 23 | 4.6 | 5.6 | 5.5 | 4.5 | 6.0 | 11 | 7.3 | 3.0 | 161 | 5.0 | 3.5 | 3.5 |
| 24 | 5.7 | 5.6 | 4.6 | 4.5 | 6.0 | 11 | 6.1 | 2.7 | 146 | 6.0 | 3.5 | 3.0 |
| 25 | 6.7 | 5.6 | 5.0 | 4.5 | 7.5 | 10 | 6.0 | 2.5 | 198 | 6.0 | 3.5 | 2.7 |
| 26 | 4.9 | 5.5 | 5.0 | 4.5 | 8.0 | 9.5 | 6.0 | 31 | 106 | 6.0 | 3.5 | 2.5 |
| 27 | 4.4 | 5.4 | 5.0 | 4.5 | 8.0 | 9.4 | 6.0 | 36 | 7.6 | 6.0 | 4.0 | 2.5 |
| 28 | 4.4 | 5.4 | 5.0 | 6.0 | 8.0 | 9.4 | 6.0 | 24 | 3.3 | 5.2 | 4.5 | 2.8 |
| 29 | 4.4 | 5.4 | 5.0 | 4.4 | 6.7 | 8.7 | 6.0 | 376 | 12 | 4.9 | 4.0 | 2.6 |
| 30 | 4.9 | 5.5 | 5.0 | 3.7 | --- | 9.1 | 4.9 | 554 | 3.8 | 4.9 | 3.5 | 2.5 |
| 31 | 6.0 | --- | 5.0 | 3.5 | --- | 11 | --- | 289 | --- | 4.9 | 4.0 | --- |
| TOTAL | 140.9 | 174.5 | 238.6 | 143.6 | 164.0 | 308.9 | 244.5 | 2580.7 | 7918.7 | 290.7 | 151.2 | 108.4 |
| MEAN | 4.55 | 5.82 | 7.70 | 4.63 | 5.66 | 9.96 | 8.15 | 83.2 | 264 | 9.38 | 4.88 | 3.61 |
| MAX | 6.7 | 8.7 | 29 | 6.0 | 8.0 | 18 | 19 | 554 | 984 | 72 | 4.1 | 6.3 |
| MIN | 3.4 | 4.9 | 4.6 | 3.5 | 3.5 | 7.3 | 4.6 | 2.5 | 3.3 | 2.9 | 2.5 | 2.5 |
| AC-FT | 279 | 346 | 473 | 285 | 325 | 613 | 485 | 5120 | 15710 | 577 | 300 | 215 |
| CAL YR 1987 | TOTAL | 15229.8 | MEAN | 41.7 | MAX | 731 | MIN | 3.3 | AC-FT | 30210 | | |
| WTR YR 1988 | TOTAL | 12464.7 | MEAN | 34.1 | MAX | 984 | MIN | 2.5 | AC-FT | 24720 | | |

PLATTE RIVER BASIN

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

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) | |
|--------------|------|---|---|---|--|---|--|---|---|---|--|
| OCT 26... | 0930 | 4.7 | 1900 | 8.3 | 10.0 | 9.8 | 980 | 230 | 98 | -- | |
| NOV 29... | 1200 | 5.6 | 1700 | 8.2 | 2.0 | 12.0 | 970 | 250 | 84 | -- | |
| DEC 23... | 0930 | 5.4 | 1600 | 8.2 | 0.0 | 11.4 | 800 | 210 | 68 | -- | |
| JAN 27... | 1105 | 4.6 | 1850 | 8.0 | 1.0 | 11.1 | 950 | 250 | 78 | 81 | |
| FEB 25... | 0935 | 7.3 | 1500 | 8.2 | 2.0 | 11.2 | 690 | 180 | 58 | -- | |
| MAR 23... | 0950 | 10 | 1360 | 8.5 | 7.0 | 9.2 | 600 | 140 | 62 | -- | |
| APR 20... | 0955 | 5.6 | 1480 | 8.3 | 12.0 | 8.2 | 700 | 180 | 60 | -- | |
| MAY 16... | 1445 | 94 | 460 | 8.2 | 20.0 | 7.8 | 170 | 46 | 14 | -- | |
| JUN 20... | 1535 | 214 | 138 | 8.4 | 20.5 | 8.4 | 54 | 15 | 3.9 | -- | |
| JUL 11... | 1215 | 3.5 | -- | 8.1 | 23.0 | 9.2 | 900 | 230 | 78 | 85 | |
| AUG 10... | 1135 | 2.8 | 1750 | 8.1 | 22.5 | 10.2 | 1100 | 270 | 92 | -- | |
| SEP 08... | 1445 | 4.3 | 1880 | 8.0 | 19.5 | 9.5 | 1100 | 280 | 92 | -- | |
| DATE | | ALKA- LINIT 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) |
| OCT 26... | 145 | -- | -- | -- | -- | -- | -- | 0.06 | 2.10 | 0.25 | -- |
| NOV 29... | 227 | -- | -- | -- | -- | -- | -- | 0.03 | 2.70 | 0.24 | -- |
| DEC 23... | 241 | -- | -- | -- | -- | -- | -- | 0.02 | 1.20 | 0.23 | -- |
| JAN 27... | 254 | 900 | 24 | 0.9 | 12 | 1570 | 0.03 | 3.30 | 0.27 | 0.02 | |
| FEB 25... | 237 | -- | -- | -- | -- | -- | -- | 0.03 | 2.40 | 0.17 | -- |
| MAR 23... | 218 | -- | -- | -- | -- | -- | -- | 0.04 | 1.80 | 0.27 | -- |
| APR 20... | 212 | -- | -- | -- | -- | -- | -- | 0.04 | 1.10 | 0.04 | -- |
| MAY 16... | 78 | -- | -- | -- | -- | -- | -- | 0.03 | 0.38 | 0.21 | -- |
| JUN 20... | 39 | -- | -- | -- | -- | -- | -- | <0.01 | 0.21 | 0.03 | -- |
| JUL 11... | 178 | 940 | 20 | 0.8 | 10 | 1450 | 0.03 | 0.55 | 0.15 | 0.02 | |
| AUG 10... | 197 | -- | -- | -- | -- | -- | -- | 0.04 | 0.99 | 0.09 | -- |
| SEP 08... | 196 | -- | -- | -- | -- | -- | -- | 0.05 | 1.20 | 0.10 | -- |

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

PLATTE RIVER BASIN

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO

LOCATION.--Lat 40°25'04", long 104°38'22", in NW¼ 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. 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.--No estimated daily discharges. Records good. 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.

AVERAGE DISCHARGE.--69 years (water years 1915-19, 1925-88), 133 ft³/s; 96,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,360 ft³/s, June 14, 1983; gage height, 8.92 ft; maximum gage height, 8.95 ft, June 22, 1983; minimum daily discharge, 0.8 ft³/s, Oct. 3, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,540 ft³/s at 0600 July 8, gage height, 5.23 ft; minimum daily, 8.0 ft³/s, May 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|--------|-------|------|------|------|
| 1 | 35 | 95 | 98 | 79 | 88 | 118 | 158 | 21 | 216 | 18 | 23 | 31 |
| 2 | 42 | 107 | 102 | 77 | 89 | 118 | 157 | 21 | 101 | 17 | 20 | 31 |
| 3 | 48 | 106 | 99 | 76 | 90 | 117 | 157 | 16 | 69 | 15 | 35 | 24 |
| 4 | 50 | 106 | 101 | 78 | 85 | 114 | 153 | 20 | 50 | 16 | 204 | 24 |
| 5 | 48 | 101 | 93 | 80 | 79 | 103 | 151 | 16 | 32 | 17 | 120 | 24 |
| 6 | 51 | 105 | 93 | 82 | 77 | 98 | 153 | 13 | 18 | 17 | 77 | 26 |
| 7 | 50 | 99 | 98 | 82 | 84 | 100 | 152 | 12 | 12 | 24 | 63 | 30 |
| 8 | 67 | 93 | 96 | 84 | 87 | 110 | 148 | 12 | 259 | 675 | 60 | 32 |
| 9 | 82 | 88 | 106 | 83 | 87 | 128 | 139 | 12 | 680 | 186 | 61 | 39 |
| 10 | 83 | 93 | 112 | 81 | 83 | 140 | 110 | 12 | 918 | 110 | 56 | 37 |
| 11 | 83 | 100 | 105 | 85 | 88 | 137 | 107 | 13 | 887 | 88 | 56 | 36 |
| 12 | 85 | 93 | 96 | 88 | 90 | 127 | 103 | 11 | 793 | 57 | 52 | 85 |
| 13 | 81 | 90 | 87 | 85 | 90 | 140 | 100 | 11 | 627 | 56 | 57 | 92 |
| 14 | 90 | 98 | 93 | 94 | 89 | 139 | 96 | 10 | 382 | 38 | 40 | 90 |
| 15 | 84 | 110 | 85 | 92 | 92 | 141 | 94 | 10 | 230 | 26 | 58 | 84 |
| 16 | 89 | 105 | 87 | 92 | 94 | 145 | 92 | 8.0 | 138 | 23 | 40 | 89 |
| 17 | 96 | 100 | 94 | 88 | 94 | 145 | 83 | 8.8 | 48 | 22 | 37 | 81 |
| 18 | 94 | 97 | 99 | 88 | 100 | 144 | 80 | 11 | 22 | 27 | 38 | 68 |
| 19 | 96 | 96 | 97 | 80 | 101 | 142 | 50 | 124 | 14 | 30 | 37 | 58 |
| 20 | 97 | 97 | 93 | 87 | 103 | 141 | 33 | 429 | 16 | 32 | 23 | 58 |
| 21 | 101 | 94 | 93 | 88 | 107 | 143 | 28 | 308 | 14 | 31 | 24 | 64 |
| 22 | 103 | 100 | 99 | 87 | 116 | 149 | 28 | 110 | 14 | 25 | 25 | 68 |
| 23 | 104 | 101 | 99 | 88 | 115 | 151 | 20 | 72 | 15 | 26 | 29 | 78 |
| 24 | 98 | 103 | 89 | 83 | 111 | 147 | 24 | 58 | 15 | 14 | 32 | 62 |
| 25 | 96 | 115 | 76 | 88 | 110 | 145 | 19 | 45 | 22 | 13 | 32 | 57 |
| 26 | 94 | 99 | 82 | 92 | 112 | 118 | 20 | 33 | 33 | 15 | 32 | 62 |
| 27 | 90 | 100 | 86 | 88 | 109 | 108 | 19 | 35 | 27 | 14 | 31 | 64 |
| 28 | 91 | 98 | 88 | 90 | 106 | 106 | 18 | 44 | 19 | 17 | 29 | 66 |
| 29 | 95 | 96 | 89 | 93 | 110 | 106 | 22 | 32 | 18 | 21 | 31 | 66 |
| 30 | 110 | 98 | 89 | 93 | --- | 104 | 20 | 405 | 19 | 22 | 26 | 79 |
| 31 | 118 | --- | 84 | 93 | --- | 149 | --- | 540 | --- | 20 | 34 | --- |
| TOTAL | 2551 | 2983 | 2908 | 2664 | 2786 | 3973 | 2534 | 2472.8 | 5708 | 1712 | 1482 | 1705 |
| MEAN | 82.3 | 99.4 | 93.8 | 85.9 | 96.1 | 128 | 84.5 | 79.8 | 190 | 55.2 | 47.8 | 56.8 |
| MAX | 118 | 115 | 112 | 94 | 116 | 151 | 158 | 540 | 918 | 675 | 204 | 92 |
| MIN | 35 | 88 | 76 | 76 | 77 | 98 | 18 | 8.0 | 12 | 13 | 20 | 24 |
| AC-FT | 5060 | 5920 | 5770 | 5280 | 5530 | 7880 | 5030 | 4900 | 11320 | 3400 | 2940 | 3380 |

CAL YR 1987 TOTAL 43648 MEAN 120 MAX 1050 MIN 16 AC-FT 86580
WTR YR 1988 TOTAL 33478.8 MEAN 91.5 MAX 918 MIN 8.0 AC-FT 66410

PLATTE RIVER BASIN

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO

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LOCATION.--Lat 40°24'44", long 104°33'46", in NW¼SW¼ sec.9, T.5 N., R.64W., Weld County, Hydrologic Unit 10190003, on downstream side of bridge on State Highway 37, 1.9 mi north of railroad in Kersey, and 2.5 mi downstream from Cache la Poudre River.

DRAINAGE AREA.--9,598 mi².

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.

REVISED RECORDS.--WSP 1310: 1902, 1906, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. 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: Water year 1986, Dec. 15. Estimated daily discharges, water year 1987, Jan. 15-29. Water year 1988, Dec. 25 to Jan. 14, Mar. 21, 22, May 13-18, 22-24, June 5-7, and June 22-27. 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. Several observations of 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.

AVERAGE DISCHARGE.--71 years (water years 1902-03, 1906-74), 777 ft³/s; 562,900 acre-ft/yr, prior to completion of Chatfield Dam; 11 years (water years 1976-86), 1,435 ft³/s; 1,040,000 acre-ft/yr; 12 years (water years 1976-87), 1,428 ft³/s; 1,035,000 acre-ft/yr, 13 years (water years 1976-88), 1,383 ft³/s; 1,002,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,500 ft³/s, May 8, 1973, gage height, 11.73 ft; minimum daily, 28 ft³/s, Apr. 30, 1955.

EXTREMES FOR WATER YEAR 1986.--Maximum discharge, 11,200 ft³/s at 0745 June 11, gage height, 8.93 ft; minimum daily, 345 ft³/s, Aug. 1.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 8,540 ft³/s at 0015 May 25, gage height, 8.37 ft; minimum daily, 177 ft³/s, July 24, 28.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,120 ft³/s at 0300 May 21, gage height, 7.76 ft; minimum daily, 138 ft³/s, May 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|-------|-------|
| 1 | 1090 | 852 | 1110 | 1080 | 1100 | 882 | 828 | 860 | 908 | 948 | 345 | 792 |
| 2 | 1010 | 1140 | 1160 | 1080 | 1130 | 895 | 822 | 792 | 1250 | 1210 | 358 | 804 |
| 3 | 996 | 912 | 1240 | 1070 | 1140 | 891 | 834 | 708 | 1560 | 1340 | 718 | 864 |
| 4 | 959 | 862 | 1210 | 1080 | 1130 | 877 | 1360 | 791 | 2030 | 1150 | 766 | 858 |
| 5 | 912 | 870 | 1140 | 1040 | 1060 | 878 | 2130 | 912 | 3500 | 1450 | 710 | 818 |
| 6 | 891 | 1040 | 1120 | 1060 | 1020 | 852 | 2970 | 1070 | 4730 | 1970 | 673 | 789 |
| 7 | 891 | 1090 | 1110 | 1180 | 1020 | 883 | 3040 | 1130 | 5320 | 2120 | 568 | 834 |
| 8 | 883 | 1130 | 1100 | 1100 | 996 | 902 | 2960 | 1130 | 7220 | 1790 | 511 | 981 |
| 9 | 876 | 1180 | 1090 | 1060 | 972 | 930 | 3050 | 1090 | 7650 | 1310 | 535 | 1050 |
| 10 | 877 | 1290 | 1100 | 1040 | 933 | 970 | 3410 | 1030 | 9190 | 1000 | 650 | 1020 |
| 11 | 932 | 1300 | 1100 | 1030 | 919 | 912 | 3290 | 859 | 10200 | 996 | 680 | 936 |
| 12 | 1010 | 1190 | 1060 | 1040 | 948 | 892 | 3300 | 780 | 7820 | 1000 | 620 | 910 |
| 13 | 980 | 1170 | 1070 | 1010 | 1040 | 898 | 3100 | 690 | 6180 | 1180 | 589 | 876 |
| 14 | 1050 | 1170 | 1070 | 988 | 1020 | 864 | 2960 | 754 | 5970 | 1110 | 547 | 859 |
| 15 | 1190 | 1210 | 1120 | 1020 | 996 | 877 | 2780 | 792 | 6180 | 1110 | 545 | 796 |
| 16 | 1140 | 1200 | 1160 | 1020 | 996 | 941 | 2670 | 1200 | 6620 | 884 | 600 | 781 |
| 17 | 1080 | 1260 | 1170 | 1100 | 1010 | 980 | 2360 | 2820 | 6180 | 788 | 553 | 772 |
| 18 | 1050 | 1250 | 1150 | 1060 | 1090 | 988 | 2200 | 2010 | 6100 | 834 | 459 | 763 |
| 19 | 991 | 1230 | 1160 | 1030 | 988 | 988 | 2080 | 1420 | 4960 | 1060 | 414 | 796 |
| 20 | 905 | 1180 | 1140 | 1050 | 956 | 964 | 2040 | 1110 | 4920 | 912 | 399 | 804 |
| 21 | 884 | 1180 | 1170 | 1120 | 1000 | 956 | 1960 | 940 | 4710 | 1060 | 446 | 797 |
| 22 | 891 | 1150 | 1180 | 1100 | 1000 | 972 | 1710 | 858 | 3920 | 1320 | 525 | 798 |
| 23 | 933 | 1250 | 1170 | 1080 | 956 | 964 | 1460 | 912 | 2920 | 806 | 594 | 816 |
| 24 | 926 | 1240 | 1140 | 1140 | 940 | 940 | 1450 | 996 | 2060 | 798 | 1060 | 858 |
| 25 | 840 | 1190 | 1120 | 1140 | 933 | 948 | 1340 | 798 | 1400 | 758 | 846 | 883 |
| 26 | 877 | 1230 | 1080 | 1110 | 926 | 912 | 1350 | 678 | 948 | 733 | 734 | 887 |
| 27 | 898 | 1360 | 1110 | 1130 | 898 | 898 | 1440 | 640 | 780 | 642 | 720 | 870 |
| 28 | 877 | 1160 | 1120 | 1120 | 891 | 834 | 1320 | 695 | 798 | 550 | 769 | 813 |
| 29 | 810 | 1130 | 1110 | 1190 | --- | 828 | 1160 | 734 | 668 | 460 | 798 | 827 |
| 30 | 800 | 1140 | 1100 | 1150 | --- | 840 | 990 | 891 | 651 | 380 | 828 | 851 |
| 31 | 822 | --- | 1110 | 1150 | --- | 834 | --- | 905 | --- | 359 | 836 | --- |
| TOTAL | 29271 | 34556 | 34990 | 33568 | 28008 | 28190 | 62364 | 30995 | 127343 | 32028 | 19396 | 25503 |
| MEAN | 944 | 1152 | 1129 | 1083 | 1000 | 909 | 2079 | 1000 | 4245 | 1033 | 626 | 850 |
| MAX | 1190 | 1360 | 1240 | 1190 | 1140 | 988 | 3410 | 2820 | 10200 | 2120 | 1060 | 1050 |
| MIN | 800 | 852 | 1060 | 988 | 891 | 828 | 822 | 640 | 651 | 359 | 345 | 763 |
| AC-FT | 58060 | 68540 | 69400 | 66580 | 55550 | 55910 | 123700 | 61480 | 252600 | 63530 | 38470 | 50590 |

CAL YR 1985 TOTAL 458754 MEAN 1257 MAX 5480 MIN 284 AC-FT 909900
WTR YR 1986 TOTAL 486212 MEAN 1332 MAX 10200 MIN 345 AC-FT 964400

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-------|-----------|-----------|---------|--------------|-------|--------|--------|-------|-------|-------|
| 1 | 846 | 1330 | 1070 | 1090 | 883 | 1120 | 1070 | 2000 | 3670 | 2570 | 253 | 642 |
| 2 | 862 | 1670 | 1090 | 1070 | 894 | 1170 | 1060 | 2280 | 3180 | 1480 | 303 | 578 |
| 3 | 872 | 1410 | 1100 | 952 | 912 | 1130 | 1160 | 2170 | 2480 | 915 | 310 | 542 |
| 4 | 916 | 1310 | 1060 | 899 | 940 | 1100 | 1280 | 3430 | 2150 | 734 | 276 | 508 |
| 5 | 875 | 1270 | 1040 | 910 | 947 | 1130 | 1250 | 3490 | 2020 | 556 | 266 | 530 |
| 6 | 920 | 1240 | 1070 | 921 | 948 | 1080 | 1250 | 3720 | 1820 | 424 | 255 | 617 |
| 7 | 900 | 1260 | 1080 | 943 | 956 | 1110 | 1160 | 3920 | 1520 | 319 | 290 | 620 |
| 8 | 864 | 1380 | 1070 | 941 | 957 | 1080 | 1060 | 4050 | 1280 | 353 | 419 | 598 |
| 9 | 859 | 1310 | 1070 | 969 | 914 | 1190 | 1040 | 4090 | 2760 | 289 | 509 | 600 |
| 10 | 908 | 1220 | 999 | 968 | 847 | 1310 | 955 | 4260 | 6770 | 269 | 595 | 556 |
| 11 | 989 | 1160 | 992 | 984 | 865 | 1340 | 923 | 4300 | 6100 | 197 | 522 | 566 |
| 12 | 1360 | 1130 | 997 | 1030 | 866 | 1340 | 958 | 4010 | 5200 | 204 | 473 | 581 |
| 13 | 1130 | 1110 | 1000 | 1050 | 865 | 1300 | 1260 | 3870 | 4020 | 486 | 489 | 578 |
| 14 | 1050 | 1130 | 1010 | 1020 | 885 | 1270 | 1430 | 3630 | 3410 | 542 | 543 | 555 |
| 15 | 1010 | 1140 | 1020 | 870 | 946 | 1300 | 1060 | 3670 | 2760 | 438 | 577 | 586 |
| 16 | 1020 | 1100 | 1030 | 830 | 1040 | 1340 | 988 | 3270 | 2100 | 401 | 518 | 744 |
| 17 | 973 | 1090 | 1020 | 780 | 994 | 1630 | 1060 | 3060 | 1470 | 475 | 378 | 677 |
| 18 | 904 | 1100 | 1040 | 800 | 964 | 1710 | 1070 | 3580 | 1070 | 555 | 282 | 715 |
| 19 | 858 | 1110 | 1070 | 850 | 946 | 1620 | 1110 | 3970 | 981 | 408 | 242 | 766 |
| 20 | 891 | 1120 | 1070 | 850 | 987 | 1480 | 1220 | 5210 | 954 | 332 | 240 | 732 |
| 21 | 987 | 1110 | 1070 | 850 | 1050 | 1380 | 1750 | 6330 | 792 | 266 | 258 | 668 |
| 22 | 1010 | 1100 | 1060 | 850 | 1030 | 1360 | 1840 | 6810 | 682 | 228 | 305 | 634 |
| 23 | 1040 | 1100 | 1070 | 850 | 993 | 1440 | 1820 | 7250 | 511 | 198 | 1070 | 575 |
| 24 | 1060 | 1110 | 1040 | 850 | 1020 | 1390 | 2000 | 7610 | 386 | 177 | 1010 | 536 |
| 25 | 1120 | 1110 | 988 | 900 | 1040 | 1300 | 2090 | 8000 | 353 | 188 | 1100 | 524 |
| 26 | 1120 | 1090 | 966 | 950 | 1020 | 1250 | 2250 | 7040 | 307 | 194 | 1280 | 510 |
| 27 | 1070 | 1060 | 966 | 1000 | 940 | 1190 | 2270 | 6710 | 298 | 179 | 1460 | 498 |
| 28 | 1110 | 1040 | 1010 | 1050 | 1000 | 1170 | 2180 | 6740 | 279 | 177 | 1230 | 471 |
| 29 | 1100 | 1040 | 1030 | 1000 | --- | 1210 | 2440 | 5520 | 333 | 190 | 878 | 445 |
| 30 | 1090 | 1070 | 1080 | 915 | --- | 1120 | 2280 | 4450 | 2700 | 192 | 759 | 449 |
| 31 | 1100 | --- | 1110 | 903 | --- | 1100 | --- | 4090 | --- | 235 | 705 | --- |
| TOTAL | 30814 | 35420 | 32288 | 28845 | 26649 | 39660 | 43284 | 142530 | 62356 | 14171 | 17795 | 17601 |
| MEAN | 994 | 1181 | 1042 | 930 | 952 | 1279 | 1443 | 4598 | 2079 | 457 | 574 | 587 |
| MAX | 1360 | 1670 | 1110 | 1090 | 1050 | 1710 | 2440 | 8000 | 6770 | 2570 | 1460 | 766 |
| MIN | 846 | 1040 | 966 | 780 | 847 | 1080 | 923 | 2000 | 279 | 177 | 240 | 445 |
| AC-FT | 61120 | 70260 | 64040 | 57210 | 52860 | 78670 | 85850 | 282700 | 123700 | 28110 | 35300 | 34910 |
| CAL YR 1986 | TOTAL 485917 | | MEAN 1331 | MAX 10200 | MIN 345 | AC-FT 963800 | | | | | | |
| WTR YR 1987 | TOTAL 491413 | | MEAN 1346 | MAX 8000 | MIN 177 | AC-FT 974700 | | | | | | |

PLATTE RIVER BASIN

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06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 1 | 445 | 1220 | 826 | 750 | 1100 | 1050 | 1250 | 408 | 1320 | 816 | 352 | 400 |
| 2 | 435 | 1010 | 825 | 710 | 984 | 1010 | 1360 | 403 | 1030 | 848 | 336 | 417 |
| 3 | 427 | 950 | 827 | 690 | 958 | 1220 | 1440 | 683 | 772 | 1020 | 356 | 417 |
| 4 | 427 | 890 | 830 | 760 | 966 | 1120 | 1260 | 701 | 607 | 1000 | 695 | 425 |
| 5 | 438 | 845 | 805 | 780 | 954 | 1010 | 1240 | 510 | 555 | 1030 | 2210 | 429 |
| 6 | 435 | 836 | 798 | 930 | 922 | 970 | 1180 | 444 | 678 | 1040 | 1000 | 465 |
| 7 | 433 | 818 | 798 | 950 | 922 | 967 | 1090 | 343 | 630 | 622 | 761 | 502 |
| 8 | 471 | 795 | 802 | 930 | 948 | 971 | 947 | 287 | 770 | 1050 | 785 | 508 |
| 9 | 477 | 803 | 810 | 950 | 972 | 1010 | 784 | 256 | 1020 | 829 | 816 | 513 |
| 10 | 477 | 787 | 809 | 980 | 986 | 1040 | 750 | 198 | 1390 | 558 | 696 | 518 |
| 11 | 469 | 750 | 799 | 960 | 964 | 1010 | 721 | 171 | 1880 | 399 | 576 | 519 |
| 12 | 538 | 754 | 783 | 1020 | 995 | 946 | 750 | 177 | 1840 | 329 | 519 | 719 |
| 13 | 596 | 751 | 761 | 1040 | 1120 | 928 | 831 | 139 | 1810 | 296 | 504 | 1500 |
| 14 | 650 | 758 | 756 | 980 | 1140 | 917 | 909 | 138 | 1900 | 275 | 454 | 1160 |
| 15 | 932 | 819 | 748 | 1010 | 1140 | 917 | 852 | 165 | 1620 | 263 | 424 | 1020 |
| 16 | 797 | 1330 | 721 | 1040 | 1150 | 905 | 814 | 199 | 1640 | 290 | 396 | 971 |
| 17 | 753 | 1110 | 774 | 1000 | 1180 | 918 | 773 | 240 | 1280 | 281 | 439 | 857 |
| 18 | 725 | 977 | 785 | 962 | 1210 | 949 | 786 | 237 | 973 | 320 | 629 | 780 |
| 19 | 714 | 887 | 789 | 770 | 1200 | 978 | 957 | 1310 | 805 | 310 | 777 | 701 |
| 20 | 713 | 867 | 780 | 747 | 1160 | 941 | 924 | 5890 | 681 | 403 | 591 | 707 |
| 21 | 697 | 850 | 748 | 807 | 1150 | 981 | 942 | 5940 | 585 | 491 | 508 | 685 |
| 22 | 706 | 837 | 767 | 918 | 1180 | 956 | 867 | 3200 | 570 | 394 | 491 | 663 |
| 23 | 708 | 825 | 778 | 936 | 1160 | 935 | 1180 | 2160 | 570 | 355 | 509 | 671 |
| 24 | 712 | 824 | 757 | 908 | 1100 | 919 | 1060 | 1920 | 560 | 305 | 468 | 621 |
| 25 | 714 | 808 | 760 | 916 | 1070 | 985 | 927 | 1780 | 550 | 291 | 450 | 568 |
| 26 | 717 | 795 | 770 | 871 | 1060 | 1000 | 738 | 1540 | 700 | 299 | 474 | 531 |
| 27 | 725 | 806 | 780 | 900 | 1060 | 1010 | 678 | 1390 | 846 | 293 | 488 | 506 |
| 28 | 734 | 820 | 790 | 961 | 1050 | 989 | 491 | 1330 | 786 | 266 | 475 | 500 |
| 29 | 745 | 839 | 800 | 1070 | 1040 | 1010 | 462 | 1300 | 733 | 280 | 428 | 465 |
| 30 | 786 | 832 | 820 | 1120 | --- | 1050 | 407 | 1310 | 758 | 300 | 377 | 468 |
| 31 | 959 | --- | 834 | 1090 | --- | 1060 | --- | 1520 | --- | 374 | 403 | --- |
| TOTAL | 19555 | 26193 | 24430 | 28456 | 30841 | 30672 | 27370 | 36289 | 29859 | 15627 | 18387 | 19206 |
| MEAN | 631 | 873 | 788 | 918 | 1063 | 989 | 912 | 1171 | 995 | 504 | 593 | 640 |
| MAX | 959 | 1330 | 834 | 1120 | 1210 | 1220 | 1440 | 5940 | 1900 | 1050 | 2210 | 1500 |
| MIN | 427 | 750 | 721 | 690 | 922 | 905 | 407 | 138 | 550 | 263 | 336 | 400 |
| AC-FT | 38790 | 51950 | 48460 | 56440 | 61170 | 60840 | 54290 | 71980 | 59230 | 31000 | 36470 | 38100 |
| CAL YR 1987 | TOTAL | 463069 | MEAN | 1269 | MAX | 8000 | MIN | 177 | AC-FT | 918500 | | |
| WTR YR 1988 | TOTAL | 306885 | MEAN | 838 | MAX | 5940 | MIN | 138 | AC-FT | 608700 | | |

LOCATION.--Lat 40°18'22", long 104°14'40", in SE¹ sec.18, T.4 N., R.61 W., Weld County, Hydrologic Unit 10190003, on right bank at bridge on Weld County Road 87, 1.0 mi north of U.S. Highway 34 at Masters.

DRAINAGE AREA.--12,175 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1976 to September 1988 (discontinued).

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

GAGE---Water-stage recorder. Elevation of gage is 4,450 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 12-24, and Apr. 10-14. Records fair. Natural flow of stream affected by transmountain, transbasin, and storage diversions, power developments, ground-water withdrawals and diversions for irrigation, and return flows from irrigated areas.

AVERAGE DISCHARGE:--11 years (water years 1978-88), 1,105 ft³/s; 800,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s, May 2, 1980, gage height, 10.06 ft; minimum daily, 3.5 ft³/s, Mar. 16, 18, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,880 ft³/s at 0900 May 21, gage height, 6.17 ft; minimum daily, 112 ft³/s, Sept. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

[illegible]

PLATTE RIVER BASIN

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06756995 SOUTH PLATTE RIVER AT MASTERS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to September 1979. March 1982 to September 1988 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (FTU) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|------------------------------|-------------------------------------|
| OCT 28... | 1300 | 214 | 1410 | 8.2 | 12.0 | 2.3 | 10.2 |
| JAN 26... | 1615 | 942 | 1460 | 7.6 | 1.5 | 3.8 | 9.9 |
| APR 26... | 1345 | 359 | 1230 | 8.0 | 14.5 | 5.7 | 8.3 |
| JUL 26... | 1115 | 312 | 1540 | 8.2 | 22.5 | 19 | 9.6 |

| DATE | COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) |
|--------------|---|--|--|--|--|---|---|
| OCT 28... | 300 | 46 | 76 | 5.60 | 0.6 | 6.2 | 0.78 |
| JAN 26... | 130 | 44 | 930 | 4.90 | 5.3 | 10 | 2.10 |
| APR 26... | 270 | K24 | K36 | 5.20 | 1.0 | 6.2 | 0.96 |
| JUL 26... | 500 | 95 | K24 | 4.00 | 0.9 | 4.9 | 0.42 |

K BASED ON NON-IDEAL COLONY COUNT.

06758500 SOUTH PLATTE RIVER NEAR WELDONA. CO

LOCATION.--Lat 40°19'19", long 103°55'17", in SW¼SW¼ sec.7, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190003, on left bank 400 ft downstream from bridge on State Highway 144, 2.8 mi southeast of Weldona, and 4.2 mi upstream from Bijou Creek.

DRAINAGE AREA.--13,245 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,307.80 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Water year 1986, Dec. 13 to Jan. 22, and June 14. Water year 1987, Jan. 17-29. Water year 1988, Jan. 2 to Feb. 21. 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.

AVERAGE DISCHARGE.--22 years (water years 1953-74), 572 ft³/s; 414,400 acre-ft/yr, prior to completion of Chatfield Dam. 11 years (water years 1976-86), 1,051 ft³/s; 761,400 acre-ft/yr, 12 years (water years 1976-87), 1,048 ft³/s; 759,300 acre-ft/yr, 13 years (water years 1976-88), 1,011 ft³/s; 732,500 acre-ft/yr, subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,800 ft³/s, May 8, 1973, gage height, 11.68 ft, from rating curve extended above 16,000 ft³/s; minimum daily, 39 ft³/s, May 19, 1972.

EXTREMES FOR WATER YEAR 1986.--Maximum discharge, 7,520 ft³/s at 1100 June 12, gage height, 8.37 ft; minimum daily, 119 ft³/s, Mar. 14.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 6,850 ft³/s at 1045 May 26, gage height, 7.99 ft; minimum daily, 165 ft³/s, June 24, 25.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,340 ft³/s at 1600 May 21, gage height, 7.17 ft; minimum daily, 56 ft³/s, May 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| 1 | 938 | 528 | 1330 | 1110 | 978 | 464 | 245 | 665 | 629 | 377 | 237 | 732 |
| 2 | 994 | 534 | 1240 | 1080 | 978 | 423 | 233 | 512 | 588 | 605 | 226 | 764 |
| 3 | 986 | 566 | 1270 | 1070 | 1090 | 387 | 387 | 294 | 719 | 825 | 241 | 825 |
| 4 | 832 | 294 | 1440 | 970 | 1100 | 377 | 623 | 191 | 874 | 888 | 501 | 895 |
| 5 | 744 | 164 | 1580 | 960 | 1010 | 290 | 1170 | 135 | 1290 | 790 | 653 | 902 |
| 6 | 701 | 128 | 1580 | 940 | 909 | 269 | 1890 | 218 | 2190 | 888 | 605 | 846 |
| 7 | 695 | 155 | 1400 | 1080 | 860 | 241 | 2490 | 475 | 3050 | 1090 | 523 | 797 |
| 8 | 683 | 198 | 1270 | 1120 | 902 | 233 | 2480 | 677 | 4020 | 1190 | 459 | 860 |
| 9 | 701 | 237 | 1270 | 1080 | 954 | 233 | 2310 | 732 | 4900 | 1030 | 382 | 1010 |
| 10 | 707 | 397 | 1320 | 1120 | 978 | 211 | 2360 | 790 | 5400 | 764 | 368 | 1110 |
| 11 | 783 | 701 | 1370 | 1110 | 930 | 260 | 2530 | 853 | 6730 | 611 | 387 | 1120 |
| 12 | 853 | 770 | 1340 | 1100 | 1000 | 164 | 2520 | 689 | 7210 | 588 | 368 | 1060 |
| 13 | 853 | 665 | 1240 | 1080 | 1200 | 121 | 2530 | 550 | 5260 | 588 | 320 | 1060 |
| 14 | 790 | 600 | 1240 | 1050 | 1190 | 119 | 2410 | 412 | 4580 | 647 | 312 | 1040 |
| 15 | 797 | 578 | 1300 | 1080 | 1130 | 121 | 1970 | 433 | 3850 | 713 | 358 | 1030 |
| 16 | 902 | 583 | 1340 | 1060 | 1030 | 121 | 1770 | 617 | 3980 | 719 | 330 | 994 |
| 17 | 902 | 578 | 1350 | 1140 | 818 | 135 | 1650 | 923 | 3880 | 713 | 387 | 962 |
| 18 | 825 | 635 | 1320 | 1090 | 732 | 184 | 1520 | 1890 | 3590 | 665 | 418 | 839 |
| 19 | 777 | 832 | 1330 | 1260 | 719 | 152 | 1440 | 1120 | 3380 | 629 | 372 | 881 |
| 20 | 751 | 860 | 1220 | 1070 | 617 | 150 | 1460 | 572 | 3010 | 701 | 330 | 874 |
| 21 | 751 | 867 | 1150 | 1130 | 550 | 138 | 1500 | 475 | 2770 | 764 | 307 | 881 |
| 22 | 751 | 1000 | 1130 | 1100 | 578 | 138 | 1540 | 556 | 2500 | 777 | 338 | 881 |
| 23 | 751 | 1380 | 1060 | 1090 | 539 | 140 | 1460 | 528 | 1960 | 707 | 407 | 881 |
| 24 | 751 | 1590 | 1100 | 1030 | 464 | 138 | 1260 | 588 | 1350 | 475 | 433 | 881 |
| 25 | 523 | 1720 | 1160 | 1030 | 433 | 191 | 1260 | 594 | 888 | 507 | 719 | 954 |
| 26 | 475 | 1750 | 1130 | 1000 | 397 | 290 | 1130 | 448 | 594 | 496 | 671 | 994 |
| 27 | 496 | 1560 | 1160 | 978 | 402 | 290 | 1150 | 343 | 252 | 496 | 600 | 994 |
| 28 | 475 | 1530 | 1160 | 994 | 438 | 290 | 1320 | 260 | 187 | 433 | 578 | 994 |
| 29 | 475 | 1400 | 1150 | 1050 | --- | 226 | 1250 | 334 | 229 | 334 | 629 | 978 |
| 30 | 496 | 1370 | 1140 | 1070 | --- | 191 | 930 | 433 | 348 | 316 | 623 | 970 |
| 31 | 507 | --- | 1160 | 1030 | --- | 167 | --- | 501 | --- | 260 | 659 | --- |
| TOTAL | 22665 | 24170 | 39250 | 33072 | 22926 | 6854 | 46788 | 17808 | 80208 | 20586 | 13741 | 28009 |
| MEAN | 731 | 806 | 1266 | 1067 | 819 | 221 | 1560 | 574 | 2674 | 664 | 443 | 934 |
| MAX | 994 | 1750 | 1580 | 1260 | 1200 | 464 | 2530 | 1890 | 7210 | 1190 | 719 | 1120 |
| MIN | 475 | 128 | 1060 | 940 | 397 | 119 | 233 | 135 | 187 | 260 | 226 | 732 |
| AC-FT | 44960 | 47940 | 77850 | 65600 | 45470 | 13590 | 92800 | 35320 | 159100 | 40830 | 27260 | 55560 |

PLATTE RIVER BASIN

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06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-----------|----------|---------|--------------|-------|-------|--------|-------|-------|-------|-------|
| 1 | 968 | 665 | 514 | 624 | 812 | 931 | 369 | 1490 | 4040 | 620 | 301 | 857 |
| 2 | 953 | 771 | 499 | 628 | 705 | 950 | 332 | 1370 | 3680 | 981 | 326 | 787 |
| 3 | 893 | 985 | 500 | 624 | 636 | 980 | 321 | 1790 | 3180 | 704 | 355 | 735 |
| 4 | 846 | 889 | 536 | 572 | 630 | 969 | 333 | 2130 | 2520 | 521 | 376 | 697 |
| 5 | 753 | 838 | 593 | 433 | 633 | 954 | 411 | 3160 | 2200 | 400 | 363 | 716 |
| 6 | 776 | 787 | 690 | 397 | 605 | 963 | 473 | 3110 | 1870 | 324 | 352 | 764 |
| 7 | 685 | 772 | 574 | 396 | 587 | 986 | 512 | 3170 | 1580 | 305 | 354 | 802 |
| 8 | 603 | 761 | 540 | 417 | 607 | 981 | 537 | 3130 | 1300 | 324 | 399 | 820 |
| 9 | 554 | 751 | 567 | 444 | 606 | 964 | 545 | 3170 | 1260 | 336 | 468 | 789 |
| 10 | 499 | 685 | 571 | 415 | 588 | 1260 | 555 | 3230 | 2030 | 309 | 443 | 767 |
| 11 | 593 | 645 | 650 | 393 | 589 | 1410 | 525 | 3280 | 3750 | 285 | 431 | 723 |
| 12 | 663 | 697 | 822 | 383 | 590 | 1260 | 606 | 2980 | 4340 | 269 | 427 | 716 |
| 13 | 839 | 730 | 823 | 389 | 596 | 1460 | 697 | 2700 | 3410 | 289 | 397 | 698 |
| 14 | 780 | 761 | 741 | 383 | 613 | 1410 | 905 | 2580 | 2600 | 351 | 387 | 580 |
| 15 | 692 | 785 | 686 | 434 | 664 | 1360 | 1050 | 2410 | 2230 | 476 | 387 | 560 |
| 16 | 652 | 794 | 700 | 535 | 688 | 1390 | 914 | 2440 | 1880 | 392 | 398 | 595 |
| 17 | 636 | 772 | 707 | 800 | 722 | 1430 | 855 | 2200 | 1460 | 339 | 413 | 741 |
| 18 | 612 | 763 | 720 | 800 | 722 | 1580 | 858 | 2200 | 1060 | 350 | 406 | 698 |
| 19 | 593 | 782 | 738 | 850 | 710 | 1500 | 961 | 2790 | 774 | 397 | 391 | 693 |
| 20 | 584 | 773 | 774 | 850 | 712 | 1430 | 1050 | 3150 | 617 | 352 | 350 | 714 |
| 21 | 572 | 632 | 783 | 850 | 745 | 1300 | 1210 | 3630 | 542 | 295 | 316 | 671 |
| 22 | 630 | 589 | 778 | 800 | 816 | 1260 | 1590 | 4160 | 345 | 258 | 296 | 576 |
| 23 | 663 | 578 | 768 | 800 | 802 | 1200 | 1760 | 5010 | 196 | 238 | 330 | 539 |
| 24 | 648 | 584 | 743 | 850 | 780 | 1040 | 1740 | 5840 | 165 | 227 | 660 | 475 |
| 25 | 642 | 594 | 729 | 850 | 786 | 987 | 1690 | 6380 | 165 | 224 | 871 | 415 |
| 26 | 668 | 574 | 698 | 900 | 819 | 799 | 1670 | 6590 | 169 | 263 | 1050 | 366 |
| 27 | 658 | 546 | 659 | 900 | 889 | 615 | 1650 | 5760 | 169 | 285 | 1310 | 343 |
| 28 | 644 | 525 | 649 | 900 | 970 | 618 | 1610 | 5730 | 214 | 288 | 1540 | 322 |
| 29 | 655 | 507 | 649 | 900 | --- | 536 | 1360 | 5730 | 339 | 288 | 1280 | 308 |
| 30 | 640 | 499 | 619 | 867 | --- | 507 | 1480 | 4900 | 266 | 289 | 1020 | 298 |
| 31 | 629 | --- | 628 | 819 | --- | 433 | --- | 4220 | --- | 293 | 911 | --- |
| TOTAL | 21223 | 21034 | 20648 | 20203 | 19622 | 33463 | 28569 | 110430 | 48351 | 11272 | 17308 | 18765 |
| MEAN | 685 | 701 | 666 | 652 | 701 | 1079 | 952 | 3562 | 1612 | 364 | 558 | 625 |
| MAX | 968 | 985 | 823 | 900 | 970 | 1580 | 1760 | 6590 | 4340 | 981 | 1540 | 857 |
| MIN | 499 | 499 | 499 | 383 | 587 | 433 | 321 | 1370 | 165 | 224 | 296 | 298 |
| AC-FT | 42100 | 41720 | 40960 | 40070 | 38920 | 66370 | 56670 | 219000 | 95900 | 22360 | 34330 | 37220 |
| CAL YR 1986 | TOTAL 332897 | MEAN 912 | MAX 7210 | MIN 119 | AC-FT 660300 | | | | | | | |
| WTR YR 1987 | TOTAL 370888 | MEAN 1016 | MAX 6590 | MIN 165 | AC-FT 735700 | | | | | | | |

PLATTE RIVER BASIN

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|----------|----------|---------|--------------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 297 | 426 | 435 | 868 | 1350 | 652 | 472 | 292 | 923 | 541 | 266 | 272 |
| 2 | 294 | 621 | 448 | 780 | 1300 | 631 | 628 | 351 | 745 | 605 | 261 | 261 |
| 3 | 292 | 520 | 458 | 730 | 1250 | 610 | 852 | 448 | 665 | 617 | 244 | 293 |
| 4 | 290 | 493 | 468 | 750 | 1200 | 736 | 881 | 452 | 545 | 647 | 277 | 303 |
| 5 | 287 | 504 | 484 | 770 | 1100 | 663 | 809 | 339 | 433 | 578 | 451 | 341 |
| 6 | 285 | 425 | 485 | 790 | 1050 | 597 | 761 | 188 | 438 | 596 | 653 | 339 |
| 7 | 282 | 379 | 483 | 900 | 1050 | 488 | 674 | 199 | 485 | 605 | 258 | 353 |
| 8 | 281 | 360 | 486 | 1000 | 1050 | 427 | 627 | 200 | 392 | 536 | 341 | 393 |
| 9 | 277 | 341 | 486 | 1050 | 1100 | 370 | 571 | 184 | 397 | 449 | 503 | 431 |
| 10 | 276 | 340 | 498 | 1100 | 1150 | 334 | 477 | 170 | 561 | 253 | 519 | 423 |
| 11 | 276 | 320 | 490 | 1100 | 1150 | 312 | 433 | 173 | 825 | 205 | 417 | 395 |
| 12 | 272 | 283 | 500 | 1150 | 1100 | 292 | 440 | 165 | 1040 | 209 | 357 | 481 |
| 13 | 296 | 271 | 524 | 1150 | 1150 | 388 | 415 | 135 | 962 | 276 | 312 | 570 |
| 14 | 341 | 270 | 604 | 1100 | 1250 | 358 | 353 | 126 | 967 | 395 | 325 | 961 |
| 15 | 389 | 297 | 715 | 1100 | 1300 | 399 | 308 | 109 | 978 | 353 | 397 | 801 |
| 16 | 504 | 339 | 779 | 1150 | 1250 | 387 | 280 | 56 | 954 | 330 | 470 | 495 |
| 17 | 454 | 639 | 877 | 1150 | 1250 | 380 | 260 | 66 | 846 | 340 | 470 | 364 |
| 18 | 403 | 653 | 950 | 1150 | 1200 | 368 | 229 | 194 | 589 | 329 | 496 | 336 |
| 19 | 366 | 597 | 1010 | 1050 | 1100 | 367 | 192 | 363 | 363 | 291 | 539 | 323 |
| 20 | 340 | 508 | 1030 | 950 | 1000 | 381 | 246 | 1750 | 167 | 186 | 567 | 263 |
| 21 | 332 | 474 | 1000 | 900 | 1000 | 368 | 293 | 4820 | 218 | 172 | 473 | 171 |
| 22 | 337 | 464 | 978 | 950 | 972 | 346 | 459 | 3400 | 150 | 223 | 464 | 169 |
| 23 | 322 | 460 | 995 | 1050 | 898 | 359 | 506 | 1660 | 172 | 143 | 428 | 168 |
| 24 | 303 | 454 | 998 | 1100 | 810 | 369 | 731 | 1220 | 181 | 165 | 418 | 167 |
| 25 | 291 | 442 | 946 | 1100 | 747 | 347 | 647 | 855 | 222 | 136 | 307 | 172 |
| 26 | 285 | 434 | 933 | 1050 | 734 | 357 | 479 | 595 | 247 | 158 | 312 | 172 |
| 27 | 273 | 419 | 998 | 1000 | 734 | 373 | 376 | 556 | 372 | 288 | 399 | 167 |
| 28 | 268 | 440 | 1010 | 1050 | 708 | 369 | 347 | 588 | 600 | 329 | 475 | 170 |
| 29 | 272 | 421 | 962 | 1150 | 676 | 447 | 282 | 608 | 518 | 300 | 407 | 170 |
| 30 | 284 | 402 | 986 | 1250 | --- | 451 | 312 | 695 | 512 | 299 | 359 | 175 |
| 31 | 321 | --- | 938 | 1350 | --- | 482 | --- | 895 | --- | 280 | 269 | --- |
| TOTAL | 9790 | 12996 | 22954 | 31738 | 30629 | 13408 | 14340 | 21852 | 16467 | 10834 | 12434 | 10099 |
| MEAN | 316 | 433 | 740 | 1024 | 1056 | 433 | 478 | 705 | 549 | 349 | 401 | 337 |
| MAX | 504 | 653 | 1030 | 1350 | 1350 | 736 | 881 | 4820 | 1040 | 647 | 653 | 961 |
| MIN | 268 | 270 | 435 | 730 | 676 | 292 | 192 | 56 | 150 | 136 | 244 | 167 |
| AC-FT | 19420 | 25780 | 45530 | 62950 | 60750 | 26590 | 28440 | 43340 | 32660 | 21490 | 24660 | 20030 |
| CAL YR 1987 | TOTAL 353723 | MEAN 969 | MAX 6590 | MIN 165 | AC-FT 701600 | | | | | | | |
| WTR YR 1988 | TOTAL 207541 | MEAN 567 | MAX 4820 | MIN 56 | AC-FT 411700 | | | | | | | |

PLATTE RIVER BASIN

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1967 to September 1968, October 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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 | POTAS- SIUM, DIS- SOLVED (MG/L AS K) |
|--------------|---|---|---|--|---|--|---|---|---|--|--|--|
| OCT 27... | 1440 | 334 | 1480 | 8.0 | 13.5 | 10.0 | 560 | 140 | 52 | 140 | 3 | 8.0 |
| JAN 27... | 1015 | 975 | 1480 | 7.8 | 0.5 | 9.1 | 480 | 120 | 43 | 130 | 3 | 8.7 |
| APR 27... | 0815 | 372 | 1350 | 8.1 | 8.0 | 8.3 | 480 | 120 | 44 | 120 | 2 | 6.1 |
| JUL 27... | 1000 | 334 | 1570 | 8.1 | 21.0 | 10.8 | 550 | 120 | 61 | 150 | 3 | 8.3 |
| 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) | SILICA, DIS- SOLVED (MG/L AS SiO2) | SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) | SOLIDS, DIS- SOLVED (TONS PER AC-FT) | SOLIDS, DIS- SOLVED (TONS PER DAY) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
| OCT 27... | 245 | 490 | 71 | 1.0 | 13 | 1080 | 1.47 | 977 | 4.80 | 0.10 | 10 | 12 |
| JAN 27... | 222 | 420 | 91 | 1.0 | 14 | 981 | 1.33 | 2580 | 4.60 | -- | 39 | 18 |
| APR 27... | 219 | 430 | 67 | 0.9 | 13 | 953 | 1.30 | 957 | 4.60 | 0.64 | 5 | 35 |
| JUL 27... | 213 | 550 | 76 | 0.8 | 8.5 | 1110 | 1.51 | 1000 | 2.40 | 0.16 | 32 | 16 |

PLATTE RIVER BASIN

146

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW¼NE¼ and NE¼SE¼ (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. 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: Water year 1987, Jan. 22 to Feb. 5; Water year 1988, Oct. 10-14, Dec. 28 to Jan. 6, Jan. 8 to Feb. 24, May 22-24, and Sept. 10-30. 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 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.

AVERAGE DISCHARGE.--85 years, 549 ft³/s; 397,800 acre-ft/yr; 86 years, 549 ft³/s; 397,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft³/s, June 20, 1965, gage height, 10.44 ft, from floodmarks in gage well; no flow, Aug. 18-20, 1902, July 25 to Aug. 7, 1903.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, not determined; minimum daily, 43 ft³/s, Aug. 19, 21.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined; minimum daily, 37 ft³/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-------|------|-------|
| 1 | 955 | 392 | 504 | 1090 | 935 | 740 | 1020 | 787 | 5150 | 146 | 51 | 686 |
| 2 | 784 | 392 | 528 | 1040 | 935 | 1240 | 986 | 711 | 4590 | 136 | 47 | 640 |
| 3 | 674 | 391 | 523 | 1070 | 935 | 1360 | 916 | 1140 | 4190 | 137 | 49 | 554 |
| 4 | 620 | 374 | 512 | 1090 | 935 | 1240 | 852 | 1260 | 3820 | 289 | 51 | 503 |
| 5 | 597 | 424 | 534 | 1170 | 935 | 1240 | 797 | 1300 | 3320 | 524 | 46 | 497 |
| 6 | 601 | 600 | 570 | 1090 | 934 | 1280 | 759 | 1600 | 2790 | 675 | 55 | 504 |
| 7 | 573 | 623 | 593 | 974 | 927 | 1310 | 744 | 2400 | 2490 | 419 | 62 | 502 |
| 8 | 499 | 621 | 642 | 896 | 1040 | 1440 | 758 | 2580 | 2070 | 301 | 85 | 531 |
| 9 | 441 | 617 | 674 | 889 | 1050 | 1450 | 785 | 2720 | 1960 | 231 | 80 | 543 |
| 10 | 405 | 611 | 624 | 864 | 1040 | 1450 | 781 | 2780 | 2440 | 197 | 73 | 556 |
| 11 | 377 | 609 | 516 | 819 | 1040 | 1430 | 794 | 2810 | 2370 | 162 | 67 | 602 |
| 12 | 342 | 608 | 636 | 862 | 1000 | 1420 | 815 | 2850 | 3040 | 171 | 72 | 593 |
| 13 | 322 | 620 | 768 | 857 | 974 | 1620 | 850 | 2720 | 4550 | 203 | 69 | 549 |
| 14 | 316 | 623 | 824 | 851 | 942 | 1720 | 861 | 2490 | 4360 | 192 | 77 | 575 |
| 15 | 339 | 685 | 1010 | 865 | 800 | 1780 | 887 | 2280 | 3690 | 183 | 78 | 607 |
| 16 | 401 | 694 | 1140 | 732 | 688 | 1800 | 871 | 2080 | 3130 | 143 | 70 | 590 |
| 17 | 426 | 713 | 1220 | 559 | 662 | 1790 | 1100 | 1870 | 2610 | 141 | 59 | 539 |
| 18 | 417 | 755 | 1240 | 514 | 645 | 1790 | 1170 | 2100 | 2140 | 150 | 47 | 478 |
| 19 | 397 | 714 | 1210 | 610 | 644 | 1870 | 1150 | 2180 | 1780 | 169 | 43 | 424 |
| 20 | 397 | 691 | 1170 | 637 | 693 | 2000 | 1090 | 2040 | 1390 | 153 | 44 | 392 |
| 21 | 398 | 700 | 1120 | 673 | 671 | 2060 | 1060 | 2380 | 1090 | 130 | 43 | 373 |
| 22 | 393 | 721 | 1200 | 715 | 617 | 2090 | 992 | 2980 | 883 | 110 | 53 | 341 |
| 23 | 383 | 729 | 1240 | 740 | 632 | 2020 | 913 | 3880 | 750 | 92 | 61 | 320 |
| 24 | 380 | 701 | 1180 | 765 | 646 | 1970 | 1050 | 4820 | 621 | 81 | 69 | 301 |
| 25 | 389 | 667 | 1160 | 790 | 675 | 1890 | 1260 | 5750 | 516 | 70 | 83 | 271 |
| 26 | 384 | 667 | 1120 | 815 | 717 | 1770 | 1320 | 6190 | 408 | 60 | 93 | 258 |
| 27 | 393 | 624 | 1120 | 840 | 584 | 1680 | 1230 | 6330 | 264 | 54 | 93 | 201 |
| 28 | 418 | 598 | 1170 | 865 | 418 | 1530 | 1130 | 6320 | 227 | 53 | 113 | 219 |
| 29 | 412 | 566 | 1170 | 885 | --- | 1250 | 1080 | 6060 | 190 | 53 | 225 | 225 |
| 30 | 411 | 565 | 1170 | 910 | --- | 1160 | 957 | 5780 | 161 | 53 | 484 | 218 |
| 31 | 396 | --- | 1070 | 935 | --- | 1060 | --- | 5650 | --- | 50 | 682 | --- |
| TOTAL | 14240 | 18295 | 28158 | 26412 | 22714 | 48450 | 28978 | 96838 | 66990 | 5528 | 3224 | 13592 |
| MEAN | 459 | 610 | 908 | 852 | 811 | 1563 | 966 | 3124 | 2233 | 178 | 104 | 453 |
| MAX | 955 | 755 | 1240 | 1170 | 1050 | 2090 | 1320 | 6330 | 5150 | 675 | 682 | 686 |
| MIN | 316 | 374 | 504 | 514 | 418 | 740 | 744 | 711 | 161 | 50 | 43 | 201 |
| AC-FT | 28250 | 36290 | 55850 | 52390 | 45050 | 96100 | 57480 | 192100 | 132900 | 10960 | 6390 | 26960 |

CAL YR 1986 TOTAL 317287 MEAN 869 MAX 6600 MIN 34 AC-FT 629300
WTR YR 1987 TOTAL 373419 MEAN 1023 MAX 6330 MIN 43 AC-FT 740700

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06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--CONTINUED

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|--------|------|------|
| 1 | 203 | 280 | 292 | 400 | 1300 | 1470 | 682 | 303 | 1130 | 68 | 47 | 48 |
| 2 | 186 | 270 | 301 | 400 | 1300 | 1450 | 800 | 440 | 1150 | 64 | 50 | 52 |
| 3 | 178 | 270 | 295 | 450 | 1250 | 1290 | 903 | 974 | 1170 | 70 | 47 | 50 |
| 4 | 177 | 263 | 298 | 550 | 1250 | 1150 | 981 | 724 | 1270 | 58 | 46 | 46 |
| 5 | 173 | 270 | 299 | 610 | 1250 | 1240 | 964 | 603 | 1250 | 51 | 48 | 46 |
| 6 | 177 | 278 | 292 | 630 | 1200 | 1210 | 974 | 546 | 1170 | 46 | 48 | 46 |
| 7 | 183 | 288 | 284 | 616 | 1200 | 1180 | 945 | 470 | 1020 | 51 | 46 | 51 |
| 8 | 180 | 298 | 283 | 700 | 1250 | 1150 | 873 | 419 | 910 | 47 | 48 | 52 |
| 9 | 153 | 292 | 283 | 750 | 1300 | 1100 | 757 | 408 | 800 | 58 | 47 | 53 |
| 10 | 142 | 291 | 294 | 850 | 1350 | 1000 | 764 | 374 | 750 | 54 | 42 | 58 |
| 11 | 142 | 295 | 260 | 950 | 1400 | 898 | 752 | 297 | 700 | 55 | 42 | 55 |
| 12 | 145 | 280 | 236 | 950 | 1450 | 812 | 598 | 270 | 600 | 61 | 129 | 55 |
| 13 | 140 | 277 | 216 | 1000 | 1600 | 820 | 412 | 233 | 550 | 60 | 136 | 58 |
| 14 | 149 | 281 | 209 | 1050 | 1750 | 826 | 399 | 205 | 500 | 52 | 63 | 80 |
| 15 | 208 | 290 | 218 | 1050 | 1900 | 806 | 350 | 191 | 600 | 49 | 55 | 107 |
| 16 | 224 | 296 | 244 | 1050 | 2050 | 785 | 293 | 198 | 700 | 42 | 44 | 103 |
| 17 | 226 | 293 | 236 | 1050 | 2100 | 796 | 247 | 187 | 700 | 86 | 42 | 108 |
| 18 | 233 | 293 | 243 | 1050 | 2200 | 797 | 227 | 151 | 700 | 82 | 47 | 130 |
| 19 | 240 | 311 | 288 | 1050 | 2250 | 836 | 229 | 189 | 700 | 71 | 50 | 148 |
| 20 | 246 | 324 | 367 | 1050 | 2400 | 849 | 206 | 440 | 650 | 68 | 45 | 155 |
| 21 | 252 | 334 | 478 | 1050 | 2500 | 835 | 184 | 595 | 600 | 93 | 44 | 148 |
| 22 | 258 | 337 | 649 | 1050 | 2300 | 734 | 196 | 932 | 500 | 110 | 39 | 138 |
| 23 | 254 | 304 | 676 | 1050 | 2100 | 734 | 227 | 2720 | 400 | 91 | 37 | 130 |
| 24 | 254 | 300 | 623 | 1050 | 1900 | 718 | 305 | 2700 | 300 | 81 | 38 | 130 |
| 25 | 251 | 320 | 427 | 1050 | 1700 | 737 | 315 | 2130 | 200 | 73 | 39 | 132 |
| 26 | 243 | 319 | 416 | 1200 | 1660 | 771 | 317 | 1700 | 150 | 64 | 39 | 129 |
| 27 | 247 | 312 | 354 | 1350 | 1490 | 799 | 362 | 1340 | 120 | 60 | 38 | 128 |
| 28 | 249 | 305 | 364 | 1500 | 1440 | 758 | 423 | 1180 | 90 | 55 | 38 | 132 |
| 29 | 249 | 293 | 310 | 1450 | 1400 | 715 | 371 | 1120 | 60 | 51 | 44 | 134 |
| 30 | 257 | 293 | 370 | 1450 | --- | 694 | 317 | 1110 | 59 | 59 | 52 | 136 |
| 31 | 271 | --- | 430 | 1400 | --- | 650 | --- | 1090 | --- | 49 | 52 | --- |
| TOTAL | 6490 | 8857 | 10535 | 29806 | 48240 | 28610 | 15373 | 24239 | 19499 | 1979 | 1582 | 2838 |
| MEAN | 209 | 295 | 340 | 961 | 1663 | 923 | 512 | 782 | 650 | 63.8 | 51.0 | 94.6 |
| MAX | 271 | 337 | 676 | 1500 | 2500 | 1470 | 981 | 2720 | 1270 | 110 | 136 | 155 |
| MIN | 140 | 263 | 209 | 400 | 1200 | 650 | 184 | 151 | 59 | 42 | 37 | 46 |
| AC-FT | 12870 | 17570 | 20900 | 59120 | 95680 | 56750 | 30490 | 48080 | 38680 | 3930 | 3140 | 5630 |
| CAL YR 1987 | TOTAL | 338608 | MEAN | 928 | MAX | 6330 | MIN | 43 | AC-FT | 671600 | | |
| WTR YR 1988 | TOTAL | 198048 | MEAN | 541 | MAX | 2720 | MIN | 37 | AC-FT | 392800 | | |

PLATTE RIVER BASIN

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 micromhos Jan. 12, 1971; minimum daily, 348 micromhos Aug. 15, 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 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (FTU) | OXYGEN, DIS- SOLVED (MG/L) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOC- CI KF AGAR (COLS. PER 100 ML) | HARD- NESS TOTAL (MG/L AS CACO3) | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) |
|--------------|------|---|---|--------------------------------|--------------------------------------|------------------------------|-------------------------------------|--|---|---|--|--|
| DEC 22... | 0900 | 623 | 1930 | 8.0 | 0.0 | 16 | 12.2 | K22 | 480 | 670 | 170 | 60 |
| MAR 23... | 1215 | 717 | 1940 | 8.4 | 11.5 | 28 | 9.6 | K40 | 150 | 700 | 180 | 61 |
| JUN 22... | 1000 | 288 | 1630 | 8.6 | 29.0 | 21 | 10.0 | K36 | K44 | 520 | 120 | 54 |
| AUG 17... | 0820 | 39 | 2010 | 8.2 | 21.0 | 2.2 | 8.0 | 88 | 160 | 770 | 200 | 64 |

| DATE | SODIUM, DIS- SOLVED (MG/L AS NA) | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS- SOLVED FIELD HCO3 | CAR- BONATE WATER DIS- SOLVED FIELD CO3 | ALKA- LINITY WATER DIS- SOLVED FIELD 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 SOLVED (MG/L) | SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) |
|--------------|--|---|---|--|---|--|---|---|--|---|--|---|
| DEC 22... | 170 | 3 | 12 | 273 | 24 | 264 | 650 | 86 | 1.0 | 19 | 1380 | 1350 |
| MAR 23... | 170 | 3 | 13 | 258 | 24 | 252 | 660 | 80 | 0.6 | 20 | 1440 | 1360 |
| JUN 22... | 150 | 3 | 10 | 123 | 24 | 140 | 640 | 77 | 0.7 | 14 | 1200 | 1150 |
| AUG 17... | 200 | 3 | 13 | 268 | 0 | 220 | 860 | 98 | 0.6 | 28 | 1610 | 1610 |

| DATE | 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 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) | PHOS- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) |
|--------------|---|---|---|---|--|---|--|--|---|--|--|
| DEC 22... | 1.88 | 2320 | 0.02 | 4.60 | 0.59 | 0.53 | 1.4 | 2.0 | 0.50 | 0.48 | 0.34 |
| MAR 23... | 1.96 | 2790 | 0.01 | 4.60 | 0.03 | 0.05 | 1.4 | 1.4 | 0.37 | 0.36 | 0.30 |
| JUN 22... | 1.63 | 933 | <0.01 | <0.10 | 0.06 | 0.02 | 0.74 | 0.8 | 0.08 | 0.02 | <0.01 |
| AUG 17... | 2.19 | 170 | 0.06 | 2.00 | 0.09 | 0.12 | 0.11 | 0.2 | 0.12 | 0.10 | 0.08 |

K BASED ON NON-IDEAL COLONY COUNT.

PLATTE RIVER BASIN

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06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | ALUM- INUM, DIS- SOLVED (UG/L AS AL) | ARSENIC DIS- SOLVED (UG/L AS AS) | BARIUM, DIS- SOLVED (UG/L AS BA) | BERYL- LIUM, DIS- SOLVED (UG/L AS BE) | 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) |
|-----------|---|--|--|--|--|---|--|--|--|--|
| DEC 22... | 20 | 4 | 50 | <0.5 | <1 | <2 | <3 | 2 | 6 | <5 |
| MAR 23... | 20 | 3 | 49 | <0.5 | <1 | 1 | <3 | 4 | 5 | <5 |
| JUN 22... | 10 | 2 | 48 | <0.5 | <1 | <1 | <3 | 2 | <3 | <5 |
| AUG 17... | 20 | 3 | 100 | <10 | <1 | <1 | <1 | 4 | 40 | <5 |

| DATE | LITHIUM DIS- SOLVED (UG/L AS LI) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MERCURY DIS- SOLVED (UG/L AS HG) | 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) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|-----------|--|--|--|---|--|---|--|--|--|--|
| DEC 22... | 52 | 3 | <0.1 | <10 | <10 | 4 | <1.0 | 1700 | <6 | 5 |
| MAR 23... | 56 | 3 | <0.1 | <10 | 1 | 4 | <1.0 | 1800 | <6 | 8 |
| JUN 22... | 50 | 18 | <0.1 | 10 | 5 | 2 | <1.0 | 1500 | <6 | 3 |
| AUG 17... | 50 | 80 | <0.1 | 4 | 3 | 3 | <1.0 | 1900 | 4 | 10 |

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| 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 YT-90) | GROSS BETA, SUSP. TOTAL (PCI/L AS YT-90) | RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) | URANIUM NATURAL DIS- SOLVED (UG/L AS U) |
|-----------|---|---|--|--|---|---|---|--|
| DEC 22... | 35 | 1.5 | 26 | 11 | 18 | 10 | 0.06 | 27 |
| MAR 23... | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 22... | 30 | 2.0 | 32 | 7.4 | 21 | 7.0 | 0.1 | 26 |
| AUG 17... | -- | -- | -- | -- | -- | -- | -- | -- |

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-----------|------|---|---|---|---|
| DEC 22... | 0900 | 623 | -- | -- | -- |
| MAR 23... | 1215 | 717 | 617 | 1190 | 18 |
| JUN 22... | 1000 | 288 | 115 | 89 | 78 |
| AUG 17... | 0820 | 39 | 16 | 1.7 | -- |

KANSAS RIVER BASIN

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in sec.10, T.1 N., R.42 W., Dundy County, NE, Hydrologic Unit 10250002, on right bank 100 ft east of Colorado-Nebraska State line and 9.5 mi upstream from confluence with Arikaree River.

DRAINAGE AREA.--1,360 mi², approximately, of which about 100 mi² contribute 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.--Estimated daily discharges: Dec. 15-17, 25-29, Dec. 31 to Jan. 15, Jan. 20-29, Feb. 2, 6, 10, 11, May 10-20, 30, and Sept. 16-19, 29. Records good except for periods of estimated record, which are fair. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres in Colorado and Nebraska.

AVERAGE DISCHARGE.--58 years, 46.8 ft³/s; 33,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s, Apr. 28, 1947, gage height, 5.92 ft, from rating curve extended above 800 ft³/s, on basis of slope-area measurement of peak flow; no flow, Aug. 25, 26, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|-------|------|-----------------------------------|---------------------|
| Jan. 13 | 0800 | ice jam | *2.93 | May 3 | 0530 | *106 | 1.31 |

Minimum daily discharge, 5.8 ft³/s, July 29

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| 1 | 29 | 31 | 55 | 49 | 45 | 54 | 65 | 55 | 39 | 7.8 | 7.5 | 9.8 |
| 2 | 26 | 29 | 54 | 48 | 54 | 54 | 79 | 70 | 36 | 8.1 | 7.6 | 11 |
| 3 | 22 | 29 | 57 | 48 | 48 | 53 | 85 | 95 | 35 | 9.5 | 7.5 | 12 |
| 4 | 27 | 29 | 56 | 45 | 48 | 53 | 96 | 77 | 34 | 7.5 | 7.2 | 20 |
| 5 | 28 | 28 | 55 | 43 | 48 | 54 | 96 | 66 | 33 | 7.5 | 6.7 | 21 |
| 6 | 27 | 31 | 55 | 45 | 46 | 54 | 90 | 62 | 32 | 7.8 | 7.1 | 13 |
| 7 | 26 | 38 | 55 | 35 | 47 | 54 | 80 | 59 | 31 | 14 | 8.1 | 13 |
| 8 | 26 | 45 | 57 | 37 | 47 | 52 | 70 | 48 | 29 | 13 | 7.1 | 16 |
| 9 | 27 | 43 | 57 | 38 | 49 | 53 | 65 | 32 | 27 | 18 | 7.3 | 13 |
| 10 | 27 | 44 | 56 | 41 | 47 | 55 | 61 | 30 | 32 | 15 | 8.2 | 13 |
| 11 | 29 | 51 | 56 | 50 | 52 | 60 | 60 | 27 | 30 | 12 | 8.5 | 11 |
| 12 | 30 | 52 | 54 | 54 | 49 | 71 | 59 | 25 | 25 | 10 | 10 | 11 |
| 13 | 30 | 52 | 53 | 42 | 52 | 72 | 59 | 23 | 24 | 9.1 | 9.9 | 9.9 |
| 14 | 32 | 52 | 53 | 44 | 53 | 57 | 57 | 22 | 25 | 7.4 | 8.9 | 17 |
| 15 | 32 | 53 | 52 | 45 | 53 | 58 | 57 | 20 | 25 | 8.4 | 8.1 | 20 |
| 16 | 33 | 54 | 48 | 46 | 47 | 59 | 56 | 19 | 23 | 7.7 | 6.8 | 19 |
| 17 | 32 | 51 | 54 | 46 | 43 | 59 | 57 | 18 | 21 | 7.9 | 7.1 | 20 |
| 18 | 32 | 55 | 53 | 46 | 40 | 59 | 56 | 17 | 19 | 8.3 | 8.4 | 21 |
| 19 | 35 | 53 | 53 | 31 | 40 | 61 | 57 | 25 | 19 | 12 | 7.9 | 22 |
| 20 | 34 | 53 | 53 | 29 | 40 | 60 | 57 | 40 | 14 | 8.9 | 8.8 | 23 |
| 21 | 32 | 53 | 54 | 27 | 49 | 57 | 55 | 50 | 11 | 7.7 | 8.7 | 20 |
| 22 | 27 | 51 | 54 | 35 | 53 | 56 | 57 | 59 | 9.4 | 7.1 | 6.7 | 19 |
| 23 | 27 | 51 | 54 | 45 | 53 | 55 | 56 | 56 | 8.1 | 6.8 | 7.8 | 22 |
| 24 | 27 | 55 | 53 | 52 | 53 | 54 | 55 | 50 | 7.8 | 6.8 | 11 | 26 |
| 25 | 26 | 58 | 50 | 45 | 53 | 53 | 56 | 46 | 7.4 | 6.9 | 11 | 27 |
| 26 | 28 | 56 | 47 | 40 | 54 | 54 | 55 | 38 | 6.9 | 11 | 9.3 | 25 |
| 27 | 30 | 58 | 56 | 45 | 54 | 57 | 54 | 35 | 7.0 | 8.7 | 9.1 | 25 |
| 28 | 31 | 56 | 52 | 48 | 54 | 55 | 53 | 33 | 6.7 | 6.9 | 8.3 | 25 |
| 29 | 32 | 56 | 50 | 52 | 54 | 55 | 56 | 33 | 6.5 | 5.8 | 11 | 26 |
| 30 | 31 | 55 | 53 | 53 | --- | 55 | 58 | 35 | 7.8 | 6.7 | 10 | 27 |
| 31 | 30 | --- | 50 | 54 | --- | 62 | --- | 46 | --- | 7.6 | 10 | --- |
| TOTAL | 905 | 1422 | 1659 | 1358 | 1425 | 1765 | 1917 | 1311 | 631.6 | 281.9 | 261.6 | 557.7 |
| MEAN | 29.2 | 47.4 | 53.5 | 43.8 | 49.1 | 56.9 | 63.9 | 42.3 | 21.1 | 9.09 | 8.44 | 18.6 |
| MAX | 35 | 58 | 57 | 54 | 54 | 72 | 96 | 95 | 39 | 18 | 11 | 27 |
| MIN | 22 | 28 | 47 | 27 | 40 | 52 | 53 | 17 | 6.5 | 5.8 | 6.7 | 9.8 |
| AC-FT | 1800 | 2820 | 3290 | 2690 | 2830 | 3500 | 3800 | 2600 | 1250 | 559 | 519 | 1110 |

CAL YR 1987 TOTAL 14680.7 MEAN 40.2 MAX 104 MIN 6.0 AC-FT 29120
WTR YR 1988 TOTAL 13494.8 MEAN 36.9 MAX 96 MIN 5.8 AC-FT 26770

KANSAS RIVER BASIN

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06826000 BONNY RESERVOIR NEAR HALE, CO

LOCATION.--Lat 39°37'24", long 102°10'26", in SE¼SE¼ sec.9, T.5 S., R.43 W., Yuma County, Hydrologic Unit 10250003, in stair well to outlet conduit of Bonny Dam on South Fork Republican River, 1.7 mi west of Hale, and 3.0 mi downstream from Landsman Creek.

DRAINAGE AREA.--1,820 mi², approximately.

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

REVISED RECORDS.--WSP 1710: 1955.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Oct. 1, 1967, nonrecording gage at present site and datum.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began July 6, 1950; dam completed May 4, 1951. Capacity of reservoir, 170,200 acre-ft, below elevation 3,710 ft, crest of spillway, of which 128,800 acre-ft is for flood control and 39,900 acre-ft is for irrigation. Dead storage, 1,420 acre-ft below elevation 3,635.0 ft, sill of trashrack at outlet conduit. Figures given represent total contents.

COOPERATION.--Capacity tables provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,030 acre-ft, May 17, 1957, elevation, 3,678.10 ft; minimum observed since appreciable contents were attained, 22,520 acre-ft, Oct. 6-14, 1952, elevation, 3,661.20 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,870 acre-ft, June 1, elevation, 3,671.77 ft; minimum, 33,920 acre-ft, Oct. 15, elevation, 3,668.14 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

| | |
|---------|--------|
| 3,668.1 | 33,850 |
| 3,671.8 | 40,930 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 2400 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 34500 | 34100 | 34600 | 35400 | 36500 | 37600 | 38200 | 39400 | 40800 | 39700 | 37600 | 35500 |
| 2 | 34500 | 34100 | 34600 | 35500 | 36500 | 37600 | 38300 | 39700 | 40800 | 39600 | 37500 | 35400 |
| 3 | 34400 | 34100 | 34700 | 35500 | 36600 | 37600 | 38400 | 39800 | 40800 | 39600 | 37400 | 35300 |
| 4 | 34400 | 34100 | 34700 | 35500 | 36600 | 37700 | 38500 | 40000 | 40800 | 39500 | 37400 | 35300 |
| 5 | 34400 | 34200 | 34700 | 35500 | 36700 | 37700 | 38600 | 40200 | 40700 | 39400 | 37400 | 35200 |
| 6 | 34300 | 34200 | 34800 | 35600 | 36700 | 37700 | 38800 | 40100 | 40700 | 39400 | 37300 | 35100 |
| 7 | 34300 | 34200 | 34700 | 35600 | 36800 | 37700 | 39000 | 40100 | 40700 | 39200 | 37300 | 35100 |
| 8 | 34200 | 34200 | 34800 | 35700 | 36800 | 37700 | 39000 | 40200 | 40800 | 39100 | 37100 | 35000 |
| 9 | 34100 | 34200 | 34900 | 35700 | 36800 | 37800 | 39000 | 40200 | 40800 | 39000 | 37000 | 35000 |
| 10 | 34100 | 34200 | 34900 | 35700 | 36900 | 37800 | 39000 | 40200 | 40800 | 39000 | 37000 | 34900 |
| 11 | 34100 | 34200 | 34900 | 35700 | 36900 | 37800 | 39100 | 40200 | 40700 | 38900 | 37000 | 34700 |
| 12 | 34100 | 34300 | 34900 | 35700 | 36900 | 37800 | 39100 | 40300 | 40700 | 38900 | 36900 | 34700 |
| 13 | 34100 | 34300 | 34900 | 35700 | 37000 | 37700 | 39100 | 40300 | 40700 | 38800 | 36900 | 34700 |
| 14 | 34100 | 34300 | 34900 | 35800 | 37000 | 37800 | 39200 | 40300 | 40700 | 38800 | 36800 | 34800 |
| 15 | 33900 | 34300 | 34900 | 35800 | 37100 | 37800 | 39100 | 40300 | 40700 | 38700 | 36700 | 34800 |
| 16 | 34100 | 34300 | 35000 | 35900 | 37200 | 37800 | 39200 | 40300 | 40600 | 38700 | 36600 | 34800 |
| 17 | 34100 | 34300 | 35000 | 35900 | 37200 | 37800 | 39200 | 40200 | 40600 | 38600 | 36500 | 34800 |
| 18 | 34100 | 34300 | 35000 | 36000 | 37200 | 37800 | 39300 | 40200 | 40600 | 38500 | 36500 | 34700 |
| 19 | 34100 | 34400 | 35100 | 36100 | 37200 | 37900 | 39300 | 40200 | 40600 | 38500 | 36400 | 34600 |
| 20 | 34000 | 34400 | 35100 | 36100 | 37300 | 37900 | 39300 | 40300 | 40600 | 38400 | 36300 | 34600 |
| 21 | 34000 | 34400 | 35200 | 36100 | 37300 | 37900 | 39300 | 40400 | 40500 | 38300 | 36300 | 34500 |
| 22 | 34000 | 34400 | 35200 | 36100 | 37300 | 38000 | 39300 | 40500 | 40500 | 38300 | 36200 | 34500 |
| 23 | 34000 | 34400 | 35200 | 36100 | 37400 | 38000 | 39300 | 40600 | 40400 | 38200 | 36100 | 34500 |
| 24 | 34000 | 34400 | 35200 | 36100 | 37400 | 38000 | 39400 | 40600 | 40300 | 38200 | 36100 | 34400 |
| 25 | 34000 | 34400 | 35200 | 36200 | 37400 | 38000 | 39300 | 40600 | 40200 | 38100 | 36000 | 34400 |
| 26 | 34000 | 34400 | 35300 | 36200 | 37500 | 38000 | 39300 | 40700 | 40100 | 38100 | 35900 | 34300 |
| 27 | 34000 | 34400 | 35300 | 36300 | 37500 | 38000 | 39400 | 40600 | 40000 | 38000 | 35900 | 34300 |
| 28 | 34000 | 34400 | 35300 | 36300 | 37500 | 38000 | 39400 | 40600 | 39800 | 37900 | 35800 | 34200 |
| 29 | 34000 | 34400 | 35400 | 36400 | 37600 | 38100 | 39400 | 40600 | 39900 | 37800 | 35700 | 34200 |
| 30 | 34100 | 34600 | 35400 | 36400 | --- | 38000 | 39400 | 40600 | 39800 | 37800 | 35600 | 34200 |
| 31 | 34100 | --- | 35400 | 36500 | --- | 38100 | --- | 40800 | --- | 37700 | 35600 | --- |
| MAX | 34500 | 34600 | 35400 | 36500 | 37600 | 38100 | 39400 | 40800 | 40800 | 39700 | 37600 | 35500 |
| MIN | 33900 | 34100 | 34600 | 35400 | 36500 | 37600 | 38200 | 39400 | 39800 | 37700 | 35600 | 34200 |

WTR YR 1988 MAX 40800 MIN 33900

ARKANSAS RIVER BASIN

07082400 TURQUOISE LAKE NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'10", long 106°22'26", in SW¼NE¼ sec.19, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, in control house of Sugar Loaf Dam on Lake Fork, 4.0 mi west of Leadville and 4.6 mi upstream from mouth.

DRAINAGE AREA.--28.1 mi².

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 9,754.00 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, 128,360 acre-ft, Sept. 25, elevation, 9,868.82 ft; minimum, 117,880 acre-ft, Jan. 4, elevation, 9,862.87 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| Date | Elevation | Contents (acre-feet) | Change in contents (acre-feet) |
|-----------------------|-----------|-------------------------|-----------------------------------|
| Sept. 30. | 9,867.53 | 126,070 | - |
| Oct. 31. | 9,866.61 | 124,440 | -1,630 |
| Nov. 30. | 9,864.69 | 121,060 | -3,380 |
| Dec. 31. | 9,867.66 | 126,300 | -250 |
| CAL YR 1987 | | | -8,280 |
| Jan. 31. | 9,863.48 | 118,940 | +920 |
| Feb. 29. | 9,863.50 | 118,980 | +40 |
| Mar. 31. | 9,863.33 | 118,680 | -300 |
| Apr. 30. | 9,863.01 | 118,120 | -560 |
| May 31. | 9,863.87 | 119,620 | +1,500 |
| June 30. | 9,868.48 | 127,760 | +8,140 |
| July 31. | 9,866.54 | 124,310 | -3,450 |
| Aug. 31. | 9,867.49 | 126,000 | +1,690 |
| Sept. 30. | 9,868.58 | 127,930 | +1,930 |
| WTR YR 1988 | | | +1,860 |

ARKANSAS RIVER BASIN

07083000 HALFMOON CREEK NEAR MALTA, CO

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(Hydrologic bench-mark station)

LOCATION.--Lat 39°10'20", long 106°23'19", in SE $\frac{1}{4}$ sec.13, T.10 S., R.81 W., Lake County, Hydrologic Unit 11020001, on right bank 1.4 mi upstream from culvert, 3.3 mi upstream from mouth, and 4.3 mi southwest of Malta.

DRAINAGE AREA.--23.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1946 to current year.

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 9,830 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 19, 1966, at sites 1.4 mi downstream at different datums.

REMARKS.--Estimated daily discharges: Nov. 18, 28, Dec. 1, 9, 12 to Feb. 18 and Mar. 5-6, 12-15. Records good except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--42 years, 29.3 ft³/s; 21,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 615 ft³/s, June 30, 1984, gage height, 3.77 ft, from rating curve extended above 300 ft³/s; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| June 8 | 2130 | 172 | 2.99 | June 23 | 2300 | 169 | 2.98 |
| June 20 | 2330 | 162 | 2.95 | June 29 | 0130 | *215 | *3.14 |

Minimum daily discharge, 2.0 ft³/s, Mar. 4-5.DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|-------|--------|------|------|------|------|
| 1 | 9.9 | 8.2 | 5.1 | 4.9 | 4.0 | 3.0 | 2.4 | 13 | 42 | 90 | 29 | 14 |
| 2 | 9.6 | 8.2 | 5.8 | 4.8 | 4.0 | 2.6 | 2.9 | 10 | 46 | 82 | 26 | 14 |
| 3 | 9.2 | 8.0 | 6.1 | 4.7 | 3.9 | 2.3 | 3.0 | 8.9 | 73 | 74 | 25 | 12 |
| 4 | 8.9 | 7.6 | 6.1 | 4.6 | 3.9 | 2.0 | 3.4 | 9.3 | 104 | 68 | 23 | 11 |
| 5 | 8.9 | 7.6 | 6.0 | 4.6 | 3.8 | 2.0 | 3.4 | 11 | 119 | 62 | 22 | 11 |
| 6 | 8.9 | 8.1 | 5.6 | 4.5 | 3.8 | 2.5 | 4.6 | 12 | 120 | 58 | 22 | 11 |
| 7 | 8.7 | 7.8 | 5.3 | 4.5 | 3.8 | 3.4 | 6.2 | 10 | 130 | 55 | 22 | 11 |
| 8 | 8.5 | 7.5 | 5.2 | 4.5 | 3.7 | 3.9 | 6.4 | 10 | 135 | 51 | 21 | 10 |
| 9 | 8.5 | 6.6 | 5.5 | 4.5 | 3.7 | 4.0 | 5.5 | 9.1 | 135 | 47 | 19 | 10 |
| 10 | 8.5 | 7.5 | 5.7 | 4.5 | 3.7 | 3.7 | 5.7 | 9.6 | 138 | 44 | 18 | 11 |
| 11 | 8.2 | 7.9 | 5.7 | 4.5 | 3.6 | 3.6 | 6.3 | 9.8 | 131 | 44 | 16 | 16 |
| 12 | 8.4 | 7.4 | 5.5 | 4.4 | 3.6 | 3.4 | 7.1 | 16 | 120 | 39 | 17 | 17 |
| 13 | 8.6 | 8.6 | 5.5 | 4.4 | 3.5 | 3.2 | 8.6 | 26 | 100 | 40 | 16 | 17 |
| 14 | 9.0 | 7.7 | 5.5 | 4.4 | 3.5 | 3.2 | 8.9 | 36 | 80 | 43 | 15 | 16 |
| 15 | 9.0 | 6.9 | 5.5 | 4.4 | 3.4 | 3.5 | 9.0 | 42 | 93 | 37 | 14 | 15 |
| 16 | 8.7 | 6.3 | 5.8 | 4.4 | 3.3 | 3.3 | 10 | 51 | 103 | 35 | 16 | 15 |
| 17 | 8.4 | 5.4 | 6.0 | 4.4 | 3.3 | 3.5 | 10 | 55 | 98 | 33 | 20 | 15 |
| 18 | 8.4 | 5.1 | 6.0 | 4.4 | 3.3 | 4.2 | 9.6 | 54 | 93 | 31 | 21 | 14 |
| 19 | 8.2 | 6.5 | 5.8 | 4.4 | 3.3 | 4.6 | 9.8 | 51 | 117 | 30 | 17 | 13 |
| 20 | 7.7 | 6.3 | 5.6 | 4.4 | 3.3 | 4.6 | 11 | 37 | 122 | 27 | 17 | 13 |
| 21 | 7.7 | 6.2 | 5.5 | 4.4 | 3.3 | 4.9 | 12 | 29 | 140 | 26 | 18 | 13 |
| 22 | 7.8 | 6.0 | 5.3 | 4.4 | 3.2 | 4.6 | 9.9 | 25 | 125 | 24 | 21 | 13 |
| 23 | 7.9 | 5.6 | 5.2 | 4.3 | 3.0 | 3.2 | 8.4 | 23 | 122 | 23 | 18 | 12 |
| 24 | 8.1 | 5.8 | 5.0 | 4.3 | 2.9 | 2.6 | 7.7 | 31 | 128 | 22 | 16 | 12 |
| 25 | 8.2 | 5.8 | 5.0 | 4.3 | 2.9 | 2.5 | 7.1 | 48 | 119 | 22 | 15 | 11 |
| 26 | 8.3 | 6.3 | 5.0 | 4.2 | 3.0 | 2.6 | 6.7 | 66 | 112 | 22 | 15 | 11 |
| 27 | 8.3 | 5.6 | 5.0 | 4.2 | 3.1 | 3.0 | 6.4 | 77 | 96 | 24 | 15 | 11 |
| 28 | 8.0 | 4.9 | 5.0 | 4.2 | 3.2 | 2.6 | 6.8 | 78 | 100 | 23 | 15 | 11 |
| 29 | 8.2 | 5.6 | 5.0 | 4.2 | 3.0 | 2.6 | 7.3 | 86 | 157 | 30 | 14 | 11 |
| 30 | 8.3 | 5.4 | 5.0 | 4.2 | --- | 2.2 | 10 | 75 | 115 | 27 | 14 | 11 |
| 31 | 8.1 | --- | 5.0 | 4.1 | --- | 2.6 | --- | 49 | --- | 30 | 13 | --- |
| TOTAL | 263.1 | 202.4 | 169.3 | 137.0 | 100.0 | 99.9 | 216.1 | 1067.7 | 3313 | 1263 | 570 | 382 |
| MEAN | 8.49 | 6.75 | 5.46 | 4.42 | 3.45 | 3.22 | 7.20 | 34.4 | 110 | 40.7 | 18.4 | 12.7 |
| MAX | 9.9 | 8.6 | 6.1 | 4.9 | 4.0 | 4.9 | 12 | 86 | 157 | 90 | 29 | 17 |
| MIN | 7.7 | 4.9 | 5.0 | 4.1 | 2.9 | 2.0 | 2.4 | 8.9 | 42 | 22 | 13 | 10 |
| AC-FT | 522 | 401 | 336 | 272 | 198 | 198 | 429 | 2120 | 6570 | 2510 | 1130 | 758 |

CAL YR 1987 TOTAL 10258.7 MEAN 28.1 MAX 179 MIN 3.3 AC-FT 20350
WTR YR 1988 TOTAL 7783.5 MEAN 21.3 MAX 157 MIN 2.0 AC-FT 15440

ARKANSAS RIVER BASIN

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 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (FTU) | 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) |
|-----------|------|---|---|--------------------------------|--------------------------------------|------------------------------|-------------------------------------|--|--|---|
| OCT 07... | 1200 | 8.4 | 90 | 8.1 | 5.0 | 0.7 | 8.2 | K1 | K3 | 41 |
| DEC 02... | 1300 | 5.7 | 96 | 7.8 | 0.0 | -- | 9.2 | K1 | K2 | -- |
| FEB 18... | 1200 | E3.3 | 96 | 7.8 | 0.0 | 0.2 | 9.3 | <1 | <1 | 48 |
| APR 25... | 1230 | 15 | 90 | 7.7 | 3.0 | -- | 8.5 | K5 | K2 | -- |
| JUN 08... | 1135 | 119 | 44 | 7.9 | 8.5 | 1.2 | -- | <1 | K2 | 22 |
| AUG 17... | 0820 | 20 | 84 | 8.4 | 8.5 | 0.8 | 7.8 | K7 | K13 | 40 |

| DATE | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) | SODIUM, DIS- SOLVED (MG/L AS NA) | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 | CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 | ALKA- 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) |
|-----------|--|--|--|---|---|--|---|---|---|--|
| OCT 07... | 10 | 3.8 | 1.6 | 0.8 | 45 | 0 | 37 | 6.0 | 0.7 | 0.2 |
| DEC 02... | -- | -- | -- | -- | 50 | 0 | 41 | -- | -- | -- |
| FEB 18... | 12 | 4.3 | 2.2 | 1.1 | -- | -- | -- | 7.3 | 0.4 | 0.2 |
| APR 25... | -- | -- | -- | -- | 49 | 0 | 40 | -- | -- | -- |
| JUN 08... | 5.5 | 2.0 | 0.8 | 0.5 | 28 | 0 | 23 | 4.3 | 0.3 | 0.1 |
| AUG 17... | 10 | 3.6 | 1.3 | 0.6 | -- | -- | -- | 5.2 | 0.2 | 0.1 |

| DATE | 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) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) | NITRO- GEN, TOTAL ORGANIC (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) |
|-----------|---|--|---|---|---|---|--|---|--|
| OCT 07... | 6.0 | 52 | 54 | 0.30 | 0.01 | 0.01 | 0.19 | 0.03 | 0.01 |
| DEC 02... | -- | -- | -- | 0.13 | 0.02 | 0.03 | 0.17 | <0.01 | <0.01 |
| FEB 18... | 7.2 | 57 | 61 | 0.15 | 0.05 | 0.06 | -- | <0.01 | 0.01 |
| APR 25... | -- | -- | -- | 0.13 | <0.01 | -- | 0.17 | <0.01 | <0.01 |
| JUN 08... | 3.2 | 28 | 30 | 0.12 | 0.01 | 0.01 | 1.9 | 0.02 | 0.02 |
| AUG 17... | 5.0 | 46 | 48 | 0.12 | 0.01 | 0.01 | -- | 0.02 | 0.02 |

K BASED ON NON-IDEAL COLONY COUNT.

ARKANSAS RIVER BASIN

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | ALUM- INUM, DIS- SOLVED (UG/L AS AL) | ARSENIC DIS- SOLVED (UG/L AS AS) | BARIUM, DIS- SOLVED (UG/L AS BA) | BERYL- LIUM, DIS- SOLVED (UG/L AS BE) | 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) |
|-------------------|------|---|--|--|--|--|---|--|--|--|--|
| OCT 07... | 1200 | <10 | <1 | 22 | <0.5 | <1 | 5 | <3 | 2 | 71 | <5 |
| DEC 02... | 1300 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 1988 18... | 1200 | 20 | <1 | 22 | <0.5 | <1 | <1 | <3 | 3 | 81 | <5 |
| APR 25... | 1230 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 08... | 1135 | 20 | <1 | 14 | <0.5 | <1 | <1 | <3 | 1 | 37 | <5 |
| AUG 17... | 0820 | <10 | <1 | 23 | <0.5 | <1 | <1 | <3 | 1 | 54 | <5 |

| DATE | LITHIUM DIS- SOLVED (UG/L AS LI) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MERCURY DIS- SOLVED (UG/L AS HG) | 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) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|--------------|--|--|--|---|--|---|--|--|--|--|
| OCT 07... | <4 | 8 | 0.1 | <10 | <1 | <1 | <1.0 | 72 | <6 | 10 |
| DEC 02... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 18... | <4 | 5 | 0.1 | <10 | <1 | <1 | <1.0 | 84 | <6 | 21 |
| APR 25... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 08... | <4 | 4 | <0.1 | <10 | <1 | <1 | <1.0 | 38 | <6 | 7 |
| AUG 17... | <4 | 12 | 0.7 | <10 | 1 | <1 | <1.0 | 71 | <6 | <3 |

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | 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 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 02... | 1300 | <0.4 | <0.4 | 0.6 | <0.4 | 0.7 | <0.4 | <0.02 | 0.07 |
| APR 25... | 1230 | <0.4 | <0.4 | 0.6 | 0.5 | 0.6 | 0.5 | 0.04 | 0.05 |
| JUN 08... | 1135 | <0.4 | 0.5 | 0.5 | <0.4 | 0.5 | <0.4 | 0.03 | 0.04 |

ARKANSAS RIVER BASIN

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. 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 water year 1986: Oct. 12, 15, Nov. 1-2, 4, and Nov. 13 to Apr. 9. Estimated daily discharges water year 1987: Oct. 23, Nov. 5 to Apr. 27, and May 5-6. 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.

AVERAGE DISCHARGE.--39 years (water years 1947-62, 1964-86), 167 ft³/s; 121,000 acre-ft/yr; 40 years (water years 1947-62, 1964-87), 166 ft³/s; 120,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,270 ft³/s, June 15, 1978, gage height, 5.08 ft, from rating curve extended above 1,400 ft³/s; minimum not determined.

EXTREMES FOR WATER YEAR 1986.--Maximum discharge, 2,320 ft³/s at 2200 June 6, gage height, 4.73 ft; minimum daily, 9.0 ft³/s, Feb. 12, 13, 27, 28.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 1,360 ft³/s at 0200 May 15, gage height, 3.88 ft; minimum daily, 11 ft³/s, Feb. 26 to Mar. 3, Mar. 24-27, Mar. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|------|-------|-------|-------|------|------|
| 1 | 55 | 27 | 28 | 13 | 12 | 9.5 | 16 | 91 | 732 | 910 | 168 | 86 |
| 2 | 44 | 31 | 28 | 13 | 12 | 10 | 18 | 122 | 710 | 937 | 163 | 82 |
| 3 | 42 | 33 | 27 | 12 | 12 | 10 | 18 | 188 | 854 | 910 | 155 | 79 |
| 4 | 42 | 27 | 26 | 12 | 12 | 10 | 18 | 264 | 1210 | 910 | 150 | 75 |
| 5 | 51 | 35 | 25 | 12 | 11 | 10 | 18 | 335 | 1360 | 1110 | 138 | 73 |
| 6 | 91 | 69 | 26 | 12 | 11 | 11 | 20 | 408 | 1620 | 1040 | 158 | 70 |
| 7 | 96 | 60 | 26 | 12 | 11 | 12 | 22 | 224 | 1570 | 1000 | 135 | 71 |
| 8 | 68 | 59 | 25 | 12 | 11 | 12 | 24 | 150 | 1600 | 830 | 128 | 77 |
| 9 | 49 | 55 | 24 | 12 | 10 | 12 | 26 | 140 | 1290 | 770 | 124 | 75 |
| 10 | 49 | 58 | 23 | 12 | 10 | 13 | 26 | 128 | 919 | 702 | 111 | 87 |
| 11 | 49 | 49 | 22 | 12 | 9.6 | 14 | 26 | 131 | 710 | 666 | 107 | 84 |
| 12 | 41 | 29 | 19 | 12 | 9.0 | 14 | 26 | 145 | 755 | 652 | 109 | 85 |
| 13 | 44 | 26 | 18 | 12 | 9.0 | 14 | 27 | 168 | 878 | 652 | 105 | 84 |
| 14 | 42 | 27 | 17 | 12 | 9.4 | 14 | 27 | 199 | 1040 | 617 | 96 | 81 |
| 15 | 33 | 27 | 16 | 11 | 10 | 13 | 26 | 209 | 1220 | 496 | 91 | 77 |
| 16 | 91 | 26 | 15 | 11 | 10 | 12 | 28 | 253 | 1320 | 415 | 89 | 75 |
| 17 | 68 | 31 | 16 | 11 | 10 | 12 | 27 | 218 | 1340 | 348 | 86 | 71 |
| 18 | 52 | 52 | 16 | 11 | 10 | 12 | 26 | 206 | 1270 | 366 | 84 | 70 |
| 19 | 55 | 50 | 16 | 11 | 10 | 11 | 24 | 236 | 1230 | 397 | 84 | 69 |
| 20 | 60 | 34 | 17 | 11 | 11 | 10 | 26 | 310 | 1170 | 390 | 88 | 65 |
| 21 | 59 | 24 | 17 | 11 | 11 | 10 | 28 | 461 | 1120 | 344 | 94 | 62 |
| 22 | 58 | 23 | 16 | 10 | 11 | 10 | 42 | 591 | 1180 | 390 | 94 | 70 |
| 23 | 56 | 22 | 16 | 10 | 11 | 11 | 55 | 558 | 1130 | 385 | 94 | 75 |
| 24 | 66 | 23 | 16 | 10 | 11 | 12 | 59 | 552 | 1110 | 344 | 100 | 74 |
| 25 | 68 | 24 | 15 | 10 | 11 | 12 | 104 | 558 | 1050 | 310 | 100 | 69 |
| 26 | 61 | 28 | 14 | 10 | 10 | 12 | 84 | 659 | 1210 | 250 | 91 | 68 |
| 27 | 62 | 29 | 14 | 10 | 9.0 | 12 | 90 | 785 | 1280 | 250 | 89 | 68 |
| 28 | 58 | 29 | 14 | 11 | 9.0 | 13 | 81 | 792 | 1190 | 228 | 86 | 69 |
| 29 | 58 | 29 | 14 | 11 | --- | 14 | 65 | 732 | 1080 | 209 | 90 | 70 |
| 30 | 51 | 29 | 14 | 11 | --- | 14 | 75 | 638 | 1010 | 193 | 85 | 67 |
| 31 | 35 | --- | 14 | 12 | --- | 16 | --- | 652 | --- | 182 | 84 | --- |
| TOTAL | 1754 | 1065 | 594 | 352 | 293.0 | 371.5 | 1152 | 11103 | 34158 | 17203 | 3376 | 2228 |
| MEAN | 56.6 | 35.5 | 19.2 | 11.4 | 10.5 | 12.0 | 38.4 | 358 | 1139 | 555 | 109 | 74.3 |
| MAX | 96 | 69 | 28 | 13 | 12 | 16 | 104 | 792 | 1620 | 1110 | 168 | 87 |
| MIN | 33 | 22 | 14 | 10 | 9.0 | 9.5 | 16 | 91 | 710 | 182 | 84 | 62 |
| AC-FT | 3480 | 2110 | 1180 | 698 | 581 | 737 | 2280 | 22020 | 67750 | 34120 | 6700 | 4420 |

CAL YR 1985 TOTAL 47383.0 MEAN 130 MAX 1020 MIN 8.0 AC-FT 93980
WTR YR 1986 TOTAL 73649.5 MEAN 202 MAX 1620 MIN 9.0 AC-FT 146100

ARKANSAS RIVER BASIN

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07084500 LAKE CREEK ABOVE TWIN LAKES RESERVOIR, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|----------|----------|---------|--------------|------|-------|-------|-------|------|------|
| 1 | 65 | 69 | 39 | 17 | 15 | 11 | 12 | 370 | 279 | 286 | 150 | 68 |
| 2 | 65 | 61 | 41 | 16 | 15 | 11 | 13 | 314 | 348 | 264 | 140 | 74 |
| 3 | 66 | 61 | 30 | 15 | 14 | 11 | 14 | 215 | 385 | 253 | 117 | 58 |
| 4 | 65 | 60 | 29 | 15 | 14 | 12 | 15 | 209 | 449 | 239 | 145 | 61 |
| 5 | 64 | 52 | 29 | 15 | 13 | 12 | 16 | 225 | 497 | 215 | 142 | 61 |
| 6 | 64 | 52 | 28 | 14 | 13 | 12 | 17 | 210 | 503 | 202 | 102 | 81 |
| 7 | 65 | 56 | 28 | 14 | 13 | 13 | 17 | 193 | 533 | 187 | 113 | 69 |
| 8 | 66 | 71 | 27 | 14 | 13 | 13 | 17 | 250 | 673 | 179 | 135 | 65 |
| 9 | 65 | 59 | 27 | 14 | 13 | 13 | 17 | 348 | 673 | 179 | 133 | 73 |
| 10 | 64 | 34 | 20 | 14 | 14 | 13 | 17 | 449 | 571 | 322 | 115 | 91 |
| 11 | 67 | 33 | 19 | 15 | 14 | 13 | 17 | 558 | 564 | 272 | 109 | 75 |
| 12 | 61 | 32 | 19 | 15 | 14 | 13 | 16 | 740 | 571 | 236 | 94 | 46 |
| 13 | 60 | 32 | 20 | 16 | 14 | 13 | 16 | 680 | 578 | 209 | 104 | 46 |
| 14 | 64 | 32 | 20 | 16 | 13 | 13 | 15 | 838 | 578 | 199 | 107 | 49 |
| 15 | 62 | 34 | 21 | 15 | 13 | 13 | 15 | 1180 | 571 | 196 | 86 | 52 |
| 16 | 60 | 62 | 21 | 15 | 13 | 13 | 16 | 1150 | 564 | 190 | 75 | 53 |
| 17 | 58 | 44 | 22 | 15 | 13 | 13 | 17 | 1130 | 539 | 196 | 71 | 50 |
| 18 | 59 | 31 | 20 | 14 | 13 | 12 | 17 | 991 | 497 | 187 | 71 | 53 |
| 19 | 59 | 32 | 20 | 14 | 13 | 12 | 18 | 808 | 461 | 174 | 75 | 62 |
| 20 | 58 | 32 | 19 | 14 | 12 | 12 | 20 | 695 | 437 | 158 | 73 | 55 |
| 21 | 58 | 40 | 19 | 14 | 12 | 12 | 24 | 571 | 405 | 145 | 73 | 53 |
| 22 | 56 | 52 | 18 | 14 | 12 | 12 | 28 | 461 | 395 | 160 | 81 | 42 |
| 23 | 57 | 41 | 18 | 14 | 12 | 12 | 34 | 290 | 395 | 165 | 131 | 37 |
| 24 | 58 | 32 | 19 | 15 | 12 | 11 | 42 | 283 | 375 | 158 | 150 | 34 |
| 25 | 59 | 31 | 19 | 15 | 12 | 11 | 49 | 253 | 370 | 145 | 120 | 35 |
| 26 | 57 | 30 | 18 | 15 | 11 | 11 | 80 | 236 | 366 | 131 | 93 | 33 |
| 27 | 57 | 30 | 18 | 15 | 11 | 11 | 160 | 209 | 357 | 152 | 93 | 32 |
| 28 | 59 | 29 | 17 | 15 | 11 | 12 | 187 | 193 | 330 | 140 | 88 | 30 |
| 29 | 81 | 29 | 17 | 16 | --- | 12 | 239 | 187 | 298 | 174 | 91 | 29 |
| 30 | 70 | 30 | 18 | 16 | --- | 12 | 322 | 182 | 272 | 168 | 85 | 28 |
| 31 | 81 | --- | 18 | 15 | --- | 11 | --- | 209 | --- | 158 | 79 | --- |
| TOTAL | 1950 | 1283 | 698 | 461 | 362 | 375 | 1487 | 14627 | 13834 | 6039 | 3241 | 1595 |
| MEAN | 62.9 | 42.8 | 22.5 | 14.9 | 12.9 | 12.1 | 49.6 | 472 | 461 | 195 | 105 | 53.2 |
| MAX | 81 | 71 | 41 | 17 | 15 | 13 | 322 | 1180 | 673 | 322 | 150 | 91 |
| MIN | 56 | 29 | 17 | 14 | 11 | 11 | 12 | 182 | 272 | 131 | 71 | 28 |
| AC-FT | 3870 | 2540 | 1380 | 914 | 718 | 744 | 2950 | 29010 | 27440 | 11980 | 6430 | 3160 |
| CAL YR 1986 | TOTAL | 74167.5 | MEAN 203 | MAX 1620 | MIN 9.0 | AC-FT 147100 | | | | | | |
| WTR YR 1987 | TOTAL | 45952 | MEAN 126 | MAX 1180 | MIN 11 | AC-FT 91150 | | | | | | |

ARKANSAS RIVER BASIN

07086000 ARKANSAS RIVER AT GRANITE, CO

LOCATION.--Lat 39°02'34", long 106°15'55", in SE¼SW¼ 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. 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: Water year 1986, Nov. 6, 7, 14-23, Dec. 5 to Feb. 13, and Feb. 21-22. Water year 1987, Nov. 24 to Jan. 16, and Jan. 28 to Mar. 8. Water year 1988, Nov. 18-20, 25, 28, Dec. 9, Dec. 12 to Feb. 19, Feb. 25, July 4-5, and Aug. 24-30. Records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 6,700 acres. Turquoise Lake and Twin Lakes Reservoir, on tributaries upstream from station, have a combined capacity of 269,700 acre-ft. Transmountain diversions from Colorado River basin to Arkansas River basin enter upstream from this station.

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

AVERAGE DISCHARGE.--76 years (water years 1911-86), 386 ft³/s; 279,700 acre-ft/yr; 77 years (water years 1911-87), 385 ft³/s; 278,900 acre-ft/yr; 78 years (water years 1911-88), 383 ft³/s; 277,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,360 ft³/s, June 28, 1957, gage height, 7.20 ft; minimum not determined.

EXTREMES FOR WATER YEAR 1986.--Maximum discharge, 2,640 ft³/s at 1000 June 20, gage height, 5.56 ft; minimum daily, 79 ft³/s, Jan. 27.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 2,460 ft³/s at 1330 May 17, gage height, 5.13 ft; minimum daily, 80 ft³/s, Jan. 17-20.

EXTREMES FOR WATER YEAR 1988.--Maximum discharge, 1,570 ft³/s at 0900 June 6, gage height, 4.54 ft; minimum daily, 72 ft³/s, Jan. 2, Feb. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|------|-------|-------|--------|-------|-------|-------|
| 1 | 187 | 157 | 127 | 120 | 95 | 160 | 217 | 468 | 1230 | 1800 | 517 | 325 |
| 2 | 189 | 162 | 134 | 115 | 105 | 162 | 211 | 580 | 1280 | 1700 | 538 | 325 |
| 3 | 220 | 165 | 129 | 115 | 110 | 160 | 208 | 732 | 1620 | 1700 | 538 | 300 |
| 4 | 238 | 187 | 127 | 110 | 115 | 160 | 187 | 804 | 1830 | 1640 | 510 | 270 |
| 5 | 244 | 205 | 120 | 110 | 120 | 152 | 190 | 1050 | 2000 | 1630 | 486 | 262 |
| 6 | 244 | 180 | 110 | 110 | 115 | 143 | 199 | 903 | 1970 | 1830 | 498 | 238 |
| 7 | 271 | 170 | 115 | 105 | 115 | 145 | 217 | 620 | 2290 | 1970 | 486 | 235 |
| 8 | 286 | 179 | 110 | 105 | 120 | 150 | 217 | 867 | 2420 | 1770 | 462 | 258 |
| 9 | 282 | 182 | 110 | 100 | 125 | 152 | 211 | 1030 | 2290 | 1540 | 449 | 262 |
| 10 | 281 | 182 | 110 | 100 | 105 | 141 | 211 | 948 | 1910 | 1380 | 438 | 288 |
| 11 | 300 | 187 | 100 | 98 | 88 | 136 | 208 | 876 | 1570 | 1340 | 414 | 305 |
| 12 | 305 | 187 | 100 | 96 | 92 | 136 | 208 | 858 | 1330 | 1280 | 390 | 290 |
| 13 | 297 | 173 | 95 | 93 | 88 | 136 | 217 | 993 | 1330 | 1220 | 385 | 278 |
| 14 | 295 | 175 | 95 | 90 | 98 | 136 | 199 | 1250 | 1350 | 1210 | 365 | 270 |
| 15 | 278 | 170 | 100 | 93 | 115 | 143 | 205 | 1310 | 1500 | 1130 | 365 | 255 |
| 16 | 282 | 165 | 130 | 95 | 118 | 139 | 220 | 1480 | 1680 | 993 | 360 | 244 |
| 17 | 264 | 170 | 200 | 96 | 118 | 148 | 218 | 1540 | 1910 | 1060 | 350 | 232 |
| 18 | 238 | 155 | 200 | 98 | 129 | 148 | 208 | 1440 | 1980 | 1140 | 330 | 220 |
| 19 | 235 | 145 | 170 | 100 | 138 | 145 | 202 | 1350 | 2320 | 1130 | 278 | 205 |
| 20 | 232 | 135 | 160 | 100 | 139 | 150 | 205 | 1530 | 2480 | 1160 | 282 | 196 |
| 21 | 228 | 130 | 140 | 98 | 135 | 146 | 217 | 1680 | 2290 | 1170 | 355 | 193 |
| 22 | 202 | 125 | 120 | 95 | 140 | 145 | 241 | 1640 | 2160 | 1030 | 405 | 184 |
| 23 | 165 | 125 | 120 | 92 | 148 | 152 | 274 | 1670 | 2080 | 876 | 438 | 179 |
| 24 | 157 | 134 | 120 | 88 | 150 | 155 | 310 | 1660 | 2060 | 948 | 408 | 202 |
| 25 | 154 | 131 | 125 | 85 | 156 | 155 | 362 | 1680 | 2030 | 912 | 396 | 229 |
| 26 | 152 | 131 | 140 | 82 | 168 | 152 | 396 | 1750 | 1970 | 822 | 414 | 241 |
| 27 | 150 | 129 | 140 | 79 | 168 | 160 | 351 | 1760 | 2040 | 786 | 355 | 238 |
| 28 | 152 | 148 | 135 | 81 | 160 | 168 | 345 | 1550 | 2100 | 732 | 305 | 235 |
| 29 | 160 | 138 | 140 | 82 | --- | 187 | 370 | 1320 | 2080 | 604 | 315 | 232 |
| 30 | 152 | 134 | 120 | 84 | --- | 199 | 414 | 1200 | 2030 | 538 | 315 | 223 |
| 31 | 160 | --- | 120 | 85 | --- | 211 | --- | 1190 | --- | 510 | 314 | --- |
| TOTAL | 7000 | 4756 | 3962 | 3000 | 3473 | 4772 | 7438 | 37729 | 57130 | 37551 | 12461 | 7414 |
| MEAN | 226 | 159 | 128 | 96.8 | 124 | 154 | 248 | 1217 | 1904 | 1211 | 402 | 247 |
| MAX | 305 | 205 | 200 | 120 | 168 | 211 | 414 | 1760 | 2480 | 1970 | 538 | 325 |
| MIN | 150 | 125 | 95 | 79 | 88 | 136 | 187 | 468 | 1230 | 510 | 278 | 179 |
| AC-FT | 13880 | 9430 | 7860 | 5950 | 6890 | 9470 | 14750 | 74840 | 113300 | 74480 | 24720 | 14710 |

CAL YR 1985 TOTAL 205024 MEAN 562 MAX 3080 MIN 95 AC-FT 406700
WTR YR 1986 TOTAL 186686 MEAN 511 MAX 2480 MIN 79 AC-FT 370300

ARKANSAS RIVER BASIN

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07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|------|-------|-------|-------|--------|-------|-------|
| 1 | 224 | 187 | 135 | 110 | 95 | 110 | 96 | 474 | 732 | 759 | 408 | 173 |
| 2 | 223 | 187 | 130 | 110 | 100 | 115 | 100 | 460 | 885 | 620 | 430 | 196 |
| 3 | 223 | 208 | 130 | 105 | 100 | 120 | 100 | 432 | 1010 | 596 | 380 | 208 |
| 4 | 229 | 226 | 130 | 110 | 95 | 125 | 103 | 350 | 1080 | 573 | 310 | 226 |
| 5 | 226 | 211 | 125 | 110 | 90 | 130 | 102 | 282 | 1120 | 552 | 266 | 241 |
| 6 | 214 | 198 | 120 | 110 | 90 | 135 | 105 | 254 | 1170 | 450 | 241 | 235 |
| 7 | 199 | 202 | 115 | 110 | 95 | 135 | 107 | 262 | 1280 | 385 | 258 | 235 |
| 8 | 190 | 196 | 110 | 105 | 100 | 130 | 113 | 325 | 1530 | 476 | 272 | 220 |
| 9 | 190 | 193 | 105 | 100 | 105 | 125 | 120 | 396 | 1840 | 524 | 262 | 182 |
| 10 | 193 | 184 | 90 | 105 | 110 | 120 | 118 | 450 | 1770 | 487 | 286 | 176 |
| 11 | 205 | 173 | 95 | 110 | 105 | 111 | 124 | 504 | 1420 | 390 | 315 | 183 |
| 12 | 199 | 173 | 105 | 120 | 105 | 107 | 118 | 580 | 1330 | 385 | 290 | 184 |
| 13 | 196 | 168 | 110 | 120 | 105 | 111 | 104 | 652 | 1320 | 396 | 270 | 184 |
| 14 | 196 | 165 | 110 | 110 | 100 | 107 | 109 | 831 | 1380 | 380 | 274 | 190 |
| 15 | 187 | 153 | 110 | 100 | 95 | 107 | 140 | 930 | 1380 | 389 | 250 | 202 |
| 16 | 182 | 155 | 105 | 90 | 95 | 105 | 189 | 1410 | 1350 | 408 | 247 | 208 |
| 17 | 182 | 155 | 100 | 80 | 95 | 103 | 223 | 2020 | 1310 | 383 | 315 | 205 |
| 18 | 182 | 150 | 95 | 80 | 95 | 105 | 235 | 1910 | 1170 | 402 | 365 | 205 |
| 19 | 182 | 150 | 100 | 80 | 90 | 100 | 238 | 1680 | 1060 | 372 | 310 | 202 |
| 20 | 190 | 154 | 95 | 80 | 95 | 100 | 229 | 1360 | 1000 | 345 | 292 | 199 |
| 21 | 193 | 152 | 95 | 85 | 100 | 95 | 182 | 1120 | 948 | 320 | 226 | 190 |
| 22 | 199 | 151 | 100 | 85 | 100 | 98 | 191 | 1110 | 931 | 375 | 218 | 176 |
| 23 | 202 | 135 | 110 | 90 | 105 | 96 | 249 | 894 | 921 | 374 | 247 | 170 |
| 24 | 196 | 150 | 105 | 90 | 105 | 100 | 286 | 822 | 920 | 320 | 282 | 168 |
| 25 | 187 | 140 | 100 | 90 | 100 | 93 | 307 | 804 | 872 | 310 | 349 | 170 |
| 26 | 186 | 140 | 105 | 95 | 100 | 93 | 313 | 751 | 786 | 315 | 330 | 168 |
| 27 | 182 | 130 | 105 | 100 | 100 | 94 | 334 | 693 | 759 | 402 | 269 | 170 |
| 28 | 179 | 130 | 110 | 100 | 105 | 90 | 432 | 623 | 732 | 685 | 214 | 170 |
| 29 | 176 | 130 | 115 | 95 | --- | 92 | 468 | 586 | 748 | 644 | 216 | 170 |
| 30 | 170 | 130 | 115 | 90 | --- | 87 | 517 | 577 | 849 | 396 | 208 | 168 |
| 31 | 168 | --- | 110 | 95 | --- | 92 | --- | 612 | --- | 365 | 188 | --- |
| TOTAL | 6050 | 4976 | 3385 | 3060 | 2775 | 3331 | 6052 | 24154 | 33603 | 13778 | 8788 | 5774 |
| MEAN | 195 | 166 | 109 | 98.7 | 99.1 | 107 | 202 | 779 | 1120 | 444 | 283 | 192 |
| MAX | 229 | 226 | 135 | 120 | 110 | 135 | 517 | 2020 | 1840 | 759 | 430 | 241 |
| MIN | 168 | 130 | 90 | 80 | 90 | 87 | 96 | 254 | 732 | 310 | 188 | 168 |
| AC-FT | 12000 | 9870 | 6710 | 6070 | 5500 | 6610 | 12000 | 47910 | 66650 | 27330 | 17430 | 11450 |
| CAL YR 1986 | TOTAL | 185379 | MEAN | 508 | MAX | 2480 | MIN | 79 | AC-FT | 367700 | | |
| WTR YR 1987 | TOTAL | 115726 | MEAN | 317 | MAX | 2020 | MIN | 80 | AC-FT | 229500 | | |

ARKANSAS RIVER BASIN

07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|------|-------|-------|-------|--------|-------|------|
| 1 | 165 | 143 | 125 | 80 | 84 | 88 | 86 | 370 | 642 | 921 | 247 | 131 |
| 2 | 165 | 148 | 120 | 72 | 80 | 90 | 93 | 355 | 498 | 704 | 262 | 125 |
| 3 | 168 | 145 | 114 | 78 | 88 | 90 | 96 | 350 | 531 | 576 | 270 | 120 |
| 4 | 165 | 144 | 116 | 80 | 76 | 86 | 105 | 355 | 886 | 474 | 223 | 116 |
| 5 | 165 | 143 | 111 | 90 | 76 | 80 | 107 | 360 | 1340 | 420 | 179 | 112 |
| 6 | 162 | 157 | 109 | 90 | 76 | 84 | 109 | 370 | 1470 | 414 | 190 | 111 |
| 7 | 155 | 165 | 107 | 78 | 80 | 84 | 135 | 380 | 1340 | 396 | 196 | 105 |
| 8 | 152 | 160 | 105 | 84 | 88 | 78 | 145 | 375 | 1320 | 335 | 205 | 100 |
| 9 | 152 | 160 | 107 | 78 | 86 | 82 | 129 | 375 | 1380 | 278 | 220 | 96 |
| 10 | 150 | 170 | 116 | 88 | 88 | 86 | 118 | 370 | 1300 | 274 | 223 | 95 |
| 11 | 150 | 179 | 105 | 90 | 88 | 84 | 120 | 365 | 1260 | 270 | 217 | 105 |
| 12 | 148 | 173 | 82 | 82 | 86 | 76 | 138 | 385 | 1190 | 290 | 223 | 114 |
| 13 | 152 | 165 | 84 | 76 | 82 | 76 | 155 | 456 | 1060 | 286 | 226 | 134 |
| 14 | 162 | 127 | 74 | 80 | 84 | 76 | 160 | 576 | 861 | 250 | 220 | 158 |
| 15 | 170 | 127 | 74 | 84 | 82 | 80 | 208 | 768 | 696 | 235 | 208 | 148 |
| 16 | 182 | 120 | 74 | 84 | 92 | 86 | 286 | 862 | 735 | 274 | 205 | 140 |
| 17 | 176 | 121 | 84 | 78 | 72 | 82 | 295 | 957 | 786 | 315 | 254 | 134 |
| 18 | 176 | 110 | 88 | 78 | 78 | 78 | 274 | 1040 | 717 | 282 | 244 | 127 |
| 19 | 173 | 125 | 88 | 80 | 82 | 84 | 295 | 1090 | 732 | 247 | 182 | 125 |
| 20 | 155 | 130 | 78 | 74 | 84 | 102 | 300 | 1050 | 986 | 229 | 195 | 118 |
| 21 | 143 | 125 | 78 | 80 | 80 | 105 | 315 | 966 | 1150 | 223 | 199 | 107 |
| 22 | 138 | 123 | 78 | 76 | 94 | 111 | 300 | 799 | 1280 | 214 | 223 | 95 |
| 23 | 127 | 118 | 90 | 80 | 90 | 112 | 290 | 588 | 1180 | 196 | 232 | 96 |
| 24 | 131 | 114 | 78 | 80 | 82 | 107 | 278 | 367 | 1030 | 193 | 230 | 95 |
| 25 | 136 | 110 | 74 | 76 | 80 | 103 | 278 | 462 | 946 | 235 | 190 | 93 |
| 26 | 138 | 127 | 74 | 86 | 84 | 109 | 274 | 640 | 880 | 320 | 150 | 92 |
| 27 | 152 | 125 | 76 | 84 | 86 | 118 | 262 | 813 | 939 | 202 | 150 | 92 |
| 28 | 152 | 110 | 82 | 84 | 96 | 105 | 258 | 904 | 975 | 182 | 150 | 92 |
| 29 | 150 | 123 | 78 | 88 | 88 | 80 | 295 | 1000 | 1310 | 245 | 150 | 93 |
| 30 | 148 | 125 | 80 | 88 | --- | 92 | 355 | 961 | 1190 | 660 | 145 | 95 |
| 31 | 148 | --- | 78 | 84 | --- | 90 | --- | 801 | --- | 393 | 145 | --- |
| TOTAL | 4806 | 4112 | 2827 | 2530 | 2432 | 2804 | 6259 | 19510 | 30610 | 10533 | 6353 | 3364 |
| MEAN | 155 | 137 | 91.2 | 81.6 | 83.9 | 90.5 | 209 | 629 | 1020 | 340 | 205 | 112 |
| MAX | 182 | 179 | 125 | 90 | 96 | 118 | 355 | 1090 | 1470 | 921 | 270 | 158 |
| MIN | 127 | 110 | 74 | 72 | 72 | 76 | 86 | 350 | 498 | 182 | 145 | 92 |
| AC-FT | 9530 | 8160 | 5610 | 5020 | 4820 | 5560 | 12410 | 38700 | 60710 | 20890 | 12600 | 6670 |
| CAL YR 1987 | TOTAL | 113060 | MEAN | 310 | MAX | 2020 | MIN | 74 | AC-FT | 224300 | | |
| WTR YR 1988 | TOTAL | 96140 | MEAN | 263 | MAX | 1470 | MIN | 72 | AC-FT | 190700 | | |

07086500 CLEAR CREEK ABOVE CLEAR CREEK RESERVOIR, CO

LOCATION.--Lat 39°01'05", long 106°16'38", in SE¼ 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 September 1983. Monthly discharge only for some periods, published in WSP 1241, and 1311.

REVISED RECORDS.--WSP 2121: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 8,885 ft, 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: Water Year 1987, Oct. 13-15, 26, 27, Nov. 23 to Apr. 3, and Sept. 13, 14. Water year 1988, Records good except for estimated daily discharges, which are fair. 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.

AVERAGE DISCHARGE.--41 years (water years 1947-62, 1964-87), 69.3 ft³/s; 50,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,300 ft³/s, June 29, 1957, maximum gage height recorded, 4.34 ft, June 16, 1952, site and datum then in use; minimum discharge, not determined.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 617 ft³/s at 0030 June 10, gage height, 4.60 ft; minimum daily, 10 ft³/s, Feb. 21-25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|---------|--------|-------------|------|------|-------|-------|------|------|------|
| 1 | 50 | 35 | 32 | 17 | 12 | 12 | 13 | 116 | 153 | 205 | 80 | 52 |
| 2 | 48 | 41 | 31 | 17 | 12 | 12 | 12 | 112 | 202 | 195 | 75 | 53 |
| 3 | 50 | 41 | 29 | 17 | 13 | 13 | 12 | 96 | 226 | 189 | 70 | 50 |
| 4 | 48 | 38 | 27 | 17 | 13 | 13 | 13 | 87 | 272 | 176 | 75 | 51 |
| 5 | 47 | 35 | 25 | 16 | 14 | 14 | 12 | 81 | 325 | 165 | 65 | 50 |
| 6 | 46 | 36 | 23 | 16 | 13 | 14 | 12 | 80 | 325 | 153 | 61 | 47 |
| 7 | 47 | 35 | 22 | 15 | 12 | 15 | 11 | 87 | 386 | 153 | 75 | 46 |
| 8 | 50 | 34 | 20 | 15 | 13 | 15 | 12 | 102 | 510 | 143 | 85 | 44 |
| 9 | 51 | 33 | 21 | 16 | 14 | 15 | 12 | 131 | 526 | 140 | 71 | 43 |
| 10 | 50 | 32 | 18 | 17 | 14 | 16 | 12 | 162 | 496 | 145 | 76 | 41 |
| 11 | 52 | 32 | 17 | 17 | 14 | 16 | 14 | 176 | 422 | 138 | 70 | 40 |
| 12 | 50 | 33 | 18 | 18 | 13 | 15 | 14 | 192 | 416 | 131 | 66 | 38 |
| 13 | 50 | 33 | 19 | 18 | 13 | 14 | 16 | 222 | 447 | 122 | 65 | 37 |
| 14 | 50 | 34 | 20 | 17 | 13 | 15 | 19 | 268 | 434 | 114 | 62 | 41 |
| 15 | 50 | 35 | 21 | 17 | 12 | 15 | 18 | 280 | 410 | 114 | 58 | 43 |
| 16 | 50 | 35 | 22 | 16 | 12 | 16 | 25 | 305 | 440 | 106 | 55 | 42 |
| 17 | 50 | 35 | 23 | 16 | 12 | 15 | 31 | 325 | 386 | 108 | 52 | 40 |
| 18 | 51 | 34 | 24 | 15 | 11 | 14 | 35 | 276 | 340 | 112 | 47 | 37 |
| 19 | 50 | 35 | 25 | 15 | 11 | 13 | 37 | 248 | 310 | 98 | 46 | 37 |
| 20 | 51 | 34 | 26 | 14 | 11 | 13 | 31 | 240 | 315 | 94 | 44 | 36 |
| 21 | 50 | 34 | 26 | 14 | 10 | 14 | 25 | 219 | 295 | 94 | 44 | 34 |
| 22 | 48 | 32 | 25 | 13 | 10 | 14 | 30 | 186 | 280 | 100 | 53 | 32 |
| 23 | 44 | 31 | 24 | 13 | 10 | 13 | 37 | 170 | 280 | 100 | 92 | 32 |
| 24 | 46 | 30 | 23 | 14 | 10 | 13 | 50 | 162 | 268 | 94 | 89 | 32 |
| 25 | 43 | 29 | 22 | 14 | 10 | 12 | 59 | 151 | 256 | 87 | 87 | 32 |
| 26 | 42 | 30 | 22 | 15 | 11 | 12 | 70 | 143 | 244 | 89 | 81 | 31 |
| 27 | 42 | 30 | 21 | 15 | 11 | 11 | 81 | 129 | 233 | 96 | 70 | 31 |
| 28 | 41 | 31 | 21 | 15 | 11 | 11 | 100 | 122 | 233 | 98 | 64 | 30 |
| 29 | 40 | 31 | 20 | 14 | --- | 10 | 112 | 116 | 202 | 83 | 61 | 30 |
| 30 | 38 | 32 | 19 | 14 | --- | 11 | 118 | 114 | 202 | 85 | 56 | 29 |
| 31 | 40 | --- | 18 | 13 | --- | 12 | --- | 122 | --- | 81 | 53 | --- |
| TOTAL | 1465 | 1010 | 704 | 480 | 335 | 418 | 1043 | 5220 | 9834 | 3808 | 2048 | 1181 |
| MEAN | 47.3 | 33.7 | 22.7 | 15.5 | 12.0 | 13.5 | 34.8 | 168 | 328 | 123 | 66.1 | 39.4 |
| MAX | 52 | 41 | 32 | 18 | 14 | 16 | 118 | 325 | 526 | 205 | 92 | 53 |
| MIN | 38 | 29 | 17 | 13 | 10 | 10 | 11 | 80 | 153 | 81 | 44 | 29 |
| AC-FT | 2910 | 2000 | 1400 | 952 | 664 | 829 | 2070 | 10350 | 19510 | 7550 | 4060 | 2340 |
| CAL YR 1986 | TOTAL 40444 | MEAN 111 | MAX 698 | MIN 10 | AC-FT 80220 | | | | | | | |
| WTR YR 1987 | TOTAL 27546 | MEAN 75.5 | MAX 526 | MIN 10 | AC-FT 54640 | | | | | | | |

ARKANSAS RIVER BASIN

07087200 ARKANSAS RIVER AT BUENA VISTA, CO--Continued

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WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1986 to current year.

WATER TEMPERATURE: November 1986 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing or of poor quality. Records are good except for conductance and temperature record during the winter, which are poor. Daily maximum and minimum specific conductance data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 211 microsiemens Feb. 17, 1988; minimum, 72 microsiemens June 7, 9, 1988.

WATER TEMPERATURE: Maximum, 21.0°C Aug. 5, 1988; minimum, 0.0°C many days during the winter most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 211 microsiemens Feb. 17; minimum, 72 microsiemens June 7, 9.

WATER TEMPERATURE: Maximum 21.0°C Aug. 5; minimum, 0.0°C many days during winter.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | OXYGEN, DIS- SOLVED (MG/L) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|------|---|---|--------------------------------|-------------------------------------|--|--|
| OCT 08... | 1000 | 180 | 157 | 8.2 | 9.1 | <0.10 | 0.02 |
| DEC 03... | 1630 | 155 | 163 | 8.3 | 10.2 | 0.20 | 0.02 |
| JAN 14... | 1500 | 124 | -- | 8.2 | 10.6 | 0.10 | 0.03 |
| FEB 19... | 1330 | 109 | 190 | 8.2 | 10.1 | 0.20 | 0.07 |
| MAR 14... | 1500 | 301 | 152 | 8.0 | 9.8 | <0.10 | 0.02 |
| APR 14... | 1245 | 206 | 190 | 8.2 | 8.7 | <0.10 | 0.02 |
| MAY 11... | 1245 | 532 | 120 | 7.8 | 9.2 | <0.10 | 0.01 |
| JUN 09... | 1145 | 1730 | 84 | 7.9 | -- | <0.10 | 0.01 |
| JUL 19... | 1430 | 375 | 140 | 8.6 | -- | <0.10 | 0.01 |
| AUG 25... | 0915 | 506 | 139 | 8.2 | 7.4 | <0.10 | 0.02 |
| SEP 15... | 1230 | 226 | 155 | 8.4 | 8.6 | <0.10 | <0.01 |

ARKANSAS RIVER BASIN

07087200 ARKANSAS RIVER AT BUENA VISTA, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 149 | 160 | 175 | --- | --- | 177 | 180 | 120 | 103 | 102 | 137 | 154 |
| 2 | 151 | 159 | 173 | --- | --- | 177 | 181 | 117 | 110 | 107 | 131 | 161 |
| 3 | 152 | 157 | 169 | --- | --- | 178 | 179 | 182 | 117 | 111 | 126 | 165 |
| 4 | 150 | 157 | 166 | --- | --- | 180 | 177 | 181 | 120 | 102 | 127 | 166 |
| 5 | 150 | 156 | 168 | --- | --- | 180 | 181 | 177 | 120 | 92 | 142 | 166 |
| 6 | 149 | 156 | 171 | --- | --- | 180 | 176 | 177 | 120 | 91 | 118 | 166 |
| 7 | 151 | 158 | 173 | --- | --- | 180 | 175 | 179 | 118 | 88 | 142 | 166 |
| 8 | 153 | 161 | 173 | --- | --- | 185 | 184 | 180 | 118 | 85 | 143 | 168 |
| 9 | 154 | 163 | 179 | --- | --- | 188 | 181 | 186 | 119 | 82 | 138 | 170 |
| 10 | 153 | 156 | 164 | --- | --- | 184 | 181 | 193 | 121 | 91 | 142 | 169 |
| 11 | 153 | 152 | 177 | --- | --- | 188 | 183 | 196 | 123 | 94 | 142 | 169 |
| 12 | 153 | 153 | --- | --- | --- | 184 | 186 | 199 | 126 | 96 | 141 | 162 |
| 13 | 153 | 152 | --- | --- | --- | 183 | 166 | 195 | 124 | 96 | 145 | 165 |
| 14 | 154 | 162 | --- | --- | --- | 180 | 155 | 192 | 117 | 99 | 140 | 155 |
| 15 | 163 | 176 | --- | --- | --- | 180 | 159 | 182 | 105 | 105 | 139 | 153 |
| 16 | 150 | 176 | --- | --- | --- | 187 | 166 | 147 | 102 | 103 | 142 | 153 |
| 17 | 148 | 176 | --- | --- | --- | 175 | 173 | 149 | 102 | 100 | 143 | 158 |
| 18 | 148 | 185 | --- | --- | --- | 178 | 181 | 151 | 101 | 101 | 132 | 158 |
| 19 | 147 | 177 | --- | --- | --- | 176 | 173 | 150 | 96 | 103 | 139 | 158 |
| 20 | 148 | 171 | --- | --- | --- | 186 | 174 | 149 | 99 | 100 | 149 | 156 |
| 21 | 159 | 172 | --- | 189 | 186 | 173 | 141 | 99 | 99 | 137 | 146 | 162 |
| 22 | 158 | 174 | --- | 192 | 184 | 173 | 137 | 102 | 99 | 138 | 149 | 169 |
| 23 | 162 | 176 | --- | 187 | 184 | 175 | 134 | 106 | 101 | 142 | 139 | 172 |
| 24 | 166 | 176 | --- | 193 | 171 | 178 | 136 | 115 | 102 | 143 | 132 | 173 |
| 25 | 166 | 180 | --- | --- | 182 | 177 | 146 | 117 | 103 | 142 | 133 | 172 |
| 26 | 166 | 177 | --- | --- | 182 | 178 | 150 | 108 | 102 | 116 | 139 | 173 |
| 27 | 161 | 185 | --- | --- | 181 | 181 | 148 | 103 | 104 | 128 | 140 | 175 |
| 28 | 154 | 180 | --- | --- | 180 | 178 | 155 | 101 | 103 | 131 | 142 | 176 |
| 29 | 155 | 178 | --- | --- | 182 | 178 | 142 | 96 | 119 | 133 | 144 | 176 |
| 30 | 157 | 173 | --- | --- | --- | 176 | 124 | 97 | 103 | 110 | 149 | 176 |
| 31 | 162 | --- | --- | --- | --- | 182 | --- | 100 | --- | 100 | 152 | --- |
| MAX | 166 | 185 | --- | --- | --- | 186 | 199 | 126 | 119 | 143 | 152 | 176 |
| MIN | 147 | 152 | --- | --- | --- | 155 | 124 | 96 | 82 | 100 | 126 | 153 |

TEMPERATURE, WATER (DEG C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 11.6 | 7.9 | 8.5 | 6.1 | .9 | .9 | .8 | .6 | .0 | .0 | 4.6 | .4 |
| 2 | 11.5 | 7.7 | 8.8 | 6.3 | 1.1 | .9 | .7 | .0 | .0 | .0 | 3.7 | 1.2 |
| 3 | 11.4 | 7.8 | 7.5 | 5.0 | 1.8 | 1.0 | .2 | .0 | .5 | .0 | 4.2 | .5 |
| 4 | 10.6 | 7.4 | 7.0 | 4.3 | 3.3 | 1.0 | .2 | .0 | .1 | .1 | 3.9 | .5 |
| 5 | 11.2 | 7.8 | 6.8 | 3.8 | 3.2 | 1.2 | .6 | .0 | .2 | .1 | 3.3 | .5 |
| 6 | 11.1 | 7.3 | 7.7 | 5.3 | 3.2 | 1.0 | .6 | .4 | .2 | .2 | 4.2 | .5 |
| 7 | 10.7 | 7.2 | 5.3 | 3.1 | 3.3 | 1.0 | .6 | .4 | .3 | .2 | 3.3 | .5 |
| 8 | 9.5 | 7.1 | 5.2 | 2.5 | 1.6 | .9 | .6 | .5 | .4 | .3 | 1.3 | .5 |
| 9 | 10.5 | 6.9 | 4.7 | 2.0 | 1.2 | .9 | .6 | .4 | 1.1 | .4 | 1.8 | .4 |
| 10 | 10.4 | 6.9 | 4.4 | 1.6 | 1.9 | .9 | .5 | .4 | 1.2 | .4 | 3.7 | .5 |
| 11 | 10.4 | 6.5 | 5.2 | 2.4 | 3.0 | .9 | .6 | .5 | .6 | .5 | 1.8 | .4 |
| 12 | 8.7 | 6.2 | 4.4 | 1.9 | 1.2 | .9 | .6 | .0 | 1.9 | .5 | .8 | .4 |
| 13 | 9.8 | 7.8 | 4.6 | 2.0 | 1.0 | .0 | .4 | .0 | 1.9 | .6 | .8 | .4 |
| 14 | 9.7 | 7.3 | 5.6 | 3.9 | .0 | .0 | .5 | .0 | 1.2 | .7 | 1.8 | .4 |
| 15 | 9.5 | 6.7 | 3.8 | 1.3 | 1.0 | .0 | .5 | .0 | 1.6 | .7 | 3.2 | .0 |
| 16 | 9.3 | 6.1 | 1.8 | .1 | .9 | .8 | .4 | .0 | 2.0 | .8 | 2.6 | .0 |
| 17 | 8.3 | 5.2 | 1.0 | .1 | .8 | .0 | .2 | .0 | 1.4 | .8 | 2.5 | .0 |
| 18 | 8.4 | 5.2 | .8 | .2 | .8 | .1 | .2 | .0 | 1.4 | .9 | 1.2 | .0 |
| 19 | 8.3 | 5.5 | .3 | .2 | .8 | .2 | .1 | .0 | 1.1 | 1.0 | --- | .5 |
| 20 | 7.2 | 4.3 | .7 | .3 | .8 | .0 | .1 | .0 | 2.2 | 1.0 | --- | .9 |
| 21 | 6.9 | 3.2 | 2.1 | .3 | .8 | .0 | .0 | .0 | 2.6 | 1.0 | --- | .1 |
| 22 | 7.4 | 3.9 | 2.6 | .4 | .6 | .0 | .0 | .0 | 3.4 | 1.0 | --- | .7 |
| 23 | 6.7 | 4.3 | 2.4 | .4 | .8 | .0 | .0 | .0 | 2.9 | 1.0 | --- | --- |
| 24 | 7.9 | 5.3 | 1.8 | .5 | .5 | .0 | .0 | .0 | 3.3 | 1.0 | --- | --- |
| 25 | 9.1 | 6.6 | 1.5 | .5 | .6 | .3 | .0 | .0 | 3.3 | 1.0 | --- | --- |
| 26 | 8.0 | 4.8 | .8 | .6 | .8 | .6 | .0 | .0 | 3.8 | 1.0 | --- | --- |
| 27 | 7.9 | 4.8 | .7 | .6 | .8 | .7 | .0 | .0 | 3.9 | 1.0 | --- | --- |
| 28 | 7.2 | 4.1 | .9 | .7 | .8 | .7 | .0 | .0 | 4.1 | 1.1 | --- | --- |
| 29 | 7.7 | 5.0 | .9 | .8 | .8 | .7 | .0 | .0 | 3.9 | 1.0 | 5.1 | .4 |
| 30 | 8.5 | 6.6 | .9 | .8 | .8 | .7 | .0 | .0 | --- | --- | 3.3 | 1.7 |
| 31 | 7.8 | 4.9 | --- | --- | .8 | .7 | .0 | .0 | --- | --- | 3.9 | .5 |
| MONTH | 11.6 | 3.2 | 8.8 | .1 | 3.3 | .0 | .8 | .0 | 4.1 | .0 | --- | --- |

ARKANSAS RIVER BASIN

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07087200 ARKANSAS RIVER AT BUENA VISTA, CO--Continued

TEMPERATURE, WATER (DEG C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|------|-----|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4.5 | .5 | 10.1 | 6.5 | 11.6 | 7.7 | 16.9 | 12.7 | 16.6 | 14.0 | 14.4 | 11.8 |
| 2 | 8.2 | .9 | 6.8 | 3.8 | 14.4 | 9.3 | 15.4 | 12.9 | 17.0 | 13.9 | 15.5 | 11.4 |
| 3 | --- | 3.9 | 9.1 | 3.0 | 14.7 | 10.9 | 15.6 | 12.2 | 18.7 | 15.3 | 16.5 | 11.7 |
| 4 | --- | 5.4 | 9.4 | 5.5 | 14.2 | 10.6 | 16.0 | 13.0 | 18.6 | 15.9 | 16.5 | 11.7 |
| 5 | 11.2 | 4.7 | 9.9 | 5.9 | 12.7 | 10.7 | 16.7 | 12.4 | 21.0 | 16.5 | 15.8 | 11.0 |
| 6 | 10.3 | 3.4 | 8.8 | 6.6 | 14.2 | 10.2 | 17.3 | 13.3 | 18.5 | 16.7 | 15.5 | 11.2 |
| 7 | 11.7 | 5.6 | 9.2 | 4.1 | 13.8 | 10.9 | 17.6 | 13.3 | 17.8 | 15.4 | 15.1 | 10.7 |
| 8 | 11.7 | 5.6 | 9.1 | 5.0 | 14.7 | 11.1 | 17.2 | 13.7 | 17.5 | 14.5 | 16.2 | 10.8 |
| 9 | 7.6 | 4.4 | 11.2 | 5.5 | 14.2 | 12.2 | 16.8 | 13.8 | 18.3 | 13.7 | 15.9 | 11.1 |
| 10 | 7.2 | 2.5 | 10.3 | 6.7 | 14.1 | 10.6 | 16.3 | 12.9 | 18.6 | 14.4 | 14.3 | 11.6 |
| 11 | 9.1 | 2.1 | 12.0 | 6.0 | 13.0 | 11.6 | 16.9 | 12.9 | 18.8 | 14.3 | 14.9 | 11.0 |
| 12 | 10.4 | 4.9 | 13.3 | 7.4 | 14.1 | 10.3 | 18.0 | 13.4 | 17.2 | 15.3 | 12.0 | 9.6 |
| 13 | 9.6 | 6.2 | 13.5 | 8.4 | 12.5 | 11.1 | 18.4 | 13.7 | 18.4 | 13.6 | 11.1 | 8.5 |
| 14 | 10.1 | 6.7 | 13.8 | 9.1 | 14.0 | 9.8 | 17.2 | 14.3 | 18.9 | 14.6 | 13.3 | 9.9 |
| 15 | 9.6 | 6.3 | 13.5 | 9.3 | 14.1 | 11.5 | 18.0 | --- | 18.5 | 14.9 | 13.2 | 9.3 |
| 16 | 8.5 | 6.2 | 13.0 | 9.1 | 14.7 | 10.9 | 16.7 | 14.7 | 17.0 | 15.3 | 13.3 | 8.9 |
| 17 | 7.3 | 5.5 | 11.6 | 9.9 | 14.8 | 11.4 | 17.7 | 13.5 | 16.5 | 14.1 | 13.9 | 9.6 |
| 18 | 9.1 | 4.0 | 11.4 | 9.1 | 14.5 | 11.1 | 17.7 | 13.7 | 18.0 | 14.4 | 14.3 | 10.2 |
| 19 | 9.7 | 5.8 | 10.1 | 7.9 | 15.3 | 11.5 | 15.7 | 13.0 | 18.2 | 15.3 | 11.2 | 6.7 |
| 20 | 9.6 | 5.6 | 8.9 | 7.0 | 15.3 | 11.9 | 19.0 | 14.4 | 17.6 | 15.1 | 12.2 | 7.9 |
| 21 | 9.0 | 6.3 | 9.5 | 6.1 | 15.8 | 12.1 | 18.6 | 14.5 | 16.6 | 14.6 | 13.3 | 10.2 |
| 22 | 8.0 | 4.1 | 9.9 | 6.5 | 15.6 | 12.5 | 18.0 | 13.7 | 18.6 | 14.0 | 13.3 | 9.8 |
| 23 | 8.9 | 4.8 | 11.4 | 6.5 | 16.1 | 12.4 | 16.3 | 14.0 | 18.9 | 15.0 | 12.5 | 8.3 |
| 24 | 8.6 | 5.2 | 12.9 | 8.9 | 15.1 | 12.8 | 17.6 | 13.6 | 19.2 | 15.4 | 13.2 | 8.8 |
| 25 | 8.4 | 4.3 | 11.9 | 9.0 | 14.3 | 12.7 | 16.9 | 14.5 | 19.0 | 15.7 | 13.0 | 8.6 |
| 26 | 8.7 | 3.9 | 12.1 | 9.1 | 14.4 | 12.8 | 17.0 | 14.8 | 18.4 | 15.2 | 12.1 | 8.5 |
| 27 | 10.1 | 5.0 | 12.5 | 9.2 | 15.9 | 12.5 | 16.7 | 13.7 | 16.9 | 15.2 | 13.0 | 8.9 |
| 28 | 9.1 | 6.0 | 12.7 | 9.2 | 16.0 | 13.0 | 16.9 | 14.3 | 17.5 | 14.2 | 11.0 | 7.4 |
| 29 | 11.8 | 6.4 | 12.6 | 9.0 | 14.3 | 12.8 | 16.7 | 14.2 | 17.3 | 13.3 | 9.0 | 5.1 |
| 30 | 11.0 | 6.6 | 10.6 | 8.5 | 16.3 | 12.4 | 17.9 | 14.4 | 16.4 | 13.7 | 10.8 | 5.9 |
| 31 | --- | --- | 11.8 | 7.7 | --- | --- | 17.1 | 15.3 | 15.0 | 12.7 | --- | --- |
| MONTH | --- | .5 | 13.8 | 3.0 | 16.3 | 7.7 | 19.0 | --- | 21.0 | 12.7 | 16.5 | 5.1 |

ARKANSAS RIVER BASIN

07093700 ARKANSAS RIVER NEAR WELLSVILLE, CO

LOCATION.--Lat 38°30'10", long 105°56'21", in SW¼ 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. Datum of gage is 6,883.4 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Estimated daily discharges: Water year 1986, Dec. 11-17, Jan. 22-23, and Sept. 1-2. Water year 1987, no estimated daily discharges. Water year 1988, Feb. 17-19. 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.

AVERAGE DISCHARGE.--25 years, 740 ft³/s; 536,100 acre-ft/yr; 26 years, 740 ft³/s; 536,100 acre-ft/yr; 27 years, 732 ft³/s; 530,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft³/s, June 12, 1980, gage height, 8.02 ft; maximum gage height, 8.12 ft, June 10, 1984; minimum daily discharge, 110 ft³/s, Jan. 12, 1963.

EXTREMES FOR WATER YEAR 1986.--Maximum discharge, 4,360 ft³/s at 0530 June 8, gage height, 7.16 ft; maximum gage height, 7.20 ft, June 20; minimum daily discharge, 254 ft³/s, Feb. 5.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 4,340 ft³/s at 0400 June 10, gage height, 7.28 ft; minimum daily, 270 ft³/s, Jan. 17.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,500 ft³/s at 0100 June 5, gage height, 6.09 ft; minimum daily, 229 ft³/s, Apr. 11-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|
| 1 | 485 | 526 | 494 | 367 | 315 | 299 | 339 | 526 | 1640 | 3260 | 1040 | 733 |
| 2 | 480 | 498 | 467 | 359 | 311 | 291 | 343 | 600 | 1780 | 2900 | 1040 | 731 |
| 3 | 476 | 494 | 472 | 359 | 307 | 287 | 335 | 812 | 2200 | 2870 | 1020 | 704 |
| 4 | 508 | 498 | 472 | 363 | 272 | 291 | 323 | 908 | 2640 | 2770 | 1010 | 670 |
| 5 | 467 | 498 | 449 | 319 | 254 | 295 | 295 | 914 | 2970 | 2890 | 962 | 655 |
| 6 | 444 | 498 | 449 | 307 | 287 | 299 | 287 | 914 | 3240 | 3190 | 983 | 625 |
| 7 | 449 | 476 | 462 | 307 | 307 | 275 | 295 | 848 | 3910 | 3290 | 976 | 605 |
| 8 | 490 | 467 | 454 | 307 | 311 | 272 | 319 | 764 | 4220 | 3190 | 948 | 610 |
| 9 | 512 | 476 | 458 | 311 | 307 | 275 | 311 | 1020 | 4130 | 3000 | 914 | 630 |
| 10 | 516 | 476 | 449 | 347 | 299 | 275 | 299 | 1050 | 3460 | 2660 | 890 | 670 |
| 11 | 526 | 485 | 370 | 371 | 295 | 272 | 299 | 1000 | 2740 | 2480 | 866 | 752 |
| 12 | 550 | 498 | 370 | 371 | 268 | 264 | 295 | 927 | 2360 | 2360 | 842 | 716 |
| 13 | 555 | 498 | 380 | 351 | 311 | 261 | 291 | 976 | 2290 | 2180 | 812 | 710 |
| 14 | 570 | 490 | 400 | 335 | 319 | 258 | 287 | 1270 | 2430 | 2160 | 818 | 680 |
| 15 | 565 | 508 | 380 | 343 | 307 | 258 | 325 | 1390 | 2560 | 2080 | 788 | 645 |
| 16 | 575 | 512 | 390 | 343 | 319 | 258 | 508 | 1600 | 2730 | 1830 | 722 | 605 |
| 17 | 585 | 516 | 400 | 343 | 311 | 272 | 526 | 1660 | 3160 | 1810 | 698 | 570 |
| 18 | 565 | 545 | 512 | 343 | 311 | 291 | 521 | 1610 | 3370 | 1930 | 686 | 555 |
| 19 | 535 | 516 | 512 | 343 | 311 | 291 | 508 | 1500 | 3800 | 1970 | 650 | 526 |
| 20 | 530 | 462 | 498 | 331 | 319 | 291 | 498 | 1530 | 4040 | 2080 | 625 | 503 |
| 21 | 516 | 476 | 476 | 323 | 311 | 295 | 530 | 1880 | 3870 | 2030 | 728 | 490 |
| 22 | 521 | 472 | 440 | 300 | 283 | 291 | 570 | 1830 | 3660 | 1940 | 782 | 480 |
| 23 | 550 | 485 | 426 | 300 | 275 | 307 | 595 | 1910 | 3480 | 1690 | 920 | 472 |
| 24 | 555 | 490 | 418 | 311 | 275 | 291 | 532 | 1940 | 3450 | 1780 | 836 | 472 |
| 25 | 545 | 498 | 400 | 291 | 287 | 287 | 454 | 1940 | 3380 | 1680 | 770 | 508 |
| 26 | 540 | 494 | 371 | 283 | 299 | 275 | 508 | 2050 | 3380 | 1540 | 848 | 521 |
| 27 | 535 | 494 | 371 | 303 | 319 | 275 | 498 | 2240 | 3500 | 1460 | 848 | 580 |
| 28 | 530 | 476 | 363 | 287 | 307 | 291 | 454 | 2140 | 3690 | 1410 | 746 | 595 |
| 29 | 526 | 498 | 363 | 291 | --- | 307 | 444 | 1980 | 3640 | 1270 | 740 | 605 |
| 30 | 526 | 498 | 379 | 303 | --- | 331 | 480 | 1740 | 3540 | 1120 | 764 | 570 |
| 31 | 530 | --- | 383 | 307 | --- | 335 | --- | 1620 | --- | 1070 | 746 | --- |
| TOTAL | 16257 | 14818 | 13228 | 10119 | 8397 | 8860 | 12269 | 43089 | 95260 | 67890 | 26018 | 18188 |
| MEAN | 524 | 494 | 427 | 326 | 300 | 286 | 409 | 1390 | 3175 | 2190 | 839 | 606 |
| MAX | 585 | 545 | 512 | 371 | 319 | 335 | 595 | 2240 | 4220 | 3290 | 1040 | 752 |
| MIN | 444 | 462 | 363 | 283 | 254 | 258 | 287 | 526 | 1640 | 1070 | 625 | 472 |
| AC-FT | 32250 | 29390 | 26240 | 20070 | 16660 | 17570 | 24340 | 85470 | 188900 | 134700 | 51610 | 36080 |

CAL YR 1985 TOTAL 354051 MEAN 970 MAX 5760 MIN 307 AC-FT 702300
WTR YR 1986 TOTAL 334393 MEAN 916 MAX 4220 MIN 254 AC-FT 663300

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07093700 ARKANSAS RIVER NEAR WELLSVILLE, CO--Continued

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 1 | 343 | 404 | 385 | 316 | 301 | 311 | 259 | 433 | 920 | 1550 | 842 | 409 |
| 2 | 331 | 407 | 394 | 287 | 296 | 314 | 267 | 445 | 782 | 1230 | 776 | 394 |
| 3 | 332 | 411 | 406 | 299 | 304 | 307 | 262 | 454 | 776 | 1120 | 740 | 375 |
| 4 | 331 | 396 | 418 | 321 | 283 | 300 | 263 | 442 | 1110 | 1030 | 689 | 369 |
| 5 | 336 | 389 | 415 | 348 | 281 | 285 | 271 | 438 | 2020 | 918 | 605 | 358 |
| 6 | 334 | 385 | 412 | 338 | 285 | 281 | 264 | 433 | 2200 | 877 | 545 | 344 |
| 7 | 326 | 398 | 400 | 341 | 293 | 288 | 266 | 467 | 2050 | 835 | 575 | 339 |
| 8 | 318 | 396 | 394 | 322 | 298 | 266 | 292 | 472 | 1900 | 816 | 554 | 329 |
| 9 | 315 | 385 | 368 | 321 | 289 | 274 | 285 | 476 | 1930 | 735 | 549 | 316 |
| 10 | 317 | 381 | 385 | 330 | 308 | 294 | 254 | 459 | 1950 | 719 | 441 | 308 |
| 11 | 319 | 383 | 411 | 327 | 294 | 278 | 229 | 562 | 1860 | 700 | 424 | 313 |
| 12 | 315 | 395 | 379 | 323 | 302 | 258 | 229 | 564 | 1870 | 651 | 424 | 489 |
| 13 | 320 | 391 | 374 | 286 | 300 | 274 | 244 | 628 | 1660 | 674 | 440 | 575 |
| 14 | 342 | 387 | 359 | 311 | 293 | 454 | 259 | 762 | 1440 | 606 | 424 | 493 |
| 15 | 364 | 366 | 343 | 318 | 288 | 472 | 271 | 966 | 1140 | 591 | 414 | 451 |
| 16 | 371 | 363 | 347 | 318 | 308 | 403 | 364 | 1100 | 1160 | 591 | 397 | 474 |
| 17 | 375 | 367 | 353 | 312 | 290 | 295 | 464 | 1180 | 1220 | 584 | 443 | 412 |
| 18 | 379 | 382 | 366 | 322 | 280 | 265 | 437 | 1220 | 1230 | 567 | 533 | 378 |
| 19 | 374 | 394 | 357 | 314 | 275 | 273 | 418 | 1190 | 1170 | 524 | 595 | 374 |
| 20 | 384 | 415 | 358 | 267 | 276 | 288 | 413 | 1110 | 1390 | 497 | 444 | 380 |
| 21 | 374 | 440 | 335 | 275 | 279 | 291 | 418 | 1030 | 1530 | 478 | 418 | 372 |
| 22 | 371 | 438 | 338 | 274 | 284 | 296 | 422 | 899 | 1610 | 464 | 438 | 382 |
| 23 | 371 | 434 | 350 | 310 | 275 | 294 | 469 | 776 | 1720 | 442 | 463 | 367 |
| 24 | 367 | 430 | 364 | 294 | 281 | 290 | 597 | 620 | 1510 | 428 | 457 | 347 |
| 25 | 376 | 416 | 328 | 275 | 289 | 273 | 387 | 686 | 1430 | 422 | 586 | 347 |
| 26 | 383 | 427 | 325 | 309 | 294 | 281 | 370 | 854 | 1340 | 538 | 595 | 329 |
| 27 | 389 | 413 | 326 | 315 | 300 | 287 | 357 | 990 | 1380 | 514 | 598 | 302 |
| 28 | 402 | 397 | 326 | 312 | 314 | 302 | 338 | 1110 | 1410 | 567 | 571 | 299 |
| 29 | 410 | 397 | 327 | 312 | 316 | 273 | 341 | 1180 | 1860 | 610 | 530 | 296 |
| 30 | 407 | 391 | 343 | 312 | --- | 274 | 390 | 1260 | 1850 | 980 | 456 | 304 |
| 31 | 404 | --- | 328 | 305 | --- | 268 | --- | 1070 | --- | 1180 | 415 | --- |
| TOTAL | 11080 | 11978 | 11314 | 9614 | 8476 | 9309 | 10100 | 24276 | 45418 | 22438 | 16381 | 11225 |
| MEAN | 357 | 399 | 365 | 310 | 292 | 300 | 337 | 783 | 1514 | 724 | 528 | 374 |
| MAX | 410 | 440 | 418 | 348 | 316 | 472 | 597 | 1260 | 2200 | 1550 | 842 | 575 |
| MIN | 315 | 363 | 325 | 267 | 275 | 258 | 229 | 433 | 776 | 422 | 397 | 296 |
| AC-FT | 21980 | 23760 | 22440 | 19070 | 16810 | 18460 | 20030 | 48150 | 90090 | 44510 | 32490 | 22260 |
| CAL YR 1987 | TOTAL | 261250 | MEAN | 716 | MAX | 4130 | MIN | 270 | AC-FT | 518200 | | |

ARKANSAS RIVER BASIN

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07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO

LOCATION.--Lat 38°39'25", long 105°48'45", in SE¼NE¼ sec.24, T.51 N., R.10 E., Fremont County, Hydrologic Unit 11020001, on left bank 0.4 mi downstream from County Road 2, 0.7 mi upstream from Steer Creek, 14.0 mi north of Howard, and 14.3 mi upstream from mouth.

DRAINAGE AREA.--106 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1980 to September 1986. October 1986 to current year (seasonal only).

GAGE.--Water-stage recorder. Elevation of gage is 8,780 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 9-31, and April 1-4. Records good except for 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; minimum daily, 2.8 ft³/s, Jan. 29 to Mar. 2, 1984, Dec. 1, 1984, Jan. 31 to Feb. 1, and Feb. 11, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 7 | 2200 | *13 | *4.49 | | | | |

Minimum daily, 3.8 ft³/s, Sept. 1, 8-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| 1 | 5.2 | --- | --- | --- | --- | --- | 11 | 8.9 | 5.9 | 5.7 | 5.1 | 3.8 |
| 2 | 5.2 | --- | --- | --- | --- | --- | 11 | 8.4 | 5.7 | 5.6 | 4.7 | 4.3 |
| 3 | 5.3 | --- | --- | --- | --- | --- | 11 | 8.2 | 5.6 | 5.6 | 4.6 | 4.3 |
| 4 | 5.3 | --- | --- | --- | --- | --- | 11 | 8.2 | 5.5 | 5.6 | 4.4 | 4.2 |
| 5 | 5.3 | --- | --- | --- | --- | --- | 11 | 8.1 | 5.8 | 5.5 | 4.7 | 4.0 |
| 6 | 5.5 | --- | --- | --- | --- | --- | 11 | 8.0 | 5.8 | 5.2 | 4.6 | 4.0 |
| 7 | 5.5 | --- | --- | --- | --- | --- | 11 | 7.7 | 5.6 | 5.1 | 4.5 | 3.9 |
| 8 | 5.4 | --- | --- | --- | --- | --- | 12 | 7.9 | 5.3 | 5.3 | 4.4 | 3.8 |
| 9 | 5.5 | --- | --- | --- | --- | --- | 11 | 7.6 | 5.2 | 5.1 | 4.2 | 3.8 |
| 10 | 5.5 | --- | --- | --- | --- | --- | 9.4 | 7.4 | 5.6 | 5.0 | 4.3 | 3.9 |
| 11 | 5.5 | --- | --- | --- | --- | --- | 9.5 | 7.4 | 5.7 | 4.9 | 4.3 | 4.4 |
| 12 | 6.0 | --- | --- | --- | --- | --- | 10 | 7.2 | 5.8 | 4.8 | 4.3 | 5.3 |
| 13 | 6.0 | --- | --- | --- | --- | --- | 10 | 7.1 | 5.9 | 4.8 | 4.4 | 7.2 |
| 14 | 6.0 | --- | --- | --- | --- | --- | 10 | 7.0 | 6.0 | 4.8 | 4.4 | 6.6 |
| 15 | 6.0 | --- | --- | --- | --- | --- | 9.9 | 6.9 | 6.0 | 4.6 | 4.3 | 5.5 |
| 16 | 5.8 | --- | --- | --- | --- | --- | 10 | 6.8 | 6.2 | 4.9 | 4.5 | 5.2 |
| 17 | 5.8 | --- | --- | --- | --- | --- | 11 | 6.8 | 6.2 | 4.8 | 5.4 | 5.0 |
| 18 | 6.0 | --- | --- | --- | --- | --- | 10 | 6.7 | 6.2 | 4.8 | 6.0 | 4.9 |
| 19 | 6.0 | --- | --- | --- | --- | --- | 10 | 7.0 | 6.2 | 4.8 | 5.2 | 4.5 |
| 20 | 6.0 | --- | --- | --- | --- | --- | 10 | 7.3 | 6.2 | 4.8 | 4.8 | 4.6 |
| 21 | 6.0 | --- | --- | --- | --- | --- | 9.9 | 7.4 | 6.2 | 4.6 | 4.8 | 4.6 |
| 22 | 6.0 | --- | --- | --- | --- | --- | 9.4 | 7.1 | 6.2 | 4.6 | 4.8 | 4.8 |
| 23 | 6.5 | --- | --- | --- | --- | --- | 9.1 | 6.9 | 6.4 | 4.7 | 4.7 | 4.9 |
| 24 | 6.5 | --- | --- | --- | --- | --- | 9.0 | 7.2 | 6.5 | 4.7 | 4.9 | 5.0 |
| 25 | 6.5 | --- | --- | --- | --- | --- | 8.7 | 7.1 | 6.4 | 4.7 | 4.4 | 5.1 |
| 26 | 6.5 | --- | --- | --- | --- | --- | 8.6 | 6.8 | 6.5 | 4.8 | 4.0 | 5.1 |
| 27 | 6.5 | --- | --- | --- | --- | --- | 8.6 | 6.5 | 6.5 | 5.1 | 4.1 | 5.1 |
| 28 | 6.5 | --- | --- | --- | --- | --- | 8.8 | 6.3 | 6.2 | 6.0 | 4.3 | 5.1 |
| 29 | 7.0 | --- | --- | --- | --- | --- | 8.8 | 6.2 | 7.4 | 7.2 | 4.2 | 4.9 |
| 30 | 7.0 | --- | --- | --- | --- | --- | 8.6 | 6.0 | 6.3 | 5.6 | 4.0 | 5.0 |
| 31 | 7.0 | --- | --- | --- | --- | --- | --- | 5.9 | --- | 5.6 | 3.9 | --- |
| TOTAL | 184.8 | --- | --- | --- | --- | --- | 299.3 | 224.0 | 181.0 | 159.3 | 141.2 | 142.8 |
| MEAN | 5.96 | --- | --- | --- | --- | --- | 9.98 | 7.23 | 6.03 | 5.14 | 4.55 | 4.76 |
| MAX | 7.0 | --- | --- | --- | --- | --- | 12 | 8.9 | 7.4 | 7.2 | 6.0 | 7.2 |
| MIN | 5.2 | --- | --- | --- | --- | --- | 8.6 | 5.9 | 5.2 | 4.6 | 3.9 | 3.8 |
| AC-FT | 367 | --- | --- | --- | --- | --- | 594 | 444 | 359 | 316 | 280 | 283 |

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1981 to current year (seasonal record only).

PERIOD OF DAILY RECORD.--Suspended sediment discharge June 1981 to current year (seasonal only).

INSTRUMENTATION.--Pumping sediment sampler since June 1981.

REMARKS.--Records good except those that are estimated, which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily, 25,800 mg/L Aug. 20, 1982; minimum daily, 4 mg/L Aug. 31 to Sept. 1, and Sept 4, 1988.

SEDIMENT LOADS: Maximum daily, 15,600 tons Aug. 14, 1983; minimum daily, 0.04 tons Aug. 31 to Sept. 1, 1988.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily, 759 mg/l July 29; minimum daily, 4 mg/L Aug. 31 to Sept. 1 and Sept 4.

SEDIMENT LOADS: Maximum daily, 18 tons July 29; minimum daily, 0.04 tons Aug. 31 to Sept. 1.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDED (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-------|------|---|--|--|---|
| APR | | | | | |
| 04... | 1615 | 11 | 457 | 14 | 82 |
| 20... | 1130 | 9.7 | 404 | 11 | 51 |
| MAY | | | | | |
| 04... | 1200 | 8.6 | 110 | 2.6 | -- |
| 17... | 1155 | 6.9 | 72 | 1.3 | -- |
| JUN | | | | | |
| 09... | 1610 | 5.2 | 21 | 0.29 | -- |
| 23... | 0900 | 6.3 | 46 | 0.78 | -- |
| JUL | | | | | |
| 15... | 1550 | 4.6 | 21 | 0.26 | -- |
| 15... | 1655 | 4.6 | -- | -- | -- |
| AUG | | | | | |
| 12... | 1400 | 4.4 | 13 | 0.15 | -- |
| 18... | 1420 | 6.0 | 24 | 0.39 | -- |
| 31... | 1005 | 3.9 | 4 | 0.04 | -- |
| SEP | | | | | |
| 13... | 1725 | 6.6 | 50 | 0.89 | -- |

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN | MEAN | SEDIMENT | MEAN | MEAN | SEDIMENT | MEAN | MEAN | SEDIMENT |
|-------|--------------------|------------------------------|-------------------------|--------------------|------------------------------|-------------------------|--------------------|------------------------------|-------------------------|
| | DISCHARGE (CFS) | CONCEN- TRATION (MG/L) | DISCHARGE (TONS/DAY) | DISCHARGE (CFS) | CONCEN- TRATION (MG/L) | DISCHARGE (TONS/DAY) | DISCHARGE (CFS) | CONCEN- TRATION (MG/L) | DISCHARGE (TONS/DAY) |
| | | OCTOBER | | | NOVEMBER | | | DECEMBER | |
| 1 | 5.2 | --- | .08 | --- | --- | --- | --- | --- | --- |
| 2 | 5.2 | --- | .10 | --- | --- | --- | --- | --- | --- |
| 3 | 5.3 | --- | .13 | --- | --- | --- | --- | --- | --- |
| 4 | 5.3 | --- | .11 | --- | --- | --- | --- | --- | --- |
| 5 | 5.3 | --- | .14 | --- | --- | --- | --- | --- | --- |
| 6 | 5.5 | --- | .19 | --- | --- | --- | --- | --- | --- |
| 7 | 5.5 | --- | .25 | --- | --- | --- | --- | --- | --- |
| 8 | 5.4 | --- | .25 | --- | --- | --- | --- | --- | --- |
| 9 | 5.5 | 16 | .24 | --- | --- | --- | --- | --- | --- |
| 10 | 5.5 | --- | .19 | --- | --- | --- | --- | --- | --- |
| 11 | 5.5 | --- | .19 | --- | --- | --- | --- | --- | --- |
| 12 | 6.0 | --- | .24 | --- | --- | --- | --- | --- | --- |
| 13 | 6.0 | --- | .24 | --- | --- | --- | --- | --- | --- |
| 14 | 6.0 | --- | .21 | --- | --- | --- | --- | --- | --- |
| 15 | 6.0 | --- | .21 | --- | --- | --- | --- | --- | --- |
| 16 | 5.8 | --- | .20 | --- | --- | --- | --- | --- | --- |
| 17 | 5.8 | --- | .20 | --- | --- | --- | --- | --- | --- |
| 18 | 6.0 | --- | .21 | --- | --- | --- | --- | --- | --- |
| 19 | 6.0 | --- | .21 | --- | --- | --- | --- | --- | --- |
| 20 | 6.0 | --- | .21 | --- | --- | --- | --- | --- | --- |
| 21 | 6.0 | --- | .21 | --- | --- | --- | --- | --- | --- |
| 22 | 6.0 | --- | .24 | --- | --- | --- | --- | --- | --- |
| 23 | 6.5 | --- | .26 | --- | --- | --- | --- | --- | --- |
| 24 | 6.5 | --- | .26 | --- | --- | --- | --- | --- | --- |
| 25 | 6.5 | --- | .26 | --- | --- | --- | --- | --- | --- |
| 26 | 6.5 | --- | .26 | --- | --- | --- | --- | --- | --- |
| 27 | 6.5 | --- | .26 | --- | --- | --- | --- | --- | --- |
| 28 | 6.5 | --- | .26 | --- | --- | --- | --- | --- | --- |
| 29 | 7.0 | --- | .38 | --- | --- | --- | --- | --- | --- |
| 30 | 7.0 | --- | .38 | --- | --- | --- | --- | --- | --- |
| 31 | 7.0 | --- | .38 | --- | --- | --- | --- | --- | --- |
| TOTAL | 184.8 | --- | 6.95 | --- | --- | --- | --- | --- | --- |

ARKANSAS RIVER BASIN

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

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| APRIL | | | MAY | | | JUNE | | | |
| 1 | 11 | --- | 13 | 8.9 | --- | 3.6 | 5.9 | --- | .88 |
| 2 | 11 | --- | 13 | 8.4 | --- | 2.7 | 5.7 | --- | .69 |
| 3 | 11 | --- | 13 | 8.2 | --- | 2.4 | 5.6 | --- | .60 |
| 4 | 11 | 457 | 14 | 8.2 | 125 | 2.8 | 5.5 | --- | .59 |
| 5 | 11 | 452 | 13 | 8.1 | 172 | 3.8 | 5.8 | --- | .78 |
| 6 | 11 | 432 | 13 | 8.0 | 105 | 2.3 | 5.8 | --- | .63 |
| 7 | 11 | 423 | 12 | 7.7 | 185 | 3.8 | 5.6 | --- | .48 |
| 8 | 12 | --- | 13 | 7.9 | 140 | 3.0 | 5.3 | --- | .36 |
| 9 | 11 | 387 | 11 | 7.6 | 117 | 2.4 | 5.2 | 21 | .29 |
| 10 | 9.4 | 588 | 15 | 7.4 | 130 | 2.6 | 5.6 | --- | .45 |
| 11 | 9.5 | 540 | 14 | 7.4 | 115 | 2.3 | 5.7 | --- | .62 |
| 12 | 10 | 486 | 13 | 7.2 | 87 | 1.7 | 5.8 | 55 | .86 |
| 13 | 10 | --- | 12 | 7.1 | 62 | 1.2 | 5.9 | 55 | .88 |
| 14 | 10 | --- | 14 | 7.0 | 57 | 1.1 | 6.0 | 48 | .78 |
| 15 | 9.9 | --- | 13 | 6.9 | 64 | 1.2 | 6.0 | 32 | .52 |
| 16 | 10 | --- | 14 | 6.8 | --- | 1.3 | 6.2 | 27 | .45 |
| 17 | 11 | --- | 16 | 6.8 | 72 | 1.3 | 6.2 | 38 | .64 |
| 18 | 10 | --- | 14 | 6.7 | 78 | 1.4 | 6.2 | 46 | .77 |
| 19 | 10 | --- | 12 | 7.0 | 95 | 1.8 | 6.2 | 49 | .82 |
| 20 | 10 | 404 | 11 | 7.3 | --- | 2.0 | 6.2 | 51 | .85 |
| 21 | 9.9 | --- | 11 | 7.4 | --- | 2.0 | 6.2 | 50 | .84 |
| 22 | 9.4 | --- | 7.6 | 7.1 | --- | 1.5 | 6.2 | 53 | .89 |
| 23 | 9.1 | --- | 6.1 | 6.9 | --- | 1.5 | 6.4 | 52 | .90 |
| 24 | 9.0 | --- | 4.9 | 7.2 | --- | 1.7 | 6.5 | --- | .96 |
| 25 | 8.7 | --- | 4.0 | 7.1 | --- | 1.7 | 6.4 | --- | .90 |
| 26 | 8.6 | --- | 3.5 | 6.8 | --- | 1.6 | 6.5 | --- | .97 |
| 27 | 8.6 | --- | 3.0 | 6.5 | --- | 1.2 | 6.5 | --- | .97 |
| 28 | 8.8 | --- | 3.6 | 6.3 | --- | 1.1 | 6.2 | --- | .84 |
| 29 | 8.8 | --- | 3.6 | 6.2 | --- | 1.0 | 7.4 | --- | 1.2 |
| 30 | 8.6 | --- | 3.0 | 6.0 | --- | .97 | 6.3 | --- | .82 |
| 31 | --- | --- | --- | 5.9 | --- | .88 | --- | --- | --- |
| TOTAL | 299.3 | --- | 313.3 | 224.0 | --- | 59.85 | 181.0 | --- | 22.23 |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 5.7 | --- | .51 | 5.1 | 60 | .83 | 3.8 | 4 | .04 |
| 2 | 5.6 | --- | .38 | 4.7 | 39 | .49 | 4.3 | 26 | .30 |
| 3 | 5.6 | 19 | .29 | 4.6 | --- | .37 | 4.3 | 10 | .12 |
| 4 | 5.6 | 21 | .32 | 4.4 | --- | .24 | 4.2 | 4 | .05 |
| 5 | 5.5 | 20 | .30 | 4.7 | --- | .32 | 4.0 | 5 | .05 |
| 6 | 5.2 | 20 | .28 | 4.6 | --- | .25 | 4.0 | 8 | .09 |
| 7 | 5.1 | 17 | .23 | 4.5 | --- | .21 | 3.9 | 9 | .09 |
| 8 | 5.3 | 16 | .23 | 4.4 | --- | .17 | 3.8 | 9 | .09 |
| 9 | 5.1 | 23 | .32 | 4.2 | --- | .14 | 3.8 | 6 | .06 |
| 10 | 5.0 | 20 | .27 | 4.3 | --- | .15 | 3.9 | 7 | .07 |
| 11 | 4.9 | 20 | .26 | 4.3 | --- | .15 | 4.4 | 9 | .11 |
| 12 | 4.8 | 13 | .17 | 4.3 | 13 | .15 | 5.3 | 20 | .29 |
| 13 | 4.8 | --- | .30 | 4.4 | --- | .15 | 7.2 | 56 | 1.1 |
| 14 | 4.8 | 48 | .62 | 4.4 | --- | .15 | 6.6 | 52 | .93 |
| 15 | 4.6 | 24 | .30 | 4.3 | --- | .14 | 5.5 | 70 | 1.0 |
| 16 | 4.9 | 18 | .24 | 4.5 | --- | .17 | 5.2 | 48 | .67 |
| 17 | 4.8 | 16 | .21 | 5.4 | --- | .22 | 5.0 | 28 | .38 |
| 18 | 4.8 | --- | .18 | 6.0 | 24 | .39 | 4.9 | 36 | .48 |
| 19 | 4.8 | 14 | .18 | 5.2 | 60 | .84 | 4.5 | 28 | .34 |
| 20 | 4.8 | 15 | .19 | 4.8 | 15 | .19 | 4.6 | 34 | .42 |
| 21 | 4.6 | 16 | .20 | 4.8 | 12 | .16 | 4.6 | 27 | .34 |
| 22 | 4.6 | --- | .17 | 4.8 | 13 | .17 | 4.8 | 36 | .47 |
| 23 | 4.7 | 15 | .19 | 4.7 | 21 | .27 | 4.9 | 38 | .50 |
| 24 | 4.7 | 16 | .20 | 4.9 | 45 | .60 | 5.0 | 26 | .35 |
| 25 | 4.7 | 17 | .20 | 4.4 | 41 | .49 | 5.1 | 24 | .33 |
| 26 | 4.8 | 17 | .22 | 4.0 | 15 | .16 | 5.1 | 41 | .56 |
| 27 | 5.1 | 20 | .28 | 4.1 | 6 | .07 | 5.1 | 59 | .81 |
| 28 | 6.0 | 64 | 1.0 | 4.3 | 25 | .29 | 5.1 | 40 | .55 |
| 29 | 7.2 | --- | 18 | 4.2 | 10 | .11 | 4.9 | 28 | .37 |
| 30 | 5.6 | --- | 4.2 | 4.0 | --- | .08 | 5.0 | 36 | .49 |
| 31 | 5.6 | 120 | 1.8 | 3.9 | 4 | .04 | --- | --- | --- |
| TOTAL | 159.3 | --- | 32.24 | 141.2 | --- | 8.16 | 142.8 | --- | 11.45 |

ARKANSAS RIVER BASIN

07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO

LOCATION.--Lat 38°28'02", long 105°51'34", in SW1/4 sec.27, T.49 N., R.10 E., Fremont County, Hydrologic Unit 11020001, on left bank 660 ft upstream from Denver and Rio Grande Railroad bridge, 960 ft upstream from mouth, and 1.9 mi northwest of Howard.

DRAINAGE AREA.--211 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1980 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,780 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 19, 1983, at site 360 ft downstream at datum 5.07 ft, lower.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 1, 13-16, 21, Dec. 24 to Jan 14, 17-27, Feb. 2, 4-7, 10-11, 13-15, 18-19, 25, Mar. 8, 12-15, 17-18, 27-30, and July 16-18. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--7 years (water years 1982-88) 10.7 ft³/s; 7,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,470 ft³/s, July 28, 1984, gage height, 8.05 ft, (from floodmark) from rating curve extended above 1,950 ft³/s; minimum daily, 0.56 ft³/s, Feb. 4, 5, 1982.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| June 28 | 1630 | *65 | *4.63 | June 29 | 0030 | 47 | 4.45 |

Minimum daily discharge, 4.6 ft³/s, Sept. 21.DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 1 | 8.6 | 13 | 8.7 | 7.5 | 8.6 | 8.4 | 13 | 14 | 11 | 12 | 11 | 6.6 |
| 2 | 8.6 | 13 | 8.7 | 7.0 | 8.5 | 8.6 | 14 | 13 | 10 | 11 | 8.6 | 7.8 |
| 3 | 8.8 | 13 | 8.6 | 7.5 | 8.6 | 8.6 | 13 | 12 | 10 | 9.8 | 8.2 | 7.0 |
| 4 | 8.8 | 13 | 8.6 | 7.5 | 8.5 | 8.9 | 15 | 13 | 9.8 | 10 | 7.8 | 6.2 |
| 5 | 9.0 | 13 | 9.1 | 7.5 | 8.5 | 9.5 | 18 | 13 | 10 | 10 | 7.8 | 5.9 |
| 6 | 9.4 | 13 | 9.5 | 8.0 | 8.5 | 9.4 | 17 | 13 | 10 | 8.8 | 7.8 | 5.9 |
| 7 | 9.5 | 13 | 9.5 | 7.5 | 9.0 | 9.6 | 21 | 12 | 9.9 | 8.2 | 8.2 | 5.6 |
| 8 | 9.7 | 13 | 10 | 8.0 | 9.2 | 9.5 | 25 | 12 | 9.6 | 8.5 | 7.8 | 5.2 |
| 9 | 10 | 12 | 9.8 | 8.0 | 9.2 | 9.6 | 22 | 11 | 9.0 | 8.7 | 6.6 | 4.9 |
| 10 | 10 | 12 | 10 | 8.5 | 9.0 | 9.9 | 15 | 11 | 8.8 | 8.7 | 5.9 | 5.2 |
| 11 | 10 | 11 | 10 | 8.0 | 9.0 | 10 | 14 | 11 | 8.8 | 8.4 | 5.9 | 5.9 |
| 12 | 10 | 12 | 10 | 8.2 | 9.3 | 10 | 16 | 11 | 8.2 | 8.0 | 5.9 | 8.6 |
| 13 | 10 | 12 | 9.5 | 8.2 | 9.0 | 10 | 18 | 11 | 8.2 | 7.4 | 5.6 | 10 |
| 14 | 12 | 12 | 8.5 | 8.5 | 9.0 | 11 | 18 | 11 | 8.3 | 8.2 | 5.2 | 8.6 |
| 15 | 11 | 13 | 8.0 | 9.3 | 9.5 | 11 | 17 | 9.9 | 8.2 | 6.2 | 4.9 | 7.0 |
| 16 | 11 | 11 | 8.0 | 9.5 | 9.1 | 11 | 19 | 9.0 | 8.5 | 7.5 | 5.2 | 5.9 |
| 17 | 11 | 11 | 8.2 | 9.5 | 9.4 | 10 | 24 | 9.0 | 8.7 | 9.0 | 7.7 | 5.6 |
| 18 | 10 | 12 | 8.2 | 9.0 | 9.5 | 11 | 20 | 9.1 | 8.4 | 9.5 | 12 | 5.1 |
| 19 | 11 | 9.7 | 8.6 | 8.0 | 9.5 | 11 | 22 | 11 | 8.8 | 10 | 7.8 | 5.0 |
| 20 | 11 | 9.7 | 9.1 | 7.0 | 9.5 | 11 | 22 | 12 | 8.3 | 9.0 | 6.6 | 4.8 |
| 21 | 11 | 9.8 | 9.5 | 6.5 | 9.5 | 11 | 20 | 12 | 8.9 | 7.8 | 6.2 | 4.6 |
| 22 | 11 | 9.8 | 9.8 | 6.5 | 9.3 | 12 | 16 | 11 | 9.0 | 7.0 | 7.0 | 4.7 |
| 23 | 11 | 9.6 | 10 | 6.5 | 9.4 | 14 | 19 | 11 | 9.2 | 6.6 | 7.0 | 4.9 |
| 24 | 11 | 9.9 | 10 | 7.0 | 9.5 | 16 | 15 | 12 | 9.9 | 6.2 | 7.4 | 5.0 |
| 25 | 12 | 9.7 | 9.5 | 8.0 | 9.3 | 15 | 14 | 13 | 11 | 6.2 | 6.2 | 5.0 |
| 26 | 12 | 10 | 8.5 | 8.5 | 9.0 | 16 | 14 | 11 | 11 | 6.6 | 5.9 | 4.9 |
| 27 | 11 | 9.5 | 9.0 | 9.0 | 9.0 | 17 | 14 | 11 | 12 | 7.0 | 6.6 | 5.0 |
| 28 | 12 | 9.0 | 9.5 | 9.0 | 8.5 | 17 | 14 | 11 | 14 | 9.5 | 6.2 | 4.8 |
| 29 | 12 | 8.6 | 9.5 | 9.0 | 8.4 | 16 | 14 | 11 | 25 | 14 | 6.2 | 5.1 |
| 30 | 12 | 8.6 | 9.0 | 9.0 | --- | 15 | 14 | 10 | 15 | 12 | 6.2 | 5.2 |
| 31 | 13 | --- | 8.0 | 8.9 | --- | 14 | --- | 11 | --- | 12 | 6.2 | --- |
| TOTAL | 327.4 | 335.9 | 282.9 | 250.1 | 262.3 | 361.0 | 517 | 352.0 | 307.5 | 273.8 | 217.6 | 176.0 |
| MEAN | 10.6 | 11.2 | 9.13 | 8.07 | 9.04 | 11.6 | 17.2 | 11.4 | 10.2 | 8.83 | 7.02 | 5.87 |
| MAX | 13 | 13 | 10 | 9.5 | 9.5 | 17 | 25 | 14 | 25 | 14 | 12 | 10 |
| MIN | 8.6 | 8.6 | 8.0 | 6.5 | 8.4 | 8.4 | 13 | 9.0 | 8.2 | 6.2 | 4.9 | 4.6 |
| AC-FT | 649 | 666 | 561 | 496 | 520 | 716 | 1030 | 698 | 610 | 543 | 432 | 349 |

CAL YR 1987 TOTAL 6933.0 MEAN 19.0 MAX 153 MIN 4.5 AC-FT 13750
WTR YR 1988 TOTAL 3663.5 MEAN 10.0 MAX 25 MIN 4.6 AC-FT 7270

ARKANSAS RIVER BASIN

07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO--Continued

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1981 to current year (seasonal record only).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: May 1981 to current year (seasonal record only).

INSTRUMENTATION.--Pumping sediment sampler since May 1981.

REMARKS.--In addition to pumping sediment sampler, samples are collected by local observer who also exchanges sediment bottles in sampler on a prescribed interval. Sediment discharge record is considered good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily, 18,200 mg/L Apr. 18, 1987; minimum daily, 1 mg/L, Sept. 22, 1981, many days in water year 1986 and Oct. 16, 1986.

SEDIMENT LOADS: Maximum daily, 31,500 tons (estimated) July 28, 1984; minimum daily, no load Sept. 12-30, 1981.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily, 2,070 mg/L June 28; minimum daily, 2 mg/L May 27-29.

SEDIMENT LOADS: Maximum daily, 183 tons June 29; minimum daily, 0.06 tons May 27-29.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-------|------|---|---|---|---|
| NOV | | | | | |
| 06... | 1220 | 13 | 1 | 0.03 | -- |
| JAN | | | | | |
| 13... | 1600 | 8.5 | 101 | 2.3 | -- |
| FEB | | | | | |
| 23... | 1400 | 9.4 | 1 | 0.02 | -- |
| APR | | | | | |
| 07... | 1100 | 15 | 73 | 3.0 | 83 |
| 12... | 1430 | 13 | 24 | 0.84 | 80 |
| 19... | 1300 | 19 | 111 | 5.7 | 83 |
| 20... | 1430 | 22 | 74 | 4.4 | 94 |
| MAY | | | | | |
| 11... | 1440 | 11 | 3 | 0.09 | -- |
| 25... | 1020 | 12 | 4 | 0.13 | -- |
| JUN | | | | | |
| 10... | 1155 | 8.7 | 17 | 0.4 | -- |
| 23... | 1130 | 10 | 22 | 0.59 | -- |
| JUL | | | | | |
| 14... | 0845 | 9.3 | 39 | 0.98 | -- |
| 27... | 1130 | 7.4 | 29 | 0.58 | -- |
| AUG | | | | | |
| 03... | 1645 | 7.8 | 44 | 0.93 | -- |
| 09... | 1215 | 6.9 | 21 | 0.39 | -- |
| 16... | 1015 | 5.6 | 35 | 0.53 | -- |
| SEP | | | | | |
| 14... | 1000 | 8.8 | 43 | 1.0 | -- |

ARKANSAS RIVER BASIN

07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| OCTOBER | | | NOVEMBER | | | DECEMBER | | | |
| 1 | 8.6 | --- | .21 | 13 | --- | --- | 8.7 | --- | --- |
| 2 | 8.6 | --- | .21 | 13 | --- | --- | 8.7 | --- | --- |
| 3 | 8.8 | --- | .21 | 13 | --- | --- | 8.6 | --- | --- |
| 4 | 8.8 | --- | .21 | 13 | --- | --- | 8.6 | --- | --- |
| 5 | 9.0 | --- | .22 | 13 | --- | --- | 9.1 | --- | --- |
| 6 | 9.4 | --- | .23 | 13 | --- | --- | 9.5 | --- | --- |
| 7 | 9.5 | --- | .26 | 13 | --- | --- | 9.5 | --- | --- |
| 8 | 9.7 | --- | .26 | 13 | --- | --- | 10 | --- | --- |
| 9 | 10 | 10 | .27 | 12 | --- | --- | 9.8 | --- | --- |
| 10 | 10 | --- | .27 | 12 | --- | --- | 10 | --- | --- |
| 11 | 10 | --- | .27 | 11 | --- | --- | 10 | --- | --- |
| 12 | 10 | --- | .27 | 12 | --- | --- | 10 | --- | --- |
| 13 | 10 | --- | .27 | 12 | --- | --- | 9.5 | --- | --- |
| 14 | 12 | --- | .39 | 12 | --- | --- | 8.5 | --- | --- |
| 15 | 11 | --- | .30 | 13 | --- | --- | 8.0 | --- | --- |
| 16 | 11 | --- | .30 | 11 | --- | --- | 8.0 | --- | --- |
| 17 | 11 | --- | .30 | 11 | --- | --- | 8.2 | --- | --- |
| 18 | 10 | --- | .27 | 12 | --- | --- | 8.2 | --- | --- |
| 19 | 11 | --- | .30 | 9.7 | --- | --- | 8.6 | --- | --- |
| 20 | 11 | --- | .30 | 9.7 | --- | --- | 9.1 | --- | --- |
| 21 | 11 | --- | .30 | 9.8 | --- | --- | 9.5 | --- | --- |
| 22 | 11 | --- | .30 | 9.8 | --- | --- | 9.8 | --- | --- |
| 23 | 11 | --- | .30 | 9.6 | --- | --- | 10 | --- | --- |
| 24 | 11 | --- | .30 | 9.9 | --- | --- | 10 | --- | --- |
| 25 | 12 | --- | .39 | 9.7 | --- | --- | 9.5 | --- | --- |
| 26 | 12 | --- | .32 | 10 | --- | --- | 8.5 | --- | --- |
| 27 | 11 | --- | .30 | 9.5 | --- | --- | 9.0 | --- | --- |
| 28 | 12 | --- | .32 | 9.0 | --- | --- | 9.5 | --- | --- |
| 29 | 12 | --- | .32 | 8.6 | --- | --- | 9.5 | --- | --- |
| 30 | 12 | --- | .32 | 8.6 | --- | --- | 9.0 | --- | --- |
| 31 | 13 | --- | .53 | --- | --- | --- | 8.0 | --- | --- |
| TOTAL | 327.4 | --- | 9.02 | 335.9 | --- | --- | 282.9 | --- | --- |
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | 7.5 | --- | --- | 8.6 | --- | --- | 8.4 | --- | --- |
| 2 | 7.0 | --- | --- | 8.5 | --- | --- | 8.6 | --- | --- |
| 3 | 7.5 | --- | --- | 8.6 | --- | --- | 8.6 | --- | --- |
| 4 | 7.5 | --- | --- | 8.5 | --- | --- | 8.9 | --- | --- |
| 5 | 7.5 | --- | --- | 8.5 | --- | --- | 9.5 | --- | --- |
| 6 | 8.0 | --- | --- | 8.5 | --- | --- | 9.4 | --- | --- |
| 7 | 7.5 | --- | --- | 9.0 | --- | --- | 9.6 | --- | --- |
| 8 | 8.0 | --- | --- | 9.2 | --- | --- | 9.5 | --- | --- |
| 9 | 8.0 | --- | --- | 9.2 | --- | --- | 9.6 | --- | --- |
| 10 | 8.5 | --- | --- | 9.0 | --- | --- | 9.9 | --- | --- |
| 11 | 8.0 | --- | --- | 9.0 | --- | --- | 10 | --- | --- |
| 12 | 8.2 | --- | --- | 9.3 | --- | --- | 10 | --- | --- |
| 13 | 8.2 | --- | --- | 9.0 | --- | --- | 10 | --- | --- |
| 14 | 8.5 | --- | --- | 9.0 | --- | --- | 11 | --- | --- |
| 15 | 9.3 | --- | --- | 9.5 | --- | --- | 11 | --- | --- |
| 16 | 9.5 | --- | --- | 9.1 | --- | --- | 11 | --- | --- |
| 17 | 9.5 | --- | --- | 9.4 | --- | --- | 10 | --- | --- |
| 18 | 9.0 | --- | --- | 9.5 | --- | --- | 11 | --- | --- |
| 19 | 8.0 | --- | --- | 9.5 | --- | --- | 11 | --- | --- |
| 20 | 7.0 | --- | --- | 9.5 | --- | --- | 11 | --- | --- |
| 21 | 6.5 | --- | --- | 9.5 | --- | --- | 11 | --- | --- |
| 22 | 6.5 | --- | --- | 9.3 | --- | --- | 12 | --- | --- |
| 23 | 6.5 | --- | --- | 9.4 | --- | --- | 14 | --- | --- |
| 24 | 7.0 | --- | --- | 9.5 | --- | --- | 16 | --- | --- |
| 25 | 8.0 | --- | --- | 9.3 | --- | --- | 15 | --- | --- |
| 26 | 8.5 | --- | --- | 9.0 | --- | --- | 16 | --- | --- |
| 27 | 9.0 | --- | --- | 9.0 | --- | --- | 17 | --- | --- |
| 28 | 9.0 | --- | --- | 8.5 | --- | --- | 17 | --- | --- |
| 29 | 9.0 | --- | --- | 8.4 | --- | --- | 16 | --- | --- |
| 30 | 9.0 | --- | --- | --- | --- | --- | 15 | --- | --- |
| 31 | 8.9 | --- | --- | --- | --- | --- | 14 | --- | --- |
| TOTAL | 250.1 | --- | --- | 262.3 | --- | --- | 361.0 | --- | --- |

ARKANSAS RIVER BASIN

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07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| APRIL | | | | MAY | | | JUNE | | |
| 1 | 13 | --- | .53 | 14 | 19 | .72 | 11 | 4 | .12 |
| 2 | 14 | --- | .76 | 13 | 16 | .56 | 10 | 4 | .11 |
| 3 | 13 | --- | .53 | 12 | --- | .42 | 10 | 6 | .16 |
| 4 | 15 | --- | .81 | 13 | 8 | .28 | 9.8 | 8 | .21 |
| 5 | 18 | --- | 2.4 | 13 | 9 | .32 | 10 | 12 | .32 |
| 6 | 17 | --- | 2.1 | 13 | 15 | .53 | 10 | --- | .35 |
| 7 | 21 | 77 | 4.4 | 12 | 8 | .26 | 9.9 | 12 | .32 |
| 8 | 25 | --- | 6.8 | 12 | --- | .19 | 9.6 | 14 | .36 |
| 9 | 22 | --- | 4.2 | 11 | 5 | .15 | 9.0 | 15 | .36 |
| 10 | 15 | --- | 1.0 | 11 | 6 | .18 | 8.8 | 14 | .33 |
| 11 | 14 | --- | .76 | 11 | 4 | .12 | 8.8 | 10 | .24 |
| 12 | 16 | 24 | 1.0 | 11 | 4 | .12 | 8.2 | 8 | .18 |
| 13 | 18 | 43 | 2.1 | 11 | 3 | .09 | 8.2 | 8 | .18 |
| 14 | 18 | 41 | 2.0 | 11 | --- | .12 | 8.3 | 10 | .22 |
| 15 | 17 | --- | 1.6 | 9.9 | 5 | .13 | 8.2 | 10 | .22 |
| 16 | 19 | 49 | 2.5 | 9.0 | 4 | .10 | 8.5 | 11 | .25 |
| 17 | 24 | --- | 5.8 | 9.0 | 3 | .07 | 8.7 | 12 | .28 |
| 18 | 20 | 101 | 5.5 | 9.1 | 3 | .07 | 8.4 | 10 | .23 |
| 19 | 22 | 112 | 6.7 | 11 | 4 | .12 | 8.8 | 12 | .29 |
| 20 | 22 | 85 | 5.0 | 12 | --- | .16 | 8.3 | 19 | .43 |
| 21 | 20 | 70 | 3.8 | 12 | --- | .13 | 8.9 | 26 | .62 |
| 22 | 16 | 54 | 2.3 | 11 | 4 | .12 | 9.0 | 29 | .70 |
| 23 | 19 | 61 | 3.1 | 11 | 4 | .12 | 9.2 | 26 | .65 |
| 24 | 15 | 52 | 2.1 | 12 | 3 | .10 | 9.9 | 43 | 1.1 |
| 25 | 14 | 43 | 1.6 | 13 | 3 | .11 | 11 | 72 | 2.1 |
| 26 | 14 | 32 | 1.2 | 11 | 3 | .09 | 11 | 54 | 1.6 |
| 27 | 14 | --- | 1.4 | 11 | 2 | .06 | 12 | 60 | 1.9 |
| 28 | 14 | 36 | 1.4 | 11 | 2 | .06 | 14 | 2070 | 131 |
| 29 | 14 | 27 | 1.0 | 11 | --- | .06 | 25 | 2020 | 183 |
| 30 | 14 | 22 | .83 | 10 | 3 | .08 | 15 | 166 | 6.7 |
| 31 | --- | --- | --- | 11 | 4 | .12 | --- | --- | --- |
| TOTAL | 517 | --- | 75.22 | 352.0 | --- | 5.76 | 307.5 | --- | 334.53 |
| JULY | | | | AUGUST | | | SEPTEMBER | | |
| 1 | 12 | 108 | 3.5 | 11 | --- | 2.1 | 6.6 | 25 | .45 |
| 2 | 11 | 69 | 2.0 | 8.6 | --- | 1.3 | 7.8 | 46 | .97 |
| 3 | 9.8 | 59 | 1.6 | 8.2 | 45 | 1.0 | 7.0 | 34 | .64 |
| 4 | 10 | 61 | 1.6 | 7.8 | 37 | .78 | 6.2 | 34 | .57 |
| 5 | 10 | 103 | 2.8 | 7.8 | 36 | .78 | 5.9 | 19 | .30 |
| 6 | 8.8 | 58 | 1.4 | 7.8 | 24 | .51 | 5.9 | 22 | .35 |
| 7 | 8.2 | 32 | .71 | 8.2 | 22 | .49 | 5.6 | 29 | .44 |
| 8 | 8.5 | 29 | .67 | 7.8 | 23 | .48 | 5.2 | 20 | .28 |
| 9 | 8.7 | 34 | .80 | 6.6 | 21 | .37 | 4.9 | 22 | .29 |
| 10 | 8.7 | 31 | .73 | 5.9 | --- | .32 | 5.2 | 22 | .31 |
| 11 | 8.4 | 32 | .73 | 5.9 | --- | .24 | 5.9 | 22 | .35 |
| 12 | 8.0 | 26 | .56 | 5.9 | --- | .24 | 8.6 | 42 | .98 |
| 13 | 7.4 | 35 | .70 | 5.6 | --- | .23 | 10 | 45 | 1.2 |
| 14 | 8.2 | 38 | .84 | 5.2 | --- | .21 | 8.6 | 35 | .81 |
| 15 | 6.2 | --- | .50 | 4.9 | --- | .20 | 7.0 | 40 | .76 |
| 16 | 7.5 | --- | .71 | 5.2 | 35 | .49 | 5.9 | --- | .48 |
| 17 | 9.0 | --- | .97 | 7.7 | 181 | 6.3 | 5.6 | --- | .45 |
| 18 | 9.5 | --- | 1.2 | 12 | 217 | 7.4 | 5.1 | --- | .34 |
| 19 | 10 | 48 | 1.3 | 7.8 | 54 | 1.1 | 5.0 | --- | .34 |
| 20 | 9.0 | --- | .78 | 6.6 | 32 | .57 | 4.8 | --- | .26 |
| 21 | 7.8 | 28 | .59 | 6.2 | 29 | .49 | 4.6 | --- | .25 |
| 22 | 7.0 | 23 | .43 | 7.0 | 26 | .49 | 4.7 | --- | .25 |
| 23 | 6.6 | 20 | .36 | 7.0 | 27 | .51 | 4.9 | --- | .33 |
| 24 | 6.2 | 20 | .33 | 7.4 | 32 | .64 | 5.0 | --- | .40 |
| 25 | 6.2 | 13 | .22 | 6.2 | 27 | .45 | 5.0 | --- | .40 |
| 26 | 6.6 | 23 | .41 | 5.9 | --- | .43 | 4.9 | --- | .33 |
| 27 | 7.0 | 26 | .49 | 6.6 | 26 | .46 | 5.0 | --- | .34 |
| 28 | 9.5 | 49 | 1.3 | 6.2 | 23 | .39 | 4.8 | --- | .32 |
| 29 | 14 | 245 | 9.3 | 6.2 | --- | .39 | 5.1 | --- | .41 |
| 30 | 12 | 571 | 25 | 6.2 | 23 | .39 | 5.2 | --- | .49 |
| 31 | 12 | 96 | 3.1 | 6.2 | 20 | .33 | --- | --- | --- |
| TOTAL | 273.8 | --- | 65.63 | 217.6 | --- | 30.08 | 176.0 | --- | 14.09 |

LOCATION.--Lat 38°29'14", long 105°22'23", in NE1/4 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.

WATER DISCHARGE RECORDS

REVISED RECORDS.--WSP 1117: Drainage area.

REMARKS.--Estimated daily discharges: Mar. 14-15. Records good. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,310 ft³/s, June 26, 1983, gage height, 7.76 ft; maximum gage height, 9.13 ft, June 9, 1985; minimum daily discharge, 200 ft³/s, Jan. 5-7, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,550 ft³/s at 0645 June 5, gage height, 5.35 ft; minimum daily, 308 ft³/s. Apr. 12.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|----------|----------|---------|--------------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 458 | 514 | 484 | 409 | 406 | 409 | 337 | 474 | 1060 | 1720 | 1190 | 475 |
| 2 | 442 | 518 | 490 | 354 | 398 | 412 | 344 | 500 | 932 | 1410 | 985 | 525 |
| 3 | 440 | 520 | 505 | 339 | 395 | 393 | 356 | 501 | 841 | 1260 | 913 | 467 |
| 4 | 440 | 507 | 524 | 391 | 409 | 392 | 385 | 495 | 1070 | 1150 | 852 | 444 |
| 5 | 438 | 496 | 519 | 419 | 385 | 379 | 382 | 481 | 1960 | 1050 | 780 | 419 |
| 6 | 436 | 483 | 518 | 426 | 361 | 369 | 364 | 487 | 2400 | 970 | 660 | 409 |
| 7 | 434 | 497 | 505 | 397 | 380 | 379 | 354 | 499 | 2260 | 937 | 703 | 397 |
| 8 | 424 | 503 | 494 | 423 | 400 | 356 | 364 | 507 | 2090 | 890 | 673 | 384 |
| 9 | 425 | 488 | 471 | 413 | 405 | 340 | 383 | 508 | 2090 | 836 | 651 | 368 |
| 10 | 423 | 479 | 473 | 432 | 387 | 376 | 360 | 496 | 2110 | 796 | 587 | 351 |
| 11 | 426 | 490 | 498 | 454 | 385 | 362 | 322 | 533 | 2000 | 773 | 512 | 351 |
| 12 | 422 | 478 | 494 | 430 | 391 | 334 | 308 | 593 | 2040 | 738 | 493 | 432 |
| 13 | 421 | 451 | 450 | 365 | 395 | 336 | 315 | 631 | 1840 | 704 | 506 | 740 |
| 14 | 450 | 462 | 427 | 398 | 373 | 400 | 344 | 743 | 1650 | 686 | 492 | 618 |
| 15 | 472 | 448 | 379 | 421 | 363 | 550 | 358 | 945 | 1340 | 645 | 467 | 564 |
| 16 | 482 | 447 | 372 | 427 | 382 | 543 | 384 | 1130 | 1300 | 633 | 454 | 529 |
| 17 | 491 | 434 | 442 | 418 | 390 | 387 | 555 | 1240 | 1330 | 630 | 494 | 515 |
| 18 | 493 | 445 | 463 | 417 | 358 | 343 | 597 | 1300 | 1360 | 612 | 593 | 446 |
| 19 | 488 | 465 | 461 | 410 | 362 | 335 | 535 | 1330 | 1300 | 575 | 637 | 417 |
| 20 | 488 | 497 | 456 | 342 | 370 | 360 | 517 | 1280 | 1420 | 551 | 644 | 429 |
| 21 | 493 | 522 | 434 | 327 | 368 | 382 | 501 | 1160 | 1610 | 512 | 493 | 421 |
| 22 | 476 | 522 | 434 | 353 | 376 | 381 | 504 | 1030 | 1680 | 482 | 500 | 408 |
| 23 | 481 | 516 | 435 | 410 | 371 | 385 | 489 | 900 | 1790 | 473 | 526 | 401 |
| 24 | 477 | 515 | 443 | 397 | 368 | 377 | 644 | 770 | 1700 | 450 | 542 | 399 |
| 25 | 489 | 506 | 404 | 349 | 371 | 359 | 556 | 735 | 1570 | 440 | 573 | 389 |
| 26 | 497 | 511 | 382 | 400 | 378 | 357 | 434 | 882 | 1450 | 474 | 697 | 384 |
| 27 | 492 | 497 | 395 | 410 | 386 | 365 | 421 | 1040 | 1470 | 609 | 696 | 364 |
| 28 | 507 | 483 | 388 | 417 | 404 | 374 | 409 | 1200 | 1510 | 571 | 678 | 348 |
| 29 | 521 | 482 | 403 | 417 | 413 | 373 | 397 | 1290 | 1840 | 618 | 646 | 341 |
| 30 | 525 | 481 | 435 | 436 | --- | 344 | 409 | 1370 | 2020 | 834 | 585 | 348 |
| 31 | 510 | --- | 409 | 435 | --- | 369 | --- | 1290 | --- | 1420 | 503 | --- |
| TOTAL | 14461 | 14657 | 13987 | 12436 | 11130 | 11821 | 12628 | 26340 | 49033 | 24449 | 19725 | 13083 |
| MEAN | 466 | 489 | 451 | 401 | 384 | 381 | 421 | 850 | 1634 | 789 | 636 | 436 |
| MAX | 525 | 522 | 524 | 454 | 413 | 550 | 644 | 1370 | 2400 | 1720 | 1190 | 740 |
| MIN | 421 | 434 | 372 | 327 | 358 | 334 | 308 | 474 | 841 | 440 | 454 | 341 |
| AC-FT | 28680 | 29070 | 27740 | 24670 | 22080 | 23450 | 25050 | 52250 | 97260 | 48490 | 39120 | 25950 |
| CAL YR 1987 | TOTAL 343201 | MEAN 940 | MAX 5720 | MIN 310 | AC-FT 680700 | </ | | | | | | |

ARKANSAS RIVER BASIN

07094500 ARKANSAS RIVER AT PARKDALE, CO--Continued

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1981 to September 1982, November 1986 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1986 to current year.

WATER TEMPERATURE: November 1986 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing or of too poor of quality to be published.

Records are good. Daily maximum and minimum specific conductance data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 468 microsiemens Apr. 24, 1987; 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, 427 microsiemens Apr. 8; minimum, 135 microsiemens June 11.

WATER TEMPERATURE: Maximum 24.2°C July 6; minimum, 0.0°C many days during winter.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | OXYGEN, DIS- SOLVED (MG/L) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-------|------|---|---|--------------------------------|-------------------------------------|--|--|
| OCT | | | | | | | |
| 06... | 1200 | 424 | 350 | 8.7 | -- | <0.10 | <0.01 |
| NOV | | | | | | | |
| 20... | 1100 | 482 | 350 | 8.6 | -- | 0.20 | 0.02 |
| JAN | | | | | | | |
| 07... | 1315 | 373 | 350 | 8.5 | -- | 0.30 | 0.04 |
| FEB | | | | | | | |
| 09... | 1200 | 382 | 321 | 8.3 | 13.3 | 0.30 | 0.02 |
| MAR | | | | | | | |
| 15... | 1400 | 545 | 306 | 8.5 | 11.2 | 0.20 | 0.02 |
| APR | | | | | | | |
| 19... | 1000 | 543 | 298 | 8.5 | 9.4 | 0.10 | 0.02 |
| MAY | | | | | | | |
| 18... | 1230 | 1320 | 168 | 8.4 | 8.4 | 0.10 | 0.02 |
| JUN | | | | | | | |
| 07... | 1435 | 2320 | 157 | 8.4 | 7.7 | <0.10 | 0.02 |
| JUL | | | | | | | |
| 20... | 1335 | 581 | 282 | 8.7 | 8.2 | <0.10 | <0.04 |
| AUG | | | | | | | |
| 24... | 1250 | 515 | 311 | 8.5 | 7.9 | <0.10 | 0.03 |
| SEP | | | | | | | |
| 13... | 1300 | 822 | 318 | 8.4 | 8.8 | 0.20 | <0.01 |

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 358 | 341 | 342 | 375 | 349 | 357 | 339 | 290 | 171 | 174 | 225 | 362 |
| 2 | 357 | 344 | 349 | 382 | 351 | 356 | 353 | 281 | 186 | 183 | 246 | 364 |
| 3 | 358 | 347 | 350 | 389 | 348 | 356 | 357 | 281 | 203 | 197 | 251 | 376 |
| 4 | 351 | 350 | 352 | 382 | 351 | 358 | 367 | 283 | 214 | 206 | 255 | 378 |
| 5 | 351 | 357 | 348 | 370 | 359 | 360 | 387 | 285 | 188 | 215 | 256 | 386 |
| 6 | 352 | 360 | 347 | 360 | 365 | 363 | 406 | 293 | 148 | 224 | 266 | 394 |
| 7 | 349 | 356 | 349 | 355 | 360 | 361 | 408 | 297 | 145 | 231 | 271 | 386 |
| 8 | 352 | 352 | 354 | 350 | 354 | 359 | 414 | 313 | 148 | 237 | 267 | 376 |
| 9 | 354 | 352 | 359 | 350 | 343 | 363 | 380 | 318 | --- | 239 | 265 | 381 |
| 10 | 355 | 355 | 367 | --- | 346 | 360 | 365 | 316 | 140 | 250 | 263 | 375 |
| 11 | 356 | 357 | 365 | --- | 348 | 352 | 365 | 329 | 141 | 267 | 280 | 366 |
| 12 | 357 | 351 | 355 | --- | 345 | 352 | 373 | 305 | 142 | 256 | 289 | 353 |
| 13 | 357 | 349 | 361 | --- | 347 | --- | 377 | 294 | 148 | 260 | 291 | 327 |
| 14 | 357 | 348 | 372 | --- | 354 | --- | 363 | 284 | 154 | 253 | 291 | 332 |
| 15 | 357 | 349 | 382 | --- | 359 | --- | 351 | 232 | 169 | 262 | 295 | 335 |
| 16 | 349 | 355 | 398 | --- | 362 | 292 | 348 | 189 | 184 | 268 | 298 | 333 |
| 17 | 347 | 361 | 383 | --- | 356 | 294 | 329 | 168 | 179 | 274 | 305 | 320 |
| 18 | 340 | 361 | 359 | --- | 358 | 327 | 318 | 162 | 172 | 282 | 312 | 331 |
| 19 | --- | 356 | 354 | --- | 360 | 339 | 322 | 170 | 175 | 286 | 306 | 341 |
| 20 | --- | 344 | 353 | --- | 360 | 340 | 316 | 161 | 171 | 295 | 290 | 341 |
| 21 | --- | 343 | 355 | --- | 360 | 333 | 314 | 162 | 164 | 301 | 309 | 338 |
| 22 | --- | 334 | 360 | --- | 359 | 333 | 307 | 160 | 159 | 304 | 321 | 339 |
| 23 | 350 | 333 | 366 | --- | 357 | 334 | 302 | 166 | 155 | 306 | 319 | 342 |
| 24 | 349 | 335 | 372 | --- | 356 | 336 | 280 | 180 | 166 | 312 | 321 | 343 |
| 25 | 349 | 337 | 377 | --- | 356 | 340 | 267 | 195 | 172 | 316 | 344 | 345 |
| 26 | 345 | 338 | 390 | --- | 356 | 345 | 299 | 193 | 178 | 316 | 328 | 343 |
| 27 | 343 | 338 | 389 | --- | 358 | 345 | 300 | 186 | 179 | 291 | 326 | 344 |
| 28 | 342 | 330 | 388 | --- | 358 | 348 | 301 | 175 | 176 | 288 | 337 | 345 |
| 29 | 335 | 331 | 384 | --- | 356 | 340 | 306 | 168 | 175 | 290 | 341 | 343 |
| 30 | 331 | 349 | 374 | 340 | --- | 344 | 304 | 167 | 173 | 283 | 342 | 343 |
| 31 | 335 | --- | 372 | 345 | --- | 341 | --- | 166 | --- | 232 | 353 | --- |
| MEAN | --- | 347 | 365 | --- | 355 | --- | 341 | 231 | --- | 261 | 296 | 353 |
| MAX | --- | 361 | 398 | --- | 365 | --- | 414 | 329 | --- | 316 | 353 | 394 |
| MIN | --- | 330 | 342 | --- | 343 | --- | 267 | 160 | --- | 174 | 225 | 320 |

ARKANSAS RIVER BASIN

07094500 ARKANSAS RIVER AT PARKDALE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 15.5 | 11.3 | 10.9 | 8.8 | .7 | .5 | .1 | .0 | .3 | .0 | 8.1 | 3.7 |
| 2 | 15.5 | 11.5 | 10.9 | 8.9 | 2.2 | .5 | .1 | .0 | 1.1 | .0 | 5.7 | 2.2 |
| 3 | 15.7 | 11.4 | 9.4 | 7.2 | 4.2 | 1.7 | .1 | .0 | 1.1 | .0 | 6.3 | 1.9 |
| 4 | 14.9 | 11.1 | 9.2 | 6.8 | 5.3 | 3.4 | .1 | .0 | .6 | .0 | 8.0 | 3.3 |
| 5 | 14.4 | 11.1 | 8.6 | 6.0 | 6.0 | 4.5 | .1 | .0 | .3 | .0 | 7.7 | 3.0 |
| 6 | 14.2 | 10.4 | 10.2 | 7.6 | 5.3 | 3.9 | .1 | .0 | .9 | .0 | 8.1 | 3.4 |
| 7 | 14.0 | 10.5 | 7.9 | 6.2 | 5.1 | 3.0 | .1 | .0 | 1.4 | .0 | 7.4 | 1.4 |
| 8 | 12.7 | 10.3 | 7.9 | 5.9 | 4.6 | 2.6 | .1 | .0 | 2.0 | .0 | 6.1 | 1.1 |
| 9 | 14.0 | 10.7 | 6.1 | 3.8 | 2.8 | 1.0 | .1 | .0 | 1.9 | .0 | 7.4 | 1.7 |
| 10 | 12.2 | 9.1 | 5.3 | 3.1 | 4.5 | 1.9 | .1 | .0 | .7 | .0 | 7.4 | 2.6 |
| 11 | 11.7 | 7.7 | 6.8 | 4.6 | 5.5 | 3.7 | .4 | .0 | .0 | .0 | 3.9 | .6 |
| 12 | 12.0 | 7.9 | 5.5 | 3.3 | 3.6 | .2 | 1.2 | .0 | 2.0 | .0 | 4.1 | .0 |
| 13 | 13.8 | 11.1 | 6.1 | 4.3 | .1 | .0 | .5 | .0 | 2.3 | .0 | 3.0 | .0 |
| 14 | 12.7 | 10.6 | 7.2 | 4.3 | .0 | .0 | .9 | .0 | 3.3 | .2 | --- | --- |
| 15 | 13.1 | 9.3 | 5.9 | 4.1 | .0 | .0 | 1.2 | .0 | 4.3 | .0 | --- | --- |
| 16 | 12.1 | 9.4 | 4.9 | 2.8 | .0 | .0 | .4 | .0 | 4.2 | 1.0 | 2.8 | .9 |
| 17 | 11.8 | 8.0 | 3.7 | 1.3 | .0 | .0 | .1 | .0 | 4.2 | .8 | 4.4 | .0 |
| 18 | 11.3 | 8.1 | 2.7 | 1.4 | .0 | .0 | .1 | .0 | 2.8 | .0 | 5.3 | .2 |
| 19 | --- | --- | 3.1 | 1.4 | .3 | .0 | .1 | .0 | 3.8 | .0 | 8.3 | 1.3 |
| 20 | --- | --- | 4.2 | 1.9 | .9 | .0 | .0 | .0 | 5.0 | .5 | 9.9 | 4.1 |
| 21 | --- | --- | 4.4 | 2.6 | .5 | .0 | .0 | .0 | 5.9 | 1.5 | 10.3 | 5.2 |
| 22 | --- | --- | 5.2 | 3.2 | .8 | .0 | .0 | .0 | 6.1 | 2.3 | 11.5 | 6.5 |
| 23 | --- | --- | 4.0 | 2.5 | .7 | .0 | .1 | .0 | 5.1 | 1.9 | 11.9 | 7.2 |
| 24 | 9.9 | 7.3 | 4.2 | 2.6 | .0 | .0 | .0 | .0 | 4.9 | .9 | 10.5 | 6.0 |
| 25 | 11.3 | 7.9 | 3.3 | 1.8 | .0 | .0 | .1 | .0 | 5.9 | 1.2 | 9.8 | 3.4 |
| 26 | 11.4 | 8.2 | 2.5 | 1.4 | .0 | .0 | .8 | .0 | 6.6 | 2.0 | 11.6 | 5.6 |
| 27 | 10.4 | 7.8 | 2.0 | .5 | .0 | .0 | 1.4 | .0 | 7.2 | 2.7 | 13.0 | 7.0 |
| 28 | 9.0 | 6.8 | .8 | .5 | .0 | .0 | 2.1 | .0 | 8.1 | 4.6 | 9.8 | 3.5 |
| 29 | 9.9 | 6.4 | .8 | .5 | .1 | .0 | .5 | .0 | 7.4 | 3.8 | 7.5 | 1.9 |
| 30 | 12.1 | 9.6 | .6 | .5 | .1 | .0 | .8 | .0 | --- | --- | 5.4 | 3.3 |
| 31 | 11.0 | 8.5 | --- | --- | .1 | .0 | .5 | .0 | --- | --- | 3.2 | 1.1 |
| MONTH | --- | --- | 10.9 | .5 | 6.0 | .0 | 2.1 | .0 | 8.1 | .0 | --- | --- |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 4.4 | 1.0 | 14.9 | 10.4 | 14.8 | 11.3 | 21.3 | 17.3 | 18.6 | 16.0 | 17.5 | 15.0 |
| 2 | 7.8 | 2.6 | 11.1 | 8.3 | 16.9 | 12.1 | 20.9 | 18.2 | 19.1 | 16.3 | 17.7 | 14.8 |
| 3 | 10.9 | 4.5 | 12.8 | 7.6 | 19.9 | 14.9 | 21.8 | 18.0 | 20.9 | 17.3 | 19.1 | 14.8 |
| 4 | 12.8 | 7.4 | 14.0 | 8.2 | 19.8 | 15.9 | 22.3 | 18.6 | 20.5 | 18.4 | 18.7 | 14.7 |
| 5 | 12.9 | 7.5 | 15.4 | 9.9 | 18.2 | 14.6 | 22.8 | 18.0 | 22.1 | 18.5 | 18.6 | 14.1 |
| 6 | 14.3 | 8.2 | 14.1 | 10.2 | 16.9 | 13.2 | 24.2 | 19.6 | 21.6 | 19.1 | 18.3 | 14.3 |
| 7 | 15.5 | 9.3 | 12.6 | 7.3 | --- | --- | 23.5 | 20.3 | 20.7 | 17.3 | 18.1 | 14.5 |
| 8 | 13.7 | 9.6 | 12.0 | 8.4 | --- | --- | 22.9 | 19.3 | 20.4 | 17.5 | 18.6 | 14.3 |
| 9 | 9.2 | 5.6 | 13.5 | 8.2 | --- | --- | 21.1 | 18.5 | 21.1 | 16.5 | 18.1 | 14.5 |
| 10 | 10.4 | 3.6 | 14.0 | 10.5 | 16.8 | --- | 21.4 | 17.3 | 21.8 | 17.5 | 18.8 | 14.9 |
| 11 | 12.9 | 6.3 | 16.3 | 10.1 | 16.2 | 13.5 | 21.3 | 15.7 | 21.7 | 17.5 | 18.5 | 14.9 |
| 12 | 14.6 | 7.5 | 17.6 | 12.2 | 16.1 | 13.0 | 20.9 | 17.3 | 21.7 | 18.5 | 16.5 | 11.5 |
| 13 | 14.8 | 9.7 | 18.8 | 13.3 | 16.2 | 13.3 | 20.9 | 16.2 | 21.3 | 16.0 | --- | 10.7 |
| 14 | 13.3 | 9.9 | 17.7 | 14.2 | 16.5 | 12.6 | 20.5 | 17.2 | 22.0 | 17.4 | 14.5 | 10.8 |
| 15 | 14.9 | 9.3 | 17.4 | 13.6 | 17.5 | 14.6 | 18.4 | 16.8 | 20.9 | 17.7 | 15.9 | --- |
| 16 | 14.4 | 10.1 | 16.6 | 13.8 | 17.7 | 14.4 | 19.3 | 15.6 | 21.3 | 18.9 | 15.7 | 11.6 |
| 17 | 13.4 | 9.8 | 16.0 | 13.7 | 19.0 | 15.4 | 19.6 | 15.8 | 20.4 | 17.6 | 16.4 | 12.2 |
| 18 | 13.8 | 8.2 | 14.8 | 11.4 | 19.6 | 15.8 | 19.1 | 15.3 | 21.7 | 17.6 | 17.3 | 12.8 |
| 19 | 14.6 | 10.2 | 12.1 | 10.3 | 18.7 | 15.7 | --- | --- | 21.8 | 17.6 | 14.1 | 10.0 |
| 20 | 13.8 | 9.9 | 11.3 | 10.2 | 19.9 | 16.7 | 20.0 | --- | 21.0 | 17.7 | 14.7 | 10.3 |
| 21 | 14.1 | 9.6 | 12.7 | 9.2 | 18.9 | 16.9 | 22.0 | 16.8 | 22.5 | 18.2 | 14.3 | 12.8 |
| 22 | 12.2 | 7.8 | 12.1 | 9.7 | 20.0 | 16.6 | 21.0 | 16.8 | 22.3 | 18.2 | 15.7 | 12.0 |
| 23 | 12.4 | 6.2 | 15.9 | 10.2 | 19.6 | --- | 19.8 | 17.3 | 21.9 | 18.7 | 16.0 | 12.6 |
| 24 | 10.1 | 7.7 | 17.2 | 13.9 | 20.4 | 17.2 | 20.8 | 16.6 | 22.3 | 18.5 | 15.9 | 11.9 |
| 25 | 12.5 | 6.5 | 16.0 | 13.1 | 20.4 | 17.1 | 21.4 | 17.1 | 21.7 | 19.0 | 15.5 | 11.6 |
| 26 | 12.6 | 6.9 | 15.6 | 12.5 | 19.5 | 17.3 | 20.3 | 17.3 | 21.3 | 17.9 | 14.9 | 11.4 |
| 27 | 13.7 | 7.5 | 16.8 | 12.7 | 20.0 | 17.4 | 19.0 | 16.0 | 19.6 | 16.4 | 15.7 | 11.7 |
| 28 | 13.4 | 9.5 | 16.2 | 13.2 | 21.8 | 18.5 | 19.3 | 16.9 | 19.1 | 15.1 | 13.7 | 11.0 |
| 29 | 15.4 | 10.7 | 17.1 | 13.5 | 20.2 | 18.6 | 20.6 | 16.8 | 19.6 | 15.6 | 12.6 | 8.7 |
| 30 | 17.1 | 10.9 | 15.5 | 11.6 | 19.8 | 17.0 | 19.5 | 17.1 | 19.1 | 16.1 | 11.8 | 8.1 |
| 31 | --- | --- | 14.1 | 11.5 | --- | --- | 19.0 | 16.4 | 19.0 | 15.9 | --- | --- |
| MONTH | 17.1 | 1.0 | 18.8 | 7.3 | --- | --- | --- | --- | 22.5 | 15.1 | --- | --- |

ARKANSAS RIVER BASIN

07095000 GRAPE CREEK NEAR WESTCLIFFE, CO

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LOCATION.--Lat 38°11'10", long 105°28'59", in NW¼NW¼ 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 September 1984. 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. 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: Water year 1987, Nov. 1-2, 9, 11-14, 24-25, 27-29, Dec. 2-4, Dec. 17 to Jan. 24, Feb. 3, 15, 2-23, Mar. 1-2, and Aug. 28-31. 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.

AVERAGE DISCHARGE.--62 years (water years 1925-61, 1963-87), 34.6 ft³/s; 25,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft³/s, Aug. 2, 1966, gage height, 8.45 ft, from rating curve extended above 320 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.1 ft³/s, June 19-22, 1936.

EXTREMES FOR WATER YEAR 1987.--Peak discharges greater than base discharge of 250 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| Apr. 17 | 2000 | *1,410 | *4.25 | June 10 | 2000 | 550 | 2.82 |
| May 15 | 1300 | 760 | 3.23 | | | | |

Minimum daily discharge, 4.0 ft³/s, Jan. 17-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-----------|----------|---------|-------------|------|-------|-------|-------|------|------|------|
| 1 | 22 | 31 | 38 | 8.0 | 21 | 24 | 41 | 240 | 163 | 146 | 22 | 56 |
| 2 | 20 | 43 | 38 | 11 | 19 | 25 | 41 | 246 | 175 | 134 | 29 | 52 |
| 3 | 20 | 44 | 37 | 10 | 20 | 25 | 45 | 355 | 188 | 112 | 28 | 50 |
| 4 | 25 | 51 | 38 | 12 | 21 | 25 | 54 | 431 | 211 | 92 | 31 | 52 |
| 5 | 21 | 52 | 39 | 12 | 21 | 27 | 54 | 334 | 232 | 78 | 28 | 52 |
| 6 | 21 | 54 | 35 | 11 | 18 | 28 | 58 | 585 | 238 | 59 | 22 | 49 |
| 7 | 20 | 51 | 31 | 10 | 19 | 31 | 77 | 390 | 266 | 49 | 22 | 47 |
| 8 | 20 | 36 | 23 | 8.5 | 18 | 32 | 105 | 244 | 342 | 44 | 28 | 44 |
| 9 | 24 | 34 | 15 | 6.0 | 18 | 34 | 188 | 232 | 523 | 41 | 65 | 43 |
| 10 | 25 | 38 | 8.0 | 5.5 | 17 | 31 | 302 | 249 | 550 | 37 | 49 | 39 |
| 11 | 44 | 32 | 7.0 | 4.5 | 22 | 31 | 453 | 272 | 465 | 37 | 36 | 37 |
| 12 | 32 | 31 | 8.0 | 5.0 | 21 | 32 | 473 | 302 | 369 | 37 | 32 | 34 |
| 13 | 32 | 32 | 9.0 | 5.5 | 26 | 37 | 246 | 361 | 308 | 43 | 41 | 31 |
| 14 | 39 | 34 | 10 | 5.0 | 21 | 44 | 216 | 595 | 284 | 43 | 37 | 28 |
| 15 | 35 | 40 | 11 | 5.0 | 20 | 54 | 296 | 737 | 269 | 37 | 29 | 27 |
| 16 | 30 | 43 | 11 | 4.5 | 24 | 58 | 595 | 745 | 266 | 35 | 24 | 26 |
| 17 | 27 | 51 | 11 | 4.0 | 22 | 58 | 1000 | 675 | 235 | 37 | 22 | 25 |
| 18 | 25 | 61 | 10 | 4.0 | 22 | 55 | 968 | 635 | 224 | 43 | 21 | 24 |
| 19 | 26 | 125 | 9.5 | 4.0 | 21 | 68 | 854 | 580 | 209 | 37 | 19 | 21 |
| 20 | 56 | 146 | 9.0 | 4.0 | 19 | 81 | 655 | 595 | 180 | 29 | 17 | 21 |
| 21 | 65 | 88 | 8.5 | 4.0 | 18 | 81 | 238 | 473 | 168 | 27 | 17 | 24 |
| 22 | 43 | 71 | 8.5 | 4.0 | 19 | 84 | 178 | 396 | 156 | 24 | 41 | 22 |
| 23 | 35 | 49 | 9.5 | 8.0 | 25 | 78 | 173 | 334 | 123 | 25 | 128 | 20 |
| 24 | 34 | 47 | 10 | 10 | 20 | 68 | 190 | 327 | 123 | 27 | 84 | 19 |
| 25 | 31 | 54 | 9.0 | 16 | 22 | 61 | 198 | 314 | 128 | 31 | 132 | 18 |
| 26 | 28 | 49 | 9.0 | 16 | 23 | 59 | 183 | 275 | 132 | 28 | 99 | 18 |
| 27 | 27 | 41 | 8.5 | 20 | 21 | 55 | 185 | 229 | 139 | 28 | 139 | 18 |
| 28 | 27 | 46 | 8.5 | 20 | 24 | 47 | 229 | 206 | 146 | 35 | 99 | 19 |
| 29 | 26 | 49 | 8.0 | 18 | --- | 41 | 224 | 188 | 151 | 34 | 76 | 18 |
| 30 | 25 | 46 | 8.0 | 21 | --- | 39 | 235 | 168 | 198 | 27 | 68 | 18 |
| 31 | 26 | --- | 8.0 | 24 | --- | 38 | --- | 163 | --- | 25 | 62 | --- |
| TOTAL | 931 | 1569 | 493.0 | 300.5 | 582 | 1451 | 8754 | 11876 | 7161 | 1481 | 1547 | 952 |
| MEAN | 30.0 | 52.3 | 15.9 | 9.69 | 20.8 | 46.8 | 292 | 383 | 239 | 47.8 | 49.9 | 31.7 |
| MAX | 65 | 146 | 39 | 24 | 26 | 84 | 1000 | 745 | 550 | 146 | 139 | 56 |
| MIN | 20 | 31 | 7.0 | 4.0 | 17 | 24 | 41 | 163 | 123 | 24 | 17 | 18 |
| AC-FT | 1850 | 3110 | 978 | 596 | 1150 | 2880 | 17360 | 23560 | 14200 | 2940 | 3070 | 1890 |
| CAL YR 1986 | TOTAL 21004.8 | MEAN 57.5 | MAX 590 | MIN 7.0 | AC-FT 41660 | | | | | | | |
| WTR YR 1987 | TOTAL 37097.5 | MEAN 102 | MAX 1000 | MIN 4.0 | AC-FT 73580 | | | | | | | |

LOCATION.--Lat 38°26'02", long 105°15'24", in SE¼SE¼ sec.31, T.18 S., R.72 W., Fremont County, Hydrologic Unit 11020002, on right bank 800 ft upstream from Sand Creek, 0.7 mi downstream from Grape Creek, and 0.7 mi upstream from First Street Bridge in Canon City.

PERIOD OF RECORD.--January 1888 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near Canyon" 1900-1906.

GAGE.--Water-stage recorder. 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.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s, Aug. 2, 1921, gage height, 10.7 ft, site and datum then in use, from floodmark, from rating curve extended above 5,000 ft³/s; minimum daily, 69 ft³/s, May 13, 1959.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-------|-------|-------|----------|----------|---------|--------------|-------|-------|-------|-------|
| 1 | 363 | 375 | 405 | 328 | 363 | 399 | 323 | 318 | 986 | 1890 | 1070 | 381 |
| 2 | 351 | 369 | 418 | 315 | 363 | 418 | 323 | 381 | 852 | 1460 | 818 | 431 |
| 3 | 328 | 369 | 420 | 330 | 375 | 412 | 328 | 363 | 727 | 1250 | 740 | 399 |
| 4 | 328 | 357 | 444 | 380 | 381 | 399 | 375 | 345 | 923 | 1090 | 679 | 363 |
| 5 | 323 | 351 | 444 | 405 | 387 | 393 | 464 | 328 | 1770 | 995 | 618 | 334 |
| 6 | 318 | 340 | 444 | 385 | 387 | 381 | 412 | 328 | 2350 | 896 | 498 | 328 |
| 7 | 312 | 345 | 431 | 356 | 392 | 394 | 381 | 328 | 2280 | 852 | 529 | 306 |
| 8 | 306 | 351 | 419 | 385 | 405 | 375 | 369 | 345 | 2130 | 818 | 512 | 296 |
| 9 | 312 | 340 | 405 | 385 | 405 | 334 | 351 | 340 | 2100 | 759 | 487 | 285 |
| 10 | 306 | 340 | 405 | 390 | 381 | 357 | 334 | 334 | 2110 | 711 | 477 | 265 |
| 11 | 312 | 345 | 424 | 390 | 357 | 351 | 296 | 345 | 2040 | 695 | 402 | 240 |
| 12 | 306 | 351 | 431 | 380 | 363 | 328 | 265 | 418 | 2080 | 655 | 393 | 290 |
| 13 | 312 | 345 | 387 | 350 | 369 | 318 | 255 | 438 | 1890 | 600 | 390 | 548 |
| 14 | 334 | 351 | 380 | 360 | 351 | 345 | 264 | 532 | 1660 | 570 | 387 | 470 |
| 15 | 351 | 363 | 351 | 390 | 334 | 477 | 275 | 735 | 1350 | 512 | 366 | 424 |
| 16 | 369 | 369 | 328 | 390 | 351 | 491 | 280 | 941 | 1250 | 484 | 357 | 393 |
| 17 | 368 | 345 | 375 | 400 | 363 | 375 | 418 | 1090 | 1270 | 498 | 399 | 381 |
| 18 | 363 | 347 | 407 | 400 | 328 | 323 | 505 | 1190 | 1300 | 484 | 477 | 323 |
| 19 | 363 | 357 | 412 | 400 | 328 | 316 | 477 | 1250 | 1230 | 464 | 519 | 296 |
| 20 | 366 | 387 | 405 | 360 | 345 | 334 | 444 | 1230 | 1320 | 444 | 578 | 296 |
| 21 | 363 | 399 | 375 | 351 | 340 | 381 | 425 | 1100 | 1510 | 412 | 404 | 290 |
| 22 | 357 | 412 | 371 | 357 | 345 | 399 | 393 | 968 | 1600 | 375 | 405 | 280 |
| 23 | 366 | 412 | 375 | 380 | 351 | 405 | 369 | 818 | 1750 | 363 | 498 | 284 |
| 24 | 357 | 405 | 375 | 390 | 345 | 399 | 457 | 663 | 1700 | 340 | 470 | 270 |
| 25 | 363 | 399 | 357 | 400 | 345 | 375 | 477 | 592 | 1510 | 328 | 450 | 260 |
| 26 | 370 | 399 | 336 | 399 | 351 | 363 | 345 | 743 | 1370 | 328 | 563 | 259 |
| 27 | 369 | 412 | 334 | 412 | 357 | 387 | 328 | 923 | 1390 | 470 | 570 | 240 |
| 28 | 375 | 409 | 328 | 393 | 381 | 399 | 312 | 1060 | 1420 | 399 | 548 | 234 |
| 29 | 388 | 412 | 328 | 381 | 399 | 375 | 280 | 1170 | 1740 | 451 | 521 | 227 |
| 30 | 387 | 418 | 353 | 375 | --- | 328 | 270 | 1250 | 2100 | 615 | 484 | 224 |
| 31 | 381 | --- | 332 | 375 | --- | 347 | --- | 1220 | --- | 1220 | 405 | --- |
| TOTAL | 10767 | 11174 | 11999 | 11692 | 10542 | 11678 | 10795 | 22086 | 47708 | 21428 | 16014 | 9617 |
| MEAN | 347 | 372 | 387 | 377 | 364 | 377 | 360 | 712 | 1590 | 691 | 517 | 321 |
| MAX | 388 | 418 | 444 | 412 | 405 | 491 | 505 | 1250 | 2350 | 1890 | 1070 | 548 |
| MIN | 306 | 340 | 328 | 315 | 328 | 316 | 255 | 318 | 727 | 328 | 357 | 224 |
| AC-FT | 21360 | 22160 | 23800 | 23190 | 20910 | 23160 | 21410 | 43810 | 94630 | 42500 | 31760 | 19080 |
| CAL YR 1987 | TOTAL 326792 | | | | MEAN 895 | MAX 5460 | MIN 280 | AC-FT 648200 | | | | |
| WTR YR 1988 | TOTAL 195500 | | | | MEAN 534 | MAX 2350 | MIN 224 | AC-FT 387800 | | | | |

ARKANSAS RIVER BASIN

07096500 FOURMILE CREEK NEAR CANON CITY, CO

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LOCATION.--Lat 38°26'11", long 105°11'27", in NE1SW1 sec.35, T.18 S., R.70 W., Fremont County, Hydrologic Unit 11020002, on left bank 1,000 ft downstream from railroad bridge, 0.6 mi upstream from mouth, and 2.8 mi east of courthouse in Canon City.

DRAINAGE AREA.--434 mi².

PERIOD OF RECORD.--April to October 1910 (gage heights and discharge measurements only), October 1948 to September 1953, November 1970 to current year. Published as "Oil or Fourmile Creek" in 1910 and as Oil Creek near Canon City, 1948-53.

REVISED RECORDS.--WDR CO-84-1: 1982(M), 1983 (M); WDR CO-85-1: 1984 (M).

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1974. Elevation of gage is 5,254 ft, above National Geodetic Vertical Datum of 1929 from topographic map. April to October 1910, nonrecording gage at site 1,200 ft upstream at different datum. October 1948 to September 1953, water-stage recorder at site 0.6 mi upstream at different datum.

REMARKS.--Estimated daily discharges: June 19-29, and Sept.12-15. Records good except for estimated daily discharges, which are poor. Gage was moved from the right to the left bank on Nov. 3, at the same datum. Diversions for irrigation of about 500 acres upstream from station. Water imported to basin from Arkansas River for irrigation of a few small orchards upstream from station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--22 years (water years 1949-53, 1972-88), 29.5 ft³/s; 21,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,260 ft³/s, July 11, 1951, gage height, 9.25 ft, from floodmarks, site and datum then in use, from rating curve extended above 96 ft³/s, on basis of slope-area measurement of peak flow; no flow Sept. 3-10, 1950, Sept. 23, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|--------------------------------|------------------|--|------|--------------------------------|------------------|
| July 30 | 2200 | *725 | *4.22 | No other peak greater than base discharge. | | | |

Minimum daily, 4.2 ft³/s, Mar. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-------|-------|------|-------|-------|-------|------|------|-------|-------|
| 1 | 9.7 | 14 | 16 | 12 | 17 | 19 | 34 | 6.5 | 14 | 26 | 18 | 15 |
| 2 | 10 | 15 | 13 | 10 | 18 | 19 | 35 | 6.8 | 14 | 25 | 16 | 21 |
| 3 | 11 | 14 | 13 | 10 | 20 | 18 | 32 | 7.0 | 12 | 31 | 11 | 17 |
| 4 | 11 | 22 | 13 | 9.2 | 17 | 16 | 27 | 7.9 | 15 | 33 | 10 | 11 |
| 5 | 11 | 20 | 12 | 9.7 | 15 | 16 | 24 | 11 | 20 | 28 | 15 | 9.8 |
| 6 | 12 | 18 | 12 | 9.8 | 18 | 17 | 24 | 14 | 24 | 24 | 17 | 10 |
| 7 | 15 | 22 | 12 | 11 | 18 | 18 | 24 | 28 | 27 | 26 | 18 | 9.3 |
| 8 | 17 | 22 | 11 | 11 | 18 | 16 | 22 | 42 | 31 | 34 | 17 | 9.8 |
| 9 | 15 | 22 | 13 | 12 | 17 | 16 | 22 | 50 | 36 | 36 | 16 | 9.0 |
| 10 | 17 | 22 | 16 | 13 | 16 | 22 | 21 | 47 | 36 | 31 | 14 | 9.1 |
| 11 | 18 | 21 | 19 | 16 | 17 | 15 | 18 | 45 | 43 | 28 | 14 | 9.4 |
| 12 | 14 | 21 | 16 | 17 | 16 | 12 | 12 | 46 | 40 | 23 | 14 | 12 |
| 13 | 13 | 19 | 13 | 16 | 16 | 14 | 4.6 | 42 | 31 | 17 | 13 | 18 |
| 14 | 17 | 26 | 15 | 19 | 16 | 12 | 5.9 | 43 | 27 | 15 | 12 | 20 |
| 15 | 17 | 24 | 11 | 20 | 15 | 15 | 8.8 | 45 | 20 | 15 | 11 | 17 |
| 16 | 14 | 19 | 12 | 22 | 16 | 17 | 8.1 | 31 | 18 | 19 | 8.1 | 15 |
| 17 | 15 | 17 | 15 | 23 | 19 | 15 | 11 | 21 | 19 | 19 | 9.5 | 16 |
| 18 | 15 | 16 | 19 | 21 | 15 | 13 | 11 | 21 | 21 | 22 | 12 | 16 |
| 19 | 14 | 17 | 19 | 14 | 16 | 14 | 8.4 | 30 | 21 | 22 | 11 | 13 |
| 20 | 14 | 19 | 18 | 13 | 16 | 15 | 7.0 | 30 | 21 | 21 | 9.8 | 12 |
| 21 | 16 | 20 | 18 | 16 | 17 | 13 | 5.8 | 26 | 23 | 15 | 9.9 | 15 |
| 22 | 16 | 21 | 19 | 18 | 16 | 11 | 7.0 | 17 | 25 | 14 | 10 | 17 |
| 23 | 17 | 19 | 19 | 21 | 16 | 11 | 6.6 | 14 | 23 | 15 | 9.4 | 14 |
| 24 | 14 | 19 | 16 | 18 | 14 | 9.4 | 4.9 | 9.9 | 21 | 16 | 20 | 11 |
| 25 | 16 | 16 | 8.0 | 17 | 16 | 8.0 | 5.1 | 9.3 | 20 | 19 | 12 | 13 |
| 26 | 14 | 19 | 8.7 | 21 | 16 | 7.2 | 4.9 | 11 | 21 | 16 | 17 | 13 |
| 27 | 15 | 19 | 11 | 20 | 18 | 5.3 | 5.1 | 13 | 30 | 20 | 18 | 11 |
| 28 | 17 | 16 | 14 | 20 | 20 | 4.2 | 9.1 | 13 | 32 | 18 | 18 | 9.4 |
| 29 | 15 | 18 | 16 | 19 | 19 | 13 | 7.9 | 12 | 27 | 15 | 16 | 14 |
| 30 | 16 | 18 | 17 | 18 | --- | 29 | 6.2 | 12 | 26 | 48 | 9.7 | 13 |
| 31 | 16 | --- | 14 | 18 | --- | 30 | --- | 12 | --- | 38 | 12 | --- |
| TOTAL | 451.7 | 575 | 448.7 | 494.7 | 488 | 460.1 | 422.4 | 723.4 | 738 | 729 | 418.4 | 399.8 |
| MEAN | 14.6 | 19.2 | 14.5 | 16.0 | 16.8 | 14.8 | 14.1 | 23.3 | 24.6 | 23.5 | 13.5 | 13.3 |
| MAX | 18 | 26 | 19 | 23 | 20 | 30 | 35 | 50 | 43 | 48 | 20 | 21 |
| MIN | 9.7 | 14 | 8.0 | 9.2 | 14 | 4.2 | 4.6 | 6.5 | 12 | 14 | 8.1 | 9.0 |
| AC-FT | 896 | 1140 | 890 | 981 | 968 | 913 | 838 | 1430 | 1460 | 1450 | 830 | 793 |

CAL YR 1987 TOTAL 14913.8 MEAN 40.9 MAX 284 MIN 5.7 AC-FT 29580
WTR YR 1988 TOTAL 6349.2 MEAN 17.3 MAX 50 MIN 4.2 AC-FT 12590

LOCATION.--Lat 38°23'18", long 105°00'56", in NE¼NE¼ 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.

PERIOD OF RECORD.--May 1939 to September 1952, October 1974 to current year.

GAGE.--Water-stage recorder. 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.

AVERAGE DISCHARGE.--27 years (water years 1940-52, 1975-88), 800 ft³/s; 579,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft³/s, June 5, 1949, gage height, 12.12 ft, from rating curve extended above 5,300 ft³/s; minimum daily, 71 ft³/s, Apr. 2, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,750 ft³/s at 1830 July 7, gage height, 8.15 ft; minimum daily, 224 ft³/s, Sept. 11.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-------|-------------|----------|-------|---------|-------|-------|-------|-------|-------|-------|
| 1 | 408 | 477 | 437 | 476 | 355 | 395 | 304 | 322 | 1000 | 1920 | 1120 | 432 |
| 2 | 391 | 490 | 437 | 436 | 329 | 421 | 304 | 386 | 846 | 1570 | 853 | 454 |
| 3 | 365 | 495 | 449 | 403 | 357 | 416 | 317 | 371 | 708 | 1330 | 771 | 409 |
| 4 | 363 | 491 | 464 | 449 | 336 | 401 | 361 | 348 | 862 | 1160 | 726 | 351 |
| 5 | 359 | 482 | 464 | 467 | 319 | 394 | 431 | 334 | 1670 | 1040 | 672 | 323 |
| 6 | 357 | 467 | 465 | 473 | 325 | 381 | 429 | 332 | 2290 | 915 | 539 | 314 |
| 7 | 357 | 471 | 451 | 445 | 362 | 388 | 394 | 362 | 2250 | 1340 | 551 | 292 |
| 8 | 356 | 484 | 437 | 475 | 368 | 360 | 376 | 402 | 2070 | 914 | 545 | 279 |
| 9 | 354 | 465 | 421 | 471 | 383 | 321 | 382 | 410 | 2020 | 841 | 499 | 265 |
| 10 | 357 | 455 | 413 | 488 | 388 | 351 | 381 | 401 | 2060 | 763 | 492 | 248 |
| 11 | 364 | 455 | 443 | 494 | 354 | 347 | 340 | 406 | 2070 | 713 | 399 | 224 |
| 12 | 359 | 462 | 446 | 460 | 370 | 316 | 311 | 490 | 2150 | 667 | 382 | 270 |
| 13 | 358 | 458 | 401 | 405 | 363 | 303 | 303 | 501 | 1990 | 577 | 389 | 569 |
| 14 | 393 | 472 | 400 | 377 | 344 | 324 | 309 | 598 | 1770 | 560 | 390 | 525 |
| 15 | 426 | 481 | 454 | 430 | 331 | 476 | 323 | 804 | 1490 | 505 | 363 | 466 |
| 16 | 449 | 459 | 421 | 489 | 343 | 503 | 315 | 1010 | 1380 | 479 | 344 | 407 |
| 17 | 451 | 406 | 497 | 481 | 373 | 407 | 444 | 1120 | 1390 | 494 | 390 | 415 |
| 18 | 451 | 413 | 522 | 476 | 330 | 322 | 557 | 1190 | 1430 | 489 | 477 | 350 |
| 19 | 456 | 418 | 527 | 462 | 331 | 300 | 519 | 1320 | 1360 | 480 | 519 | 330 |
| 20 | 452 | 457 | 526 | 417 | 345 | 309 | 494 | 1300 | 1420 | 467 | 587 | 361 |
| 21 | 469 | 478 | 497 | 412 | 339 | 356 | 477 | 1140 | 1610 | 416 | 397 | 362 |
| 22 | 453 | 493 | 493 | 403 | 346 | 382 | 445 | 1020 | 1700 | 374 | 378 | 353 |
| 23 | 457 | 483 | 501 | 443 | 348 | 395 | 425 | 871 | 1830 | 364 | 435 | 347 |
| 24 | 453 | 474 | 513 | 453 | 331 | 388 | 500 | 736 | 1790 | 345 | 498 | 334 |
| 25 | 461 | 467 | 490 | 402 | 341 | 355 | 527 | 634 | 1620 | 329 | 422 | 326 |
| 26 | 465 | 477 | 453 | 428 | 340 | 334 | 356 | 758 | 1480 | 317 | 530 | 315 |
| 27 | 465 | 471 | 462 | 461 | 345 | 339 | 331 | 930 | 1450 | 462 | 557 | 302 |
| 28 | 475 | 442 | 465 | 467 | 368 | 346 | 322 | 1080 | 1470 | 422 | 550 | 283 |
| 29 | 491 | 441 | 474 | 471 | 389 | 330 | 294 | 1200 | 1710 | 464 | 516 | 281 |
| 30 | 499 | 443 | 501 | 478 | --- | 297 | 282 | 1260 | 2100 | 572 | 465 | 285 |
| 31 | 480 | --- | 506 | 427 | --- | 326 | --- | 1260 | --- | 1270 | 400 | --- |
| TOTAL | 12994 | 13927 | 14430 | 13919 | 10153 | 11283 | 11553 | 23296 | 48986 | 22559 | 16156 | 10472 |
| MEAN | 419 | 464 | 465 | 449 | 350 | 364 | 385 | 751 | 1633 | 728 | 521 | 349 |
| MAX | 499 | 495 | 527 | 494 | 389 | 503 | 557 | 1320 | 2290 | 1920 | 1120 | 569 |
| MIN | 354 | 406 | 400 | 377 | 319 | 297 | 282 | 322 | 708 | 317 | 344 | 224 |
| AC-FT | 25770 | 27620 | 28620 | 27610 | 20140 | 22380 | 22920 | 46210 | 97160 | 44750 | 32050 | 20770 |
| CAL YR 1987 | TOTAL 12994 | | TOTAL 13927 | MEAN 419 | 1010 | MAX 499 | | | | | | |

ARKANSAS RIVER BASIN

183

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.--Daily maximum and minimum specific conductance data available in district office. There was no temperature record June 22-28 and no conductance record June 15-27, and Sept. 1

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, 846 microsiemens Sept. 2; minimum, 193 microsiemens, June 8.

WATER TEMPERATURES: Maximum, 25.8°C Aug. 22; minimum, 0.0°C, many days during the winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (FTU) | 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) |
|-------|------|---|---|--------------------------------|--------------------------------------|------------------------------|-------------------------------------|--|--|---|
| OCT | | | | | | | | | | |
| 15... | 1000 | 418 | 565 | 8.6 | 11.0 | 2.5 | 11.6 | -- | -- | 200 |
| DEC | | | | | | | | | | |
| 17... | 0915 | 529 | 552 | 8.3 | 0.0 | 2.0 | 13.6 | K13 | K34 | 230 |
| FEB | | | | | | | | | | |
| 25... | 1400 | 310 | 546 | 8.6 | 7.5 | 1.5 | 12.2 | K1 | K18 | 240 |
| APR | | | | | | | | | | |
| 20... | 1100 | 514 | 454 | 8.4 | 11.5 | 24 | 10.0 | K720 | 51 | 190 |
| JUN | | | | | | | | | | |
| 23... | 1445 | 1740 | 231 | 8.5 | 21.0 | 8.4 | 7.90 | K500 | 420 | 93 |
| AUG | | | | | | | | | | |
| 23... | 1400 | 432 | 450 | 9.0 | 24.5 | 10 | 11.4 | E100. | 86 | 200 |

| DATE | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) | SODIUM, DIS- SOLVED (MG/L AS NA) | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 | CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 | ALKA- 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) |
|-------|--|--|--|---|---|--|---|---|---|--|
| OCT | | | | | | | | | | |
| 15... | 49 | 19 | 28 | 4.7 | 185 | 9 | 166 | 110 | 11 | 0.7 |
| DEC | | | | | | | | | | |
| 17... | 62 | 18 | 26 | 2.6 | 196 | 0 | 160 | 100 | 11 | 0.7 |
| FEB | | | | | | | | | | |
| 25... | 62 | 20 | 29 | 2.7 | 148 | 6 | 168 | 140 | 11 | 0.6 |
| APR | | | | | | | | | | |
| 20... | 49 | 16 | 24 | 2.6 | 156 | 4 | 135 | 89 | 10 | 0.5 |
| JUN | | | | | | | | | | |
| 23... | 26 | 6.8 | 8.7 | 1.3 | 80 | 0 | 66 | 38 | 3.4 | 0.5 |
| AUG | | | | | | | | | | |
| 23... | 56 | 15 | 22 | 2.5 | 142 | 14 | 139 | 83 | 8.3 | 0.5 |

| DATE | 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) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) |
|-------|---|--|---|---|---|---|--|---|--|
| OCT | | | | | | | | | |
| 15... | 13 | 371 | 332 | 0.16 | <0.01 | -- | 0.4 | 0.07 | 0.10 |
| DEC | | | | | | | | | |
| 17... | 15 | 339 | 332 | 0.43 | 0.04 | 0.05 | <0.2 | 0.04 | 0.03 |
| FEB | | | | | | | | | |
| 25... | 14 | 367 | 370 | 0.39 | <0.01 | -- | 0.3 | 0.09 | 0.12 |
| APR | | | | | | | | | |
| 20... | 12 | 290 | 284 | 0.18 | 0.05 | 0.06 | 0.7 | 0.15 | 0.08 |
| JUN | | | | | | | | | |
| 23... | 7.5 | 134 | 132 | <0.10 | <0.01 | -- | <0.2 | 0.21 | 0.03 |
| AUG | | | | | | | | | |
| 23... | 13 | 282 | 286 | <0.10 | <0.01 | -- | 0.3 | 0.06 | 0.05 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | ALUM- INUM, DIS- SOLVED (UG/L AS AL) | ARSENIC DIS- SOLVED (UG/L AS AS) | BARIUM, DIS- SOLVED (UG/L AS BA) | BERYL- LIUM, DIS- SOLVED (UG/L AS BE) | 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) |
|-----------|------|---|--|--|--|--|---|--|--|--|--|
| OCT 15... | 1000 | 40 | 4 | 40 | <0.5 | <1 | <1 | <3 | 5 | 41 | <5 |
| DEC 17... | 0915 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 25... | 1400 | 70 | 1 | 58 | <0.5 | <1 | <1 | <3 | 2 | 60 | <5 |
| APR 20... | 1100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 23... | 1445 | 20 | <1 | 35 | <0.5 | <1 | 1 | <3 | 3 | 22 | <5 |
| AUG 23... | 1400 | 20 | 1 | 64 | <0.5 | <1 | 1 | <3 | 4 | 26 | <5 |

| DATE | LITHIUM DIS- SOLVED (UG/L AS LI) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MERCURY DIS- SOLVED (UG/L AS HG) | 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) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|-----------|--|--|--|---|--|---|--|--|--|--|
| OCT 15... | 8 | 14 | -- | <10 | <1 | 2 | <1.0 | 430 | <6 | 12 |
| DEC 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 25... | 22 | 29 | <0.1 | <10 | <1 | 2 | <1.0 | 590 | <6 | 22 |
| APR 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 23... | 9 | 9 | <0.1 | <10 | 1 | <1 | <1.0 | 220 | <6 | 31 |
| AUG 23... | 19 | 12 | <0.1 | <10 | 2 | 1 | 1.0 | 490 | <6 | 35 |

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 540 | 524 | 530 | 523 | 543 | 527 | 570 | 518 | 273 | 257 | 364 | --- |
| 2 | 538 | 526 | 525 | 549 | 549 | 523 | 589 | 464 | 297 | 267 | 392 | 546 |
| 3 | 554 | 523 | 528 | 554 | 539 | 518 | 587 | 468 | 325 | 288 | 400 | 533 |
| 4 | 562 | 525 | 512 | 527 | 538 | 522 | 573 | 471 | 328 | 296 | 444 | 527 |
| 5 | 560 | 530 | 506 | 548 | 552 | 528 | 544 | 481 | 260 | 320 | 442 | 510 |
| 6 | 559 | 538 | 502 | 534 | 563 | 533 | 544 | 476 | 226 | 340 | 444 | 492 |
| 7 | 570 | 537 | 508 | 548 | 551 | 528 | 545 | 490 | 204 | 387 | 428 | 524 |
| 8 | 576 | 529 | 514 | 535 | 543 | 519 | 551 | 464 | 200 | 447 | 433 | 547 |
| 9 | 576 | 533 | 524 | 509 | 530 | 526 | 537 | 465 | 199 | 442 | 434 | 564 |
| 10 | 578 | 542 | 532 | 516 | 527 | 526 | 525 | 466 | 218 | 422 | 426 | 560 |
| 11 | 580 | 545 | 520 | 495 | 538 | 518 | 542 | 480 | 219 | 422 | 451 | 577 |
| 12 | 584 | 544 | 517 | 502 | 541 | 521 | 567 | 441 | 221 | 426 | 467 | 590 |
| 13 | 588 | 539 | 532 | 530 | 534 | 532 | 587 | 423 | 215 | 419 | 466 | 547 |
| 14 | 585 | 528 | 541 | 543 | 534 | 537 | 569 | 396 | 242 | 404 | 452 | 569 |
| 15 | 562 | 524 | 540 | 541 | 543 | 484 | 574 | 334 | --- | 404 | 470 | 658 |
| 16 | 544 | 531 | 566 | 518 | 544 | 453 | 560 | 282 | --- | 415 | 487 | 662 |
| 17 | 534 | 556 | 541 | 528 | 536 | 475 | 511 | 250 | --- | 414 | 477 | 620 |
| 18 | 532 | 558 | 524 | 527 | 549 | 524 | 453 | 246 | --- | 420 | 463 | 581 |
| 19 | 530 | 556 | 516 | 518 | 561 | 550 | 456 | 265 | --- | 433 | 443 | 562 |
| 20 | 529 | 547 | 510 | 529 | 561 | 550 | 461 | 305 | --- | 438 | 425 | 543 |
| 21 | 536 | 525 | 511 | 549 | 562 | 528 | 460 | 292 | --- | 453 | 455 | 502 |
| 22 | 533 | 511 | 521 | 547 | 560 | 513 | 466 | 292 | --- | 449 | 472 | 500 |
| 23 | 535 | 505 | 519 | 541 | 561 | 519 | 461 | 310 | --- | 458 | 471 | 503 |
| 24 | 536 | 510 | 508 | 519 | 566 | 523 | 444 | 337 | --- | 466 | 453 | 509 |
| 25 | 541 | 511 | 519 | 535 | 563 | 532 | 405 | 375 | --- | 468 | 461 | 511 |
| 26 | 542 | 509 | 506 | 537 | 554 | 536 | 480 | 369 | --- | 477 | 423 | 516 |
| 27 | 549 | 513 | 470 | 531 | 546 | 537 | 500 | 323 | --- | 458 | 404 | 528 |
| 28 | 543 | 519 | 489 | 530 | 538 | 532 | 524 | 290 | --- | 469 | 410 | 546 |
| 29 | 534 | 530 | 532 | 523 | 534 | 521 | 528 | 270 | --- | 519 | 425 | 559 |
| 30 | 528 | 531 | 490 | 524 | --- | 559 | 544 | 256 | --- | 481 | 450 | 568 |
| 31 | 526 | --- | 476 | 524 | --- | 560 | --- | 246 | --- | 382 | 471 | --- |
| MEAN | 551 | 530 | 517 | 530 | 547 | 524 | 522 | 372 | --- | 411 | 442 | --- |
| MAX | 588 | 558 | 566 | 554 | 566 | 560 | 589 | 518 | --- | 519 | 487 | --- |
| MIN | 526 | 505 | 470 | 495 | 527 | 453 | 405 | 246 | --- | 257 | 364 | --- |

ARKANSAS RIVER BASIN

185

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 17.6 | 12.0 | 12.9 | 9.9 | 2.7 | .0 | .0 | .0 | .8 | .0 | 10.6 | 5.0 |
| 2 | 17.3 | 11.6 | 13.2 | 10.1 | 3.7 | .5 | .0 | .0 | 1.9 | .0 | 7.2 | 4.1 |
| 3 | 17.7 | 11.7 | 11.8 | 8.8 | 5.0 | 1.3 | .0 | .0 | 2.7 | .0 | 7.0 | 2.9 |
| 4 | 17.2 | 11.8 | 11.9 | 7.7 | 6.0 | 3.2 | .0 | .0 | 2.7 | .0 | 8.8 | 2.8 |
| 5 | 16.1 | 11.4 | 11.7 | 7.1 | 6.4 | 4.5 | .0 | .0 | .0 | .0 | 9.1 | 2.9 |
| 6 | 15.8 | 10.3 | 11.4 | 8.6 | 7.2 | 4.3 | .0 | .0 | 1.7 | .0 | 9.9 | 3.3 |
| 7 | 15.3 | 10.1 | 10.7 | 7.8 | 6.9 | 3.3 | .0 | .0 | 3.7 | .0 | 6.4 | 4.0 |
| 8 | 14.5 | 10.5 | 10.6 | 7.1 | 5.0 | 2.6 | .0 | .0 | 4.5 | .0 | 7.8 | 1.9 |
| 9 | 15.4 | 10.9 | 8.9 | 4.9 | 4.5 | 1.2 | .0 | .0 | 4.8 | .0 | 9.8 | 2.3 |
| 10 | 13.1 | 9.3 | 7.9 | 3.6 | 5.9 | 1.8 | .0 | .0 | 1.6 | .0 | 8.7 | 4.1 |
| 11 | 13.0 | 7.6 | 8.5 | 5.1 | 6.2 | 3.4 | 1.1 | .0 | 4.2 | .0 | 5.6 | 3.3 |
| 12 | 14.1 | 8.0 | 8.7 | 4.7 | 3.1 | .6 | 2.0 | .0 | 6.2 | .6 | 6.5 | 1.0 |
| 13 | 14.6 | 11.1 | 8.2 | 4.4 | 1.7 | .0 | .5 | .0 | 5.8 | .4 | 6.0 | .2 |
| 14 | 13.4 | 11.3 | 8.1 | 4.5 | .4 | .0 | 1.7 | .0 | 4.7 | .0 | 6.5 | .0 |
| 15 | 14.5 | 9.7 | 6.7 | 5.0 | .0 | .0 | 1.8 | .2 | 6.4 | .4 | 6.4 | .7 |
| 16 | 13.6 | 9.5 | 6.1 | 3.2 | .0 | .0 | .7 | .0 | 6.1 | 1.6 | 3.0 | 1.2 |
| 17 | 13.6 | 8.4 | 5.7 | 1.7 | .0 | .0 | 2.3 | .0 | 5.6 | 1.2 | 5.8 | .3 |
| 18 | 13.3 | 8.7 | 4.3 | .5 | 1.9 | .0 | 1.8 | .0 | 5.7 | .0 | 7.3 | .0 |
| 19 | 12.0 | 8.1 | 5.2 | .9 | 2.9 | .0 | 1.3 | .0 | 5.6 | .6 | 9.9 | 1.6 |
| 20 | 11.5 | 7.2 | 5.7 | 1.8 | 2.7 | .1 | .0 | .0 | 7.0 | 1.0 | 12.3 | 4.3 |
| 21 | 11.5 | 6.2 | 6.0 | 2.4 | 2.4 | .0 | .0 | .0 | 8.1 | 2.3 | 12.9 | 5.9 |
| 22 | 10.9 | 7.1 | 6.3 | 2.6 | 2.8 | .0 | .0 | .0 | 7.4 | 2.8 | 12.8 | 6.8 |
| 23 | 10.9 | 6.2 | 5.1 | 2.2 | 1.9 | .0 | 1.8 | .0 | 6.2 | 2.5 | 13.9 | 7.6 |
| 24 | 11.5 | 7.1 | 5.2 | 1.6 | .1 | .0 | .8 | .0 | 6.8 | 1.3 | 11.0 | 7.5 |
| 25 | 12.3 | 8.2 | 4.4 | 1.0 | .0 | .0 | 1.6 | .0 | 8.1 | 1.3 | 11.4 | 4.9 |
| 26 | 13.1 | 8.6 | 3.2 | .6 | .0 | .0 | 2.2 | .0 | 9.2 | 2.8 | 14.2 | 6.2 |
| 27 | 12.3 | 8.1 | 3.3 | .0 | .0 | .0 | 3.9 | .0 | 9.8 | 3.1 | 15.0 | 7.6 |
| 28 | 11.4 | 7.4 | 2.9 | .0 | .0 | .0 | 4.6 | .2 | 9.4 | 5.7 | 11.1 | 4.8 |
| 29 | 12.1 | 7.9 | 2.1 | .0 | .0 | .0 | 3.4 | .8 | 10.2 | 4.3 | 10.1 | 2.2 |
| 30 | 12.9 | 9.9 | 2.2 | .0 | .0 | .0 | 4.6 | .4 | --- | --- | 8.6 | 4.3 |
| 31 | 13.4 | 10.0 | --- | --- | .0 | .0 | 1.8 | .0 | --- | --- | 5.4 | 3.4 |
| MONTH | 17.7 | 6.2 | 13.2 | .0 | 7.2 | .0 | 4.6 | .0 | 10.2 | .0 | 15.0 | .0 |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 6.5 | 2.2 | 18.4 | 12.6 | 17.1 | 11.7 | 20.7 | 16.3 | 22.4 | 17.9 | 20.3 | 16.7 |
| 2 | 9.1 | 3.3 | 12.6 | 9.8 | 19.0 | 12.7 | 21.5 | 17.7 | 22.5 | 17.6 | 21.0 | 16.1 |
| 3 | 13.0 | 4.6 | 15.7 | 7.6 | 21.5 | 14.8 | 22.2 | 17.5 | 23.9 | 18.4 | 21.3 | 15.9 |
| 4 | 14.1 | 7.5 | 17.4 | 9.0 | 22.0 | 16.1 | 21.7 | 17.9 | 22.5 | 19.8 | 21.7 | 15.1 |
| 5 | 14.1 | 8.7 | 18.1 | 10.1 | 19.5 | 16.7 | 22.5 | 17.7 | 24.8 | 19.5 | 21.5 | 14.6 |
| 6 | 15.3 | 7.9 | 16.9 | 11.7 | 18.0 | 14.2 | 24.5 | 18.6 | 24.4 | 20.3 | 21.4 | 14.5 |
| 7 | 17.0 | 9.2 | 16.0 | 8.9 | 18.4 | 15.2 | 22.8 | 11.8 | 23.5 | 19.4 | 21.2 | 15.4 |
| 8 | 13.2 | 9.7 | 15.4 | 9.1 | 19.1 | 15.8 | 22.7 | 18.5 | 24.6 | 18.6 | 21.4 | 15.5 |
| 9 | 9.4 | 6.2 | 18.0 | 9.1 | 19.0 | 16.7 | 21.8 | 18.2 | 23.7 | 18.2 | 21.1 | 14.9 |
| 10 | 12.1 | 4.4 | 17.1 | 10.9 | 19.8 | 16.5 | 21.7 | 16.8 | 24.8 | 18.4 | 22.1 | 15.5 |
| 11 | 14.1 | 5.6 | 19.5 | 10.8 | 18.9 | 15.8 | 22.4 | 16.7 | 24.1 | 18.8 | 21.0 | 16.4 |
| 12 | 16.3 | 7.7 | 20.6 | 12.8 | 18.2 | 15.3 | 24.6 | 17.7 | 24.7 | 18.4 | 17.0 | 14.0 |
| 13 | 17.1 | 9.5 | 21.0 | 13.8 | 16.3 | 14.8 | 25.6 | 18.9 | 24.6 | 17.7 | 13.9 | 12.7 |
| 14 | 14.5 | 9.6 | 21.1 | 15.1 | 18.3 | 14.4 | 25.2 | 19.6 | 25.4 | 18.1 | 17.6 | 12.8 |
| 15 | 15.6 | 8.5 | 20.3 | 14.5 | 18.9 | 15.6 | 23.0 | 19.1 | 25.4 | 18.6 | 19.3 | 14.0 |
| 16 | 15.6 | 10.0 | 19.9 | 14.3 | 19.6 | 15.6 | 24.7 | 18.1 | 24.1 | 18.7 | 19.5 | 13.4 |
| 17 | 15.3 | 10.7 | 18.0 | 15.0 | 21.2 | 15.8 | 24.6 | 18.2 | 23.1 | 18.7 | 20.4 | 13.7 |
| 18 | 15.6 | 8.5 | 18.0 | 15.0 | 21.1 | 16.4 | 24.4 | 18.5 | 24.7 | 19.3 | 20.3 | 14.7 |
| 19 | 16.7 | 10.0 | 14.6 | 12.6 | 20.8 | 17.1 | 20.6 | 18.1 | 23.5 | 19.2 | 17.9 | 11.5 |
| 20 | 16.3 | 10.7 | 12.4 | 10.7 | 20.9 | 17.0 | 23.0 | 16.8 | 24.1 | 18.8 | 18.6 | 11.8 |
| 21 | 16.7 | 10.5 | 12.7 | 9.6 | 19.4 | 17.5 | 24.8 | 17.3 | 24.8 | 18.5 | 16.3 | 14.5 |
| 22 | 14.2 | 8.5 | 13.1 | 10.4 | --- | --- | 23.5 | 17.8 | 25.8 | 19.6 | 18.7 | 13.5 |
| 23 | 15.2 | 8.4 | 16.8 | 10.9 | --- | --- | 22.3 | 18.1 | 25.7 | 19.9 | 19.3 | 14.2 |
| 24 | 13.7 | 8.6 | 19.3 | 13.7 | --- | --- | 23.1 | 17.8 | 24.8 | 19.2 | 19.5 | 13.0 |
| 25 | 14.8 | 8.0 | 18.8 | 13.6 | --- | --- | 25.2 | 17.7 | 24.4 | 20.0 | 19.3 | 13.4 |
| 26 | 15.1 | 7.7 | 18.6 | 13.5 | --- | --- | 24.2 | 18.9 | 24.1 | 19.2 | 18.9 | 12.9 |
| 27 | 15.9 | 7.8 | 18.4 | 13.7 | --- | --- | 24.0 | 17.5 | 21.7 | 18.5 | 19.3 | 13.2 |
| 28 | 15.6 | 9.1 | 17.4 | 14.1 | --- | --- | 23.4 | 17.7 | 21.4 | 16.7 | 16.7 | 12.8 |
| 29 | 18.5 | 11.2 | 19.0 | 14.2 | 21.4 | 18.1 | 22.4 | 18.2 | 22.6 | 16.6 | 15.9 | 10.3 |
| 30 | 20.1 | 11.5 | 17.1 | 14.4 | 19.6 | 17.0 | 23.8 | 18.8 | 21.3 | 17.0 | 16.0 | 10.1 |
| 31 | --- | --- | 14.3 | 10.8 | --- | --- | 21.6 | 18.1 | 23.1 | 16.7 | --- | --- |
| MONTH | 20.1 | 2.2 | 21.1 | 7.6 | --- | --- | 25.6 | 11.8 | 25.8 | 16.6 | 22.1 | 10.1 |

ARKANSAS RIVER BASIN

07099215 TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°36'42", long 104°53'39", in NW¼SE¼ sec.33, T.16 S., R.67 W., El Paso County, Hydrologic Unit 1120002, on Fort Carson Military Reservation, on right bank 100 ft downstream from State Highway 115 bridge, 0.7 m downstream from Turkey Canyon, 0.8 mi upstream from Turkey Creek Ranch, and 9.4 mi southwest of Fountain.

DRAINAGE AREA.--13.0 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to current year. Water-Quality data available, May 1978 to September 1982.

REVISED RECORDS.--WDR CO-80-1: 1978(M), 1979(M).

GAGE.--Water-stage recorder. Elevation of gage is 6,420 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 9-10, 12, Nov. 16 to Dec. 3, Dec. 10, 12, Dec. 14 to Feb. 24, and Mar. 15-16. Records fair except for estimated daily discharges, and those for previous record above 150 ft³/s, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 1.88 ft³/s; 1,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s, July 28, 1982, gage height, 4.70 ft, from rating curve extended above 140 ft³/s; no flow many days some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| Aug. 5 | 0800 | *17 | a*2.68 | No other peak greater than base discharge. | | | |
| a From floodmark No flow many days. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | .24 | .18 | .45 | .09 | .08 | .08 | .00 | .00 | .13 | .07 | .00 | .00 |
| 2 | .22 | .16 | .35 | .08 | .06 | .03 | .00 | .01 | .07 | .03 | .00 | .00 |
| 3 | .22 | .16 | .25 | .06 | .03 | .01 | .00 | .01 | .03 | .02 | .00 | .00 |
| 4 | .23 | .16 | .15 | .05 | .02 | .02 | .00 | .04 | .02 | .01 | .00 | .00 |
| 5 | .19 | .16 | .11 | .04 | .02 | .09 | .00 | .05 | .01 | .10 | .34 | .00 |
| 6 | .21 | .16 | .11 | .03 | .02 | .14 | .00 | .07 | .01 | .05 | .02 | .00 |
| 7 | .22 | .14 | .15 | .01 | .05 | .09 | .00 | .06 | .00 | .02 | .01 | .00 |
| 8 | .20 | .14 | .16 | .01 | .07 | .09 | .00 | .15 | .00 | .01 | .00 | .00 |
| 9 | .24 | .14 | .20 | .00 | .10 | .09 | .00 | .15 | .10 | .02 | .01 | .00 |
| 10 | .25 | .15 | .16 | .00 | .14 | .12 | .00 | .12 | .14 | .03 | .03 | .00 |
| 11 | .29 | .16 | .14 | .00 | .16 | .19 | .00 | .02 | .04 | .02 | .00 | .00 |
| 12 | .25 | .16 | .14 | .00 | .15 | .14 | .00 | .11 | .02 | .33 | .00 | .00 |
| 13 | .19 | .15 | .15 | .00 | .12 | .19 | .18 | .07 | .00 | .19 | .00 | .00 |
| 14 | .39 | .14 | .14 | .00 | .10 | .38 | .00 | .09 | .00 | .00 | .00 | .00 |
| 15 | .36 | .14 | .16 | .00 | .06 | .10 | .00 | .07 | .00 | .00 | .01 | .00 |
| 16 | .29 | .14 | .18 | .00 | .04 | .10 | .00 | .08 | .01 | .00 | .09 | .00 |
| 17 | .24 | .14 | .25 | .00 | .03 | .94 | .00 | .09 | .01 | .00 | .19 | .00 |
| 18 | .23 | .16 | .30 | .00 | .06 | .72 | .00 | .07 | .00 | .00 | .14 | .00 |
| 19 | .23 | .22 | .35 | .00 | .08 | .91 | .00 | .12 | .00 | .00 | .15 | .00 |
| 20 | .23 | .28 | .35 | .00 | .10 | .94 | .00 | .31 | .00 | .00 | .08 | .00 |
| 21 | .26 | .26 | .35 | .00 | .10 | .87 | .01 | .33 | .01 | .00 | .03 | .00 |
| 22 | .27 | .27 | .30 | .02 | .10 | .66 | .00 | .23 | .03 | .00 | .02 | .00 |
| 23 | .23 | .30 | .26 | .05 | .10 | .23 | .00 | .22 | .00 | .00 | .28 | .00 |
| 24 | .23 | .37 | .23 | .08 | .10 | .01 | .00 | .22 | .00 | .00 | .11 | .00 |
| 25 | .23 | .45 | .20 | .14 | .11 | .01 | .00 | .22 | .00 | .00 | .03 | .00 |
| 26 | .21 | .40 | .17 | .18 | .16 | .00 | .00 | .17 | .01 | .00 | .01 | .00 |
| 27 | .22 | .25 | .14 | .20 | .11 | .00 | .00 | .15 | .07 | .00 | .02 | .00 |
| 28 | .23 | .25 | .11 | .18 | .10 | .00 | .06 | .21 | .05 | .00 | .03 | .00 |
| 29 | .23 | .32 | .10 | .15 | .21 | .00 | .01 | .16 | .11 | .00 | .02 | .00 |
| 30 | .23 | .40 | .10 | .13 | --- | .00 | .00 | .09 | .05 | .00 | .03 | .00 |
| 31 | .19 | --- | .10 | .10 | --- | .00 | --- | .06 | --- | .00 | .04 | --- |
| TOTAL | 7.45 | 6.51 | 6.31 | 1.60 | 2.58 | 7.15 | 0.26 | 3.75 | 0.92 | 0.90 | 1.69 | 0.00 |
| MEAN | .24 | .22 | .20 | .052 | .089 | .23 | .009 | .12 | .031 | .029 | .055 | .00 |
| MAX | .39 | .45 | .45 | .20 | .21 | .94 | .18 | .33 | .14 | .33 | .34 | .00 |
| MIN | .19 | .14 | .10 | .00 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | 15 | 13 | 13 | 3.2 | 5.1 | 14 | .5 | 7.4 | 1.8 | 1.8 | 3.4 | .0 |

CAL YR 1987 TOTAL 464.92 MEAN 1.27 MAX 17 MIN .00 AC-FT 922
WTR YR 1988 TOTAL 39.12 MEAN .11 MAX .94 MIN .00 AC-FT 78

07099220 LITTLE TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°37'37", long 104°51'55", in SW¼NW¼ sec.26, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation, at right upstream end of bridge on military road No. 11, 1.0 mi downstream from State Highway 115, 2.8 mi upstream from mouth, and 9.1 mi southwest of Fountain.

DRAINAGE AREA.--9.59 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to September 1987. October 1987 to September 1988, seasonal only (discontinued). Water-Quality data available, May to June 1979, August 1981 to September 1982

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 6,395 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 19 to May 15, June 5 to July 15, Aug. 5-15, 26-30, and Sept. 7-18. Records fair.

AVERAGE DISCHARGE.--9 years (water years 1979-87), 1.57 ft³/s; 1,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 226 ft³/s, July 28, 1982; gage height, 4.57 ft; no flow most of time each year.

EXTREMES FOR CURRENT YEAR.--No flow during current season.

ARKANSAS RIVER BASIN

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°27'37", long 104°49'19", in NW¼NE¼ sec.30, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Fort Carson Military Reservation, on left bank, 0.5 mi west of intersection of military roads 9 and 1, 1.6 mi upstream from Teller Reservoir Dam and 2.4 mi northeast of Stone City.

DRAINAGE AREA.--62.5 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 5,520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 18 to Jan. 3, Jan. 27-28, Feb. 1, 3-6, 26-28, and July 2 to Aug. 10. Records fair except for estimated daily discharges, which are poor. Diversions upstream from gage for irrigation, amount unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 4.62 ft³/s; 3,350 acre-ft/year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft³/s, Aug. 20, 1982, gage height, 11.51 ft, from rating curve extended above 100 ft³/s, on the basis of slope-area measurements at gage heights 8.04 ft, and 11.27 ft, maximum gage height, 11.88 ft, June 8, 1987; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------------------|---------|-----------------------------------|---------------------|---|------|-----------------------------------|---------------------|
| July 29 | unknown | unknown | unknown | No other peaks greater than base discharge. | | | |
| No flow many days. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|
| 1 | .43 | .51 | .48 | .72 | .66 | .59 | .67 | .64 | .24 | .12 | .10 | .00 |
| 2 | .47 | .51 | .48 | .67 | .61 | .49 | .74 | .57 | .31 | .10 | .07 | .00 |
| 3 | .49 | .51 | .52 | .63 | .60 | .49 | .64 | .52 | .34 | .08 | .05 | .00 |
| 4 | .47 | .50 | .47 | .61 | .64 | .52 | .61 | .59 | .27 | .06 | .03 | .00 |
| 5 | .48 | .53 | .51 | .61 | .68 | .52 | .48 | .64 | .16 | .30 | .02 | .00 |
| 6 | .50 | .51 | .51 | .60 | .68 | .53 | .46 | .78 | .16 | .20 | .02 | .00 |
| 7 | .49 | .56 | .57 | .61 | .67 | .58 | .46 | .76 | .18 | .12 | .01 | .00 |
| 8 | .51 | .56 | .60 | .58 | .60 | .64 | .54 | .78 | .15 | .30 | .01 | .00 |
| 9 | .51 | .56 | .69 | .70 | .56 | .76 | .46 | .76 | .16 | .20 | .00 | .00 |
| 10 | .53 | .56 | .74 | .72 | .49 | .72 | .46 | .74 | .17 | .13 | .00 | .00 |
| 11 | .58 | .51 | .72 | .77 | .48 | .67 | .53 | .59 | .29 | .10 | .00 | .00 |
| 12 | .60 | .50 | .60 | .73 | .48 | .70 | .53 | .54 | .14 | .09 | .00 | .00 |
| 13 | .60 | .58 | .60 | .74 | .45 | .73 | .50 | .50 | .22 | .07 | .00 | .00 |
| 14 | .64 | .61 | .59 | .76 | .42 | .80 | .55 | .49 | .23 | .06 | .00 | .00 |
| 15 | .60 | .59 | .59 | .79 | .43 | .81 | .61 | .49 | .21 | .06 | .00 | .00 |
| 16 | .60 | .52 | .60 | .73 | .43 | .69 | .60 | .52 | .18 | .05 | .00 | .00 |
| 17 | .67 | .59 | .69 | .75 | .38 | .56 | .64 | .47 | .19 | .05 | .00 | .00 |
| 18 | .64 | .56 | .72 | .79 | .41 | .62 | .51 | .44 | .18 | .04 | .00 | .00 |
| 19 | .64 | .55 | .75 | .80 | .50 | .71 | .51 | .43 | .22 | .04 | .00 | .00 |
| 20 | .74 | .53 | .75 | .71 | .47 | .71 | .56 | .44 | .16 | .03 | .00 | .00 |
| 21 | .61 | .54 | .75 | .63 | .49 | .66 | .64 | .57 | .17 | .02 | .00 | .00 |
| 22 | .63 | .57 | .74 | .62 | .49 | .76 | .64 | .47 | .17 | .01 | .00 | .00 |
| 23 | .65 | .67 | .70 | .64 | .47 | .81 | .60 | .49 | .17 | .01 | .00 | .00 |
| 24 | .65 | .70 | .68 | .66 | .50 | .75 | .56 | .51 | .15 | .01 | .00 | .00 |
| 25 | .64 | .76 | .65 | .70 | .55 | .65 | .74 | .83 | .11 | .00 | .00 | .00 |
| 26 | .58 | .65 | .65 | .75 | .57 | .59 | .64 | .66 | .12 | .00 | .00 | .00 |
| 27 | .60 | .57 | .66 | .75 | .59 | .59 | .60 | .36 | .25 | .00 | .00 | .00 |
| 28 | .57 | .62 | .70 | .75 | .59 | .51 | .64 | .35 | .19 | .00 | .00 | .00 |
| 29 | .60 | .59 | .73 | .70 | .59 | .55 | .81 | .37 | .18 | 8.0 | .00 | .00 |
| 30 | .57 | .67 | .75 | .71 | --- | .61 | .74 | .25 | .20 | 1.0 | .00 | .00 |
| 31 | .56 | --- | .75 | .70 | --- | .57 | --- | .26 | --- | .20 | .00 | --- |
| TOTAL | 17.85 | 17.19 | 19.94 | 21.63 | 15.48 | 19.89 | 17.67 | 16.81 | 5.87 | 11.45 | 0.31 | 0.00 |
| MEAN | .58 | .57 | .64 | .70 | .53 | .64 | .59 | .54 | .20 | .37 | .010 | .00 |
| MAX | .74 | .76 | .75 | .80 | .68 | .81 | .81 | .83 | .34 | 8.0 | .10 | .00 |
| MIN | .43 | .50 | .47 | .58 | .38 | .49 | .46 | .25 | .11 | .00 | .00 | .00 |
| AC-FT | 35 | 34 | 40 | 43 | 31 | 39 | 35 | 33 | 12 | 23 | .6 | .0 |

CAL YR 1987 TOTAL 1925.64 MEAN 5.28 MAX 156 MIN .22 AC-FT 3820
WTR YR 1988 TOTAL 164.09 MEAN .45 MAX 8.0 MIN .00 AC-FT 325

ARKANSAS RIVER BASIN

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07099233 TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°26'33", long 104°49'31", in SE¼NW¼ sec.31, T.18 S., R.66W., in Pueblo County, Hydrologic Unit 11020002, at left upstream end of dam on Turkey Creek on Fort Carson Military Reservation, 1.4 mi upstream from Booth Gulch, and 2.0 mi east of Stone City.

DRAINAGE AREA.--71.5 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 5,453 ft above National Geodetic Datum of 1929, from topographic map.

REMARKS.--Estimated contents (at 2400): Mar. 2, 7, 11-13, 16-17, 28, 31, and Apr. 1-9. Records good. Reservoir is formed by an earthfill dam completed in about 1908. Maximum capacity of reservoir is 1,780 acre-ft at an uncontrolled spillway elevation of about 88 ft, 1980 survey. There is no controlled outlet from reservoir, however, considerable leakage occurs. Reservoir is used for recreation and for amphibious training for Fort Carson.

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 2,210 acre-ft, June 21, 1980, elevation, 90.15 ft, from capacity curve extended above 88 ft; no contents, May 1 to June 5, 1979.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 1,230 acre-ft, Oct. 1, elevation, 84.64 ft; minimum contents, 573 acre-ft, Sept. 30, elevation, 79.08 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 1230 | 1120 | 1070 | 1050 | 1030 | 1040 | 1010 | 943 | 872 | 791 | 732 | 637 |
| 2 | 1220 | 1120 | 1070 | 1050 | 1030 | 1040 | 1010 | 885 | 870 | 786 | 728 | 636 |
| 3 | 1220 | 1110 | 1070 | 1050 | 1030 | 1040 | 1000 | 935 | 866 | 785 | 726 | 633 |
| 4 | 1210 | 1110 | 1070 | 1040 | 1030 | 1040 | 1000 | 934 | 865 | 782 | 724 | 630 |
| 5 | 1210 | 1110 | 1070 | 1040 | 1020 | 1040 | 1000 | 931 | 861 | 777 | 722 | 628 |
| 6 | 1200 | 1110 | 1070 | 1040 | 1030 | 1040 | 1000 | 925 | 858 | 772 | 719 | 626 |
| 7 | 1200 | 1100 | 1070 | 1040 | 1030 | 1040 | 1000 | 920 | 854 | 769 | 715 | 624 |
| 8 | 1190 | 1100 | 1060 | 1040 | 1030 | 1040 | 999 | 918 | 851 | 767 | 714 | 620 |
| 9 | 1190 | 1100 | 1060 | 1040 | 1030 | 1040 | 996 | 916 | 847 | 763 | 710 | 616 |
| 10 | 1180 | 1100 | 1060 | 1050 | 1030 | 1030 | 992 | 913 | 845 | 762 | 708 | 614 |
| 11 | 1180 | 1090 | 1060 | 1040 | 1030 | 1030 | 993 | 913 | 841 | 761 | 703 | 609 |
| 12 | 1180 | 1090 | 1060 | 1040 | 1030 | 1030 | 993 | 912 | 838 | 757 | 700 | 607 |
| 13 | 1180 | 1090 | 1060 | 1040 | 1030 | 1030 | 992 | 909 | 835 | 755 | 697 | 609 |
| 14 | 1170 | 1090 | 1050 | 1040 | 1030 | 1030 | 986 | 908 | 832 | 749 | 692 | 608 |
| 15 | 1170 | 1080 | 1050 | 1040 | 1030 | 1030 | 980 | 901 | 829 | 746 | 689 | 608 |
| 16 | 1170 | 1080 | 1050 | 1040 | 1030 | 1030 | 979 | 900 | 827 | 742 | 684 | 606 |
| 17 | 1160 | 1080 | 1050 | 1040 | 1030 | 1030 | 980 | 896 | 825 | 738 | 681 | 604 |
| 18 | 1160 | 1080 | 1050 | 1040 | 1040 | 1030 | 980 | 894 | 822 | 739 | 678 | 601 |
| 19 | 1160 | 1080 | 1050 | 1040 | 1040 | 1030 | 978 | 896 | 818 | 736 | 676 | 598 |
| 20 | 1150 | 1080 | 1050 | 1040 | 1040 | 1030 | 978 | 900 | 815 | 734 | 673 | 596 |
| 21 | 1150 | 1070 | 1050 | 1040 | 1040 | 1030 | 973 | 899 | 811 | 731 | 669 | 593 |
| 22 | 1150 | 1070 | 1050 | 1040 | 1040 | 1020 | 966 | 896 | 809 | 727 | 666 | 591 |
| 23 | 1150 | 1070 | 1050 | 1040 | 1040 | 1020 | 966 | 896 | 806 | 723 | 663 | 589 |
| 24 | 1140 | 1080 | 1050 | 1030 | 1040 | 1020 | 962 | 894 | 803 | 720 | 661 | 587 |
| 25 | 1140 | 1080 | 1050 | 1030 | 1040 | 1020 | 960 | 892 | 799 | 716 | 657 | 584 |
| 26 | 1130 | 1080 | 1050 | 1030 | 1040 | 1020 | 957 | 894 | 799 | 712 | 650 | 583 |
| 27 | 1130 | 1080 | 1050 | 1030 | 1040 | 1010 | 955 | 890 | 799 | 709 | 649 | 580 |
| 28 | 1130 | 1070 | 1050 | 1030 | 1040 | 1010 | 955 | 887 | 796 | 704 | 647 | 577 |
| 29 | 1130 | 1070 | 1050 | 1030 | 1040 | 1010 | 951 | 883 | 796 | 738 | 644 | 574 |
| 30 | 1120 | 1070 | 1050 | 1030 | --- | 1010 | 949 | 877 | 793 | 737 | 642 | 573 |
| 31 | 1120 | --- | 1050 | 1030 | --- | 1010 | --- | 873 | --- | 734 | 639 | --- |
| TOTAL | 36220 | 32660 | 32750 | 32200 | 29980 | 31870 | 29440 | 28030 | 24882 | 23162 | 21258 | 18141 |
| MEAN | 1170 | 1090 | 1060 | 1040 | 1030 | 1030 | 981 | 904 | 829 | 747 | 686 | 605 |
| MAX | 1230 | 1120 | 1070 | 1050 | 1040 | 1040 | 1010 | 943 | 872 | 791 | 732 | 637 |
| MIN | 1120 | 1070 | 1050 | 1030 | 1020 | 1010 | 949 | 873 | 793 | 704 | 639 | 573 |

CAL YR 1987 TOTAL 409766 MEAN 1120 MAX 1850 MIN 551
WTR YR 1988 TOTAL 340593 MEAN 931 MAX 1230 MIN 573

ARKANSAS RIVER BASIN

07099235 TURKEY CREEK NEAR STONE CITY, CO

LOCATION.--Lat 38°26'27", long 104°49'31", in SE¼NW¼ sec. 31, T. 18 S., R. 66 W., Pueblo County, Hydrologic Unit 11020002, on Fort Carson Military Reservation, on left bank, 0.6 mi downstream from Teller Reservoir Dam 0.5 mi upstream from military road No. 11, and 2.1 mi southeast of Stone City.

DRAINAGE AREA.--71.5 mi².

PERIOD OF RECORD.--May 1978 to November 1984; June 12, 1987 to current year.

REVISED RECORDS.--WDR CO-80-1: 1979 (M).

GAGE.--Water-stage recorder. Elevation of gage is 5,400 ft above National Geodetic Datum of 1929, from topographic map. Prior to June 12, 1987, at site 0.5 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 26-28, Dec. 9-18, Dec. 22 to Jan. 15, Mar. 25-28, Aug. 18 to Sept. 8, and Sept. 22-30. Records fair except those for periods of estimated daily discharge, which are poor. Flow regulated by Teller Reservoir 0.6 mi upstream. Gage records seepage from reservoir. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--6 years, (water years 1979-83, 1988), 0.61 ft³/s; 442 acre-ft/year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3.8 ft³/s, June 3, 1981, gage height, 0.80 ft, at different datum; minimum daily, 0.01 ft³/s, many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.6 ft³/s at 1030 Apr. 13, gage height, 4.30 ft; minimum daily, 0.10 ft³/s, Sept. 3-12, 19-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| 1 | .80 | .67 | .51 | .40 | .33 | .39 | .69 | .44 | .31 | .28 | .18 | .12 |
| 2 | .76 | .67 | .49 | .40 | .32 | .39 | .72 | .44 | .32 | .27 | .18 | .12 |
| 3 | .73 | .67 | .44 | .40 | .31 | .39 | .67 | .44 | .31 | .25 | .18 | .10 |
| 4 | .65 | .67 | .41 | .40 | .31 | .39 | .65 | .44 | .27 | .22 | .18 | .10 |
| 5 | .59 | .66 | .42 | .40 | .33 | .39 | .61 | .44 | .27 | .26 | .20 | .10 |
| 6 | .56 | .58 | .40 | .38 | .39 | .39 | .60 | .42 | .30 | .22 | .16 | .10 |
| 7 | .57 | .56 | .39 | .36 | .41 | .44 | .52 | .42 | .27 | .22 | .16 | .10 |
| 8 | .53 | .54 | .39 | .34 | .38 | .44 | .45 | .44 | .26 | .22 | .16 | .10 |
| 9 | .47 | .53 | .40 | .32 | .36 | .44 | .48 | .44 | .26 | .22 | .16 | .10 |
| 10 | .44 | .56 | .40 | .30 | .36 | .44 | .50 | .44 | .27 | .22 | .16 | .10 |
| 11 | .46 | .56 | .40 | .31 | .39 | .47 | .50 | .43 | .27 | .22 | .17 | .10 |
| 12 | .50 | .56 | .39 | .33 | .35 | .50 | .49 | .39 | .27 | .22 | .16 | .10 |
| 13 | .51 | .56 | .38 | .35 | .33 | .53 | .58 | .39 | .26 | .22 | .16 | .12 |
| 14 | .50 | .56 | .37 | .35 | .33 | .56 | .44 | .39 | .26 | .22 | .16 | .16 |
| 15 | .53 | .53 | .38 | .35 | .37 | .50 | .44 | .39 | .27 | .22 | .19 | .16 |
| 16 | .56 | .48 | .45 | .35 | .39 | .47 | .44 | .39 | .27 | .22 | .18 | .16 |
| 17 | .59 | .47 | .48 | .39 | .39 | .49 | .46 | .37 | .25 | .22 | .18 | .16 |
| 18 | .65 | .47 | .45 | .39 | .42 | .44 | .45 | .35 | .22 | .22 | .18 | .15 |
| 19 | .67 | .45 | .44 | .36 | .44 | .44 | .44 | .38 | .25 | .22 | .18 | .10 |
| 20 | .69 | .43 | .44 | .36 | .44 | .44 | .44 | .39 | .26 | .22 | .16 | .10 |
| 21 | .71 | .41 | .44 | .39 | .44 | .44 | .44 | .40 | .27 | .19 | .16 | .10 |
| 22 | .67 | .39 | .45 | .39 | .43 | .44 | .45 | .39 | .27 | .16 | .16 | .10 |
| 23 | .72 | .39 | .48 | .39 | .39 | .44 | .44 | .39 | .36 | .16 | .16 | .10 |
| 24 | .73 | .39 | .48 | .36 | .42 | .44 | .45 | .39 | .28 | .16 | .14 | .10 |
| 25 | .73 | .37 | .45 | .33 | .44 | .43 | .45 | .39 | .22 | .16 | .14 | .10 |
| 26 | .73 | .37 | .42 | .31 | .43 | .42 | .44 | .39 | .28 | .16 | .14 | .10 |
| 27 | .65 | .39 | .40 | .29 | .42 | .42 | .46 | .39 | .36 | .16 | .14 | .10 |
| 28 | .67 | .42 | .40 | .27 | .39 | .41 | .48 | .36 | .29 | .16 | .14 | .10 |
| 29 | .67 | .45 | .40 | .27 | .39 | .55 | .48 | .33 | .32 | .20 | .12 | .10 |
| 30 | .67 | .50 | .40 | .31 | --- | .66 | .44 | .33 | .34 | .16 | .12 | .10 |
| 31 | .67 | --- | .40 | .33 | --- | .67 | --- | .33 | --- | .16 | .12 | --- |
| TOTAL | 19.38 | 15.26 | 13.15 | 10.88 | 11.10 | 14.26 | 15.10 | 12.32 | 8.41 | 6.41 | 4.98 | 3.35 |
| MEAN | .63 | .51 | .42 | .35 | .38 | .46 | .50 | .40 | .28 | .21 | .16 | .11 |
| MAX | .80 | .67 | .51 | .40 | .44 | .67 | .72 | .44 | .36 | .28 | .20 | .16 |
| MIN | .44 | .37 | .37 | .27 | .31 | .39 | .44 | .33 | .22 | .16 | .12 | .10 |
| AC-FT | 38 | 30 | 26 | 22 | 22 | 28 | 30 | 24 | 17 | 13 | 9.9 | 6.6 |

WTR YR 1988 TOTAL 134.60 MEAN .37 MAX .80 MIN .10 AC-FT 267

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO

191

LOCATION.--Lat 38°16'15", long 104°43'30", in NE¼ 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, 267,260 acre-ft, Mar. 13, elevation, 4,881.07 ft; minimum, 150,780 acre-ft, Sept. 30, elevation, 4,851.24 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| Date | Elevation | Contents (acre-feet) | Change in contents (acre-feet) |
|-----------------------|-----------|-------------------------|-----------------------------------|
| Sept. 30. | 4,872.65 | 229,780 | |
| Oct. 31. | 4,872.43 | 228,850 | -930 |
| Nov. 30. | 4,875.03 | 239,990 | +11,140 |
| Dec. 31. | 4,878.55 | 255,660 | +15,670 |
| CAL YR 1987 | | | -8,860 |
| Jan. 31. | 4,878.62 | 255,970 | +310 |
| Feb. 29. | 4,879.96 | 262,110 | +6,140 |
| Mar. 31. | 4,880.83 | 266,140 | +4,030 |
| Apr. 30. | 4,879.24 | 258,800 | -7,340 |
| May 31. | 4,876.44 | 246,190 | -12,610 |
| June 30. | 4,875.66 | 242,750 | -3,440 |
| July 31. | 4,863.74 | 194,230 | -48,520 |
| Aug. 31. | 4,852.46 | 154,700 | -39,530 |
| Sept. 30. | 4,851.24 | 150,780 | -3,920 |
| WTR YR 1988 | | | -79,000 |

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June to October 1988.

REMARKS.--Water-quality samples and field measurements were collected at various depths at a number of sites on transects located along the length of the reservoir. Data are published as a set to represent the complete seasonal cycle of lake dynamics.

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 381754104504000 PUEBLO RESERVOIR SITE 2B (LAT 38 17 54N LONG 104 50 40W) | | | | | | | |
| JUL 1988 | | | | | | | |
| 12... | 1134 | -- | -- | -- | -- | 0.60 | -- |
| 12... | 1135 | 0.0 | 378 | 8.4 | 23.5 | -- | 7.3 |
| 12... | 1136 | 6.0 | 377 | 8.4 | 23.5 | -- | 7.4 |
| 12... | 1137 | 12.0 | 371 | 8.4 | 23.0 | -- | 7.1 |
| 12... | 1138 | 15.0 | 372 | 8.3 | 23.0 | -- | 6.9 |
| 12... | 1139 | 18.0 | 413 | 8.0 | 22.0 | -- | 5.1 |
| 12... | 1140 | 21.0 | 424 | 8.0 | 21.0 | -- | 5.9 |
| 12... | 1141 | 24.0 | 429 | 7.9 | 21.0 | -- | 5.2 |
| 12... | 1142 | 26.0 | 433 | 7.8 | 21.0 | -- | 4.8 |
| AUG | | | | | | | |
| 16... | 1409 | -- | -- | -- | -- | 0.50 | -- |
| 16... | 1410 | 0.0 | 548 | 8.5 | 26.5 | -- | 8.6 |
| 16... | 1411 | 3.0 | 600 | 8.2 | 25.5 | -- | 6.3 |
| 16... | 1412 | 6.0 | 569 | 8.4 | 24.0 | -- | 7.0 |
| 16... | 1413 | 9.0 | 575 | 8.2 | 23.0 | -- | 6.5 |
| 16... | 1414 | 11.0 | 585 | 8.1 | 22.0 | -- | 5.5 |
| SEP | | | | | | | |
| 20... | 1449 | -- | -- | -- | -- | 0.20 | -- |
| 20... | 1450 | 0.0 | 639 | 8.6 | 17.5 | -- | 8.1 |
| 20... | 1451 | 2.0 | 652 | 8.6 | 17.5 | -- | 7.8 |
| OCT | | | | | | | |
| 17... | 1236 | -- | -- | -- | -- | 0.30 | -- |
| 17... | 1237 | 0.0 | 712 | 8.4 | 14.0 | -- | 9.0 |
| 17... | 1238 | 1.0 | 700 | 8.5 | 13.5 | -- | 8.4 |
| 17... | 1239 | 2.0 | 675 | 8.5 | 14.0 | -- | 8.4 |
| 17... | 1240 | 3.0 | 685 | 8.5 | 13.5 | -- | 8.5 |

381725104494400 PUEBLO RESERVOIR SITE 3B (LAT 38 17 25N LONG 104 49 44W)

| | | | | | | | |
|----------|------|------|-----|-----|------|------|------|
| JUL 1988 | | | | | | | |
| 12... | 1024 | -- | -- | -- | -- | 1.50 | -- |
| 12... | 1025 | 0.0 | 368 | 8.4 | 23.0 | -- | 7.3 |
| 12... | 1026 | 3.0 | 368 | 8.4 | 23.0 | -- | 7.4 |
| 12... | 1027 | 6.0 | 369 | 8.4 | 23.0 | -- | 7.3 |
| 12... | 1028 | 9.0 | 369 | 8.4 | 23.0 | -- | 7.1 |
| 12... | 1029 | 12.0 | 370 | 8.4 | 23.0 | -- | 7.2 |
| 12... | 1030 | 15.0 | 370 | 8.4 | 23.0 | -- | 7.2 |
| 12... | 1031 | 18.0 | 370 | 8.3 | 22.5 | -- | 6.2 |
| 12... | 1032 | 21.0 | 380 | 8.0 | 22.5 | -- | 4.7 |
| 12... | 1033 | 24.0 | 390 | 7.9 | 22.0 | -- | 4.2 |
| 12... | 1034 | 27.0 | 401 | 7.8 | 22.0 | -- | 3.9 |
| 12... | 1035 | 30.0 | 410 | 7.8 | 21.5 | -- | 4.6 |
| 12... | 1036 | 33.0 | 421 | 7.8 | 21.0 | -- | 4.6 |
| 12... | 1037 | 36.0 | 422 | 7.7 | 20.5 | -- | 4.3 |
| 12... | 1038 | 39.0 | 429 | 7.6 | 20.0 | -- | 3.6 |
| 12... | 1039 | 40.0 | 429 | 7.6 | 20.0 | -- | 3.5 |
| AUG | | | | | | | |
| 16... | 1329 | -- | -- | -- | -- | 0.90 | -- |
| 16... | 1330 | 0.0 | 446 | 8.8 | 26.5 | -- | 11.3 |
| 16... | 1331 | 3.0 | 456 | 8.9 | 24.5 | -- | 12.1 |
| 16... | 1332 | 6.0 | 471 | 8.6 | 24.5 | -- | 8.8 |
| 16... | 1333 | 9.0 | 468 | 8.5 | 24.0 | -- | 8.5 |
| 16... | 1334 | 12.0 | 455 | 8.5 | 24.0 | -- | 8.9 |
| 16... | 1335 | 15.0 | 489 | 8.4 | 24.0 | -- | 7.9 |
| 16... | 1336 | 18.0 | 544 | 8.4 | 23.5 | -- | 5.7 |
| 16... | 1337 | 21.0 | 580 | 8.3 | 22.5 | -- | 4.8 |
| 16... | 1338 | 24.0 | 583 | 8.2 | 22.0 | -- | 5.0 |
| 16... | 1339 | 26.0 | 583 | 8.2 | 22.0 | -- | 4.9 |
| SEP | | | | | | | |
| 20... | 1329 | -- | -- | -- | -- | 0.70 | -- |
| 20... | 1330 | 0.0 | 501 | 9.2 | 19.5 | -- | 13.6 |
| 20... | 1331 | 3.0 | 505 | 9.2 | 19.0 | -- | 14.1 |
| 20... | 1332 | 6.0 | 524 | 8.9 | 17.5 | -- | 10.2 |
| 20... | 1333 | 9.0 | 540 | 8.9 | 17.0 | -- | 10.1 |
| 20... | 1334 | 12.0 | 616 | 8.8 | 14.5 | -- | 8.1 |
| 20... | 1335 | 15.0 | 640 | 8.7 | 12.0 | -- | 7.6 |
| 20... | 1336 | 18.0 | 644 | 8.6 | 11.5 | -- | 7.4 |

ARKANSAS RIVER BASIN

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07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 381725104494400 PUEBLO RESERVOIR SITE 3B (LAT 38 17 25N LONG 104 49 44W) | | | | | | | |
| OCT | | | | | | 0.30 | -- |
| 17... | 1109 | -- | -- | -- | -- | -- | -- |
| 17... | 1110 | 0.0 | 658 | 8.7 | 13.0 | -- | 7.9 |
| 17... | 1111 | 3.0 | 658 | 8.7 | 12.5 | -- | 7.8 |
| 17... | 1112 | 6.0 | 658 | 8.7 | 12.5 | -- | 7.7 |
| 17... | 1113 | 9.0 | 658 | 8.7 | 12.5 | -- | 7.6 |
| 17... | 1114 | 12.0 | 659 | 8.7 | 12.5 | -- | 7.6 |
| 17... | 1115 | 15.0 | 645 | 8.8 | 11.5 | -- | 7.1 |
| 17... | 1116 | 18.0 | 786 | 8.3 | 11.5 | -- | 5.7 |
| 381647104475300 PUEBLO RESERVOIR SITE 4B (LAT 38 16 47N LONG 104 47 53W) | | | | | | | |
| JUL 1988 | | | | | | 2.10 | -- |
| 12... | 1219 | -- | -- | -- | -- | -- | -- |
| 12... | 1220 | 0.0 | 388 | 8.6 | 23.5 | -- | 7.5 |
| 12... | 1221 | 6.0 | 388 | 8.6 | 23.0 | -- | 7.1 |
| 12... | 1222 | 12.0 | 389 | 8.6 | 23.0 | -- | 7.2 |
| 12... | 1223 | 18.0 | 390 | 8.6 | 23.0 | -- | 7.1 |
| 12... | 1224 | 24.0 | 394 | 8.0 | 21.5 | -- | 3.9 |
| 12... | 1225 | 30.0 | 397 | 7.8 | 21.5 | -- | 3.8 |
| 12... | 1226 | 36.0 | 420 | 7.7 | 21.0 | -- | 3.3 |
| 12... | 1227 | 42.0 | 429 | 7.6 | 20.5 | -- | 2.3 |
| 12... | 1228 | 48.0 | 434 | 7.5 | 19.5 | -- | 1.3 |
| 12... | 1229 | 54.0 | 436 | 7.5 | 19.0 | -- | 0.7 |
| 12... | 1230 | 57.0 | 437 | 7.4 | 19.0 | -- | 0.3 |
| AUG | | | | | | 1.40 | -- |
| 16... | 1204 | -- | -- | -- | -- | -- | -- |
| 16... | 1205 | 0.0 | 443 | 8.7 | 24.5 | -- | 8.5 |
| 16... | 1206 | 3.0 | 442 | 8.7 | 24.0 | -- | 9.1 |
| 16... | 1207 | 6.0 | 443 | 8.7 | 24.0 | -- | 8.4 |
| 16... | 1208 | 9.0 | 444 | 8.6 | 23.5 | -- | 7.6 |
| 16... | 1209 | 12.0 | 447 | 8.5 | 23.5 | -- | 7.1 |
| 16... | 1210 | 15.0 | 447 | 8.5 | 23.5 | -- | 7.1 |
| 16... | 1211 | 18.0 | 447 | 8.5 | 23.5 | -- | 7.4 |
| 16... | 1212 | 21.0 | 459 | 8.2 | 23.0 | -- | 5.6 |
| 16... | 1213 | 24.0 | 462 | 8.1 | 23.0 | -- | 4.8 |
| 16... | 1214 | 27.0 | 454 | 8.0 | 23.0 | -- | 4.4 |
| 16... | 1215 | 30.0 | 463 | 7.9 | 22.5 | -- | 3.8 |
| 16... | 1216 | 33.0 | 463 | 7.8 | 22.5 | -- | 3.1 |
| 16... | 1217 | 36.0 | 470 | 7.7 | 22.5 | -- | 2.5 |
| 16... | 1218 | 39.0 | 474 | 7.7 | 22.5 | -- | 2.6 |
| 16... | 1219 | 42.0 | 496 | 7.6 | 22.5 | -- | 1.4 |
| 16... | 1220 | 43.0 | 492 | 7.5 | 22.5 | -- | 1.4 |
| SEP | | | | | | 1.00 | -- |
| 20... | 1219 | -- | -- | -- | -- | -- | -- |
| 20... | 1220 | 0.0 | 497 | 8.6 | 18.5 | -- | 7.8 |
| 20... | 1221 | 3.0 | 497 | 8.6 | 18.5 | -- | 7.7 |
| 20... | 1222 | 6.0 | 498 | 8.5 | 18.0 | -- | 7.0 |
| 20... | 1223 | 9.0 | 498 | 8.5 | 18.0 | -- | 6.9 |
| 20... | 1224 | 12.0 | 499 | 8.4 | 18.0 | -- | 6.7 |
| 20... | 1225 | 15.0 | 500 | 8.4 | 18.0 | -- | 6.7 |
| 20... | 1226 | 18.0 | 500 | 8.4 | 18.0 | -- | 6.6 |
| 20... | 1227 | 21.0 | 501 | 8.4 | 17.5 | -- | 6.6 |
| 20... | 1228 | 24.0 | 501 | 8.4 | 17.5 | -- | 6.6 |
| 20... | 1229 | 27.0 | 501 | 8.4 | 17.5 | -- | 6.6 |
| 20... | 1230 | 30.0 | 500 | 8.4 | 17.5 | -- | 6.6 |
| 20... | 1231 | 33.0 | 500 | 8.4 | 17.5 | -- | 6.6 |
| 20... | 1232 | 36.0 | 503 | 8.4 | 17.5 | -- | 6.6 |
| 20... | 1233 | 38.0 | 505 | 8.4 | 17.5 | -- | 6.5 |
| OCT | | | | | | 1.30 | -- |
| 17... | 1309 | -- | -- | -- | -- | -- | -- |
| 17... | 1310 | 0.0 | 548 | 8.3 | 14.5 | -- | 7.9 |
| 17... | 1311 | 3.0 | 548 | 8.4 | 14.5 | -- | 7.6 |
| 17... | 1312 | 6.0 | 550 | 8.5 | 14.5 | -- | 7.4 |
| 17... | 1313 | 9.0 | 550 | 8.5 | 14.5 | -- | 7.4 |
| 17... | 1314 | 12.0 | 550 | 8.5 | 14.5 | -- | 7.3 |
| 17... | 1315 | 15.0 | 550 | 8.5 | 14.0 | -- | 7.3 |
| 17... | 1316 | 18.0 | 550 | 8.5 | 14.0 | -- | 7.3 |
| 17... | 1317 | 21.0 | 550 | 8.5 | 14.0 | -- | 7.3 |
| 17... | 1318 | 24.0 | 550 | 8.5 | 14.0 | -- | 7.3 |
| 17... | 1319 | 27.0 | 550 | 8.5 | 14.0 | -- | 7.3 |
| 17... | 1320 | 30.0 | 550 | 8.5 | 14.0 | -- | 7.3 |
| 17... | 1321 | 33.0 | 557 | 8.5 | 14.0 | -- | 7.2 |
| 17... | 1322 | 36.0 | 604 | 8.4 | 13.0 | -- | 5.5 |

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 381559104465500 PUEBLO RESERVOIR SITE 5C (LAT 38 15 59N LONG 104 46 55W) | | | | | | | |
| JUL 1988 | | | | | | | |
| 12... | 1329 | -- | -- | -- | -- | 2.50 | -- |
| 12... | 1330 | 0.0 | 397 | 8.6 | 23.5 | -- | 7.7 |
| 12... | 1331 | 3.0 | 397 | 8.6 | 23.5 | -- | 7.7 |
| 12... | 1332 | 6.0 | 397 | 8.6 | 23.5 | -- | 7.7 |
| 12... | 1333 | 9.0 | 397 | 8.6 | 23.5 | -- | 7.5 |
| 12... | 1334 | 12.0 | 398 | 8.6 | 23.0 | -- | 7.2 |
| 12... | 1335 | 15.0 | 398 | 8.6 | 23.0 | -- | 7.2 |
| 12... | 1336 | 18.0 | 399 | 8.6 | 23.0 | -- | 7.4 |
| 12... | 1337 | 21.0 | 399 | 8.4 | 22.5 | -- | 6.1 |
| 12... | 1338 | 24.0 | 392 | 8.2 | 22.0 | -- | 4.9 |
| 12... | 1339 | 27.0 | 384 | 8.0 | 21.5 | -- | 4.2 |
| 12... | 1340 | 30.0 | 380 | 7.9 | 21.5 | -- | 3.7 |
| 12... | 1341 | 33.0 | 380 | 7.8 | 21.5 | -- | 3.6 |
| 12... | 1342 | 36.0 | 376 | 7.7 | 21.0 | -- | 3.1 |
| 12... | 1343 | 39.0 | 374 | 7.6 | 20.5 | -- | 2.7 |
| 12... | 1344 | 42.0 | 362 | 7.6 | 20.5 | -- | 2.6 |
| 12... | 1345 | 45.0 | 357 | 7.6 | 20.0 | -- | 2.8 |
| 12... | 1346 | 48.0 | 359 | 7.6 | 19.5 | -- | 2.5 |
| 12... | 1347 | 51.0 | 357 | 7.6 | 19.5 | -- | 2.3 |
| 12... | 1348 | 54.0 | 357 | 7.6 | 19.5 | -- | 1.9 |
| 12... | 1349 | 57.0 | 361 | 7.5 | 19.0 | -- | 1.8 |
| 12... | 1350 | 60.0 | 392 | 7.6 | 19.0 | -- | 1.5 |
| 12... | 1351 | 63.0 | 403 | 7.5 | 18.5 | -- | 1.1 |
| 12... | 1352 | 66.0 | 420 | 7.6 | 18.0 | -- | 0.9 |
| 12... | 1353 | 69.0 | 433 | 7.6 | 17.5 | -- | 0.3 |
| 12... | 1354 | 72.0 | 444 | 7.6 | 17.5 | -- | 0.0 |
| AUG | | | | | | | |
| 16... | 1054 | -- | -- | -- | -- | 2.00 | -- |
| 16... | 1055 | 0.0 | 445 | 8.4 | 24.5 | -- | 7.5 |
| 16... | 1056 | 3.0 | 443 | 8.4 | 24.0 | -- | 7.7 |
| 16... | 1057 | 6.0 | 444 | 8.4 | 23.5 | -- | 7.5 |
| 16... | 1058 | 9.0 | 444 | 8.4 | 23.5 | -- | 7.4 |
| 16... | 1059 | 12.0 | 445 | 8.4 | 23.5 | -- | 7.1 |
| 16... | 1100 | 15.0 | 446 | 8.4 | 23.5 | -- | 7.0 |
| 16... | 1101 | 18.0 | 446 | 8.4 | 23.5 | -- | 7.1 |
| 16... | 1102 | 21.0 | 447 | 8.4 | 23.5 | -- | 7.1 |
| 16... | 1103 | 24.0 | 447 | 8.4 | 23.5 | -- | 7.1 |
| 16... | 1104 | 27.0 | 447 | 8.4 | 23.5 | -- | 7.0 |
| 16... | 1105 | 30.0 | 455 | 8.1 | 23.0 | -- | 5.2 |
| 16... | 1106 | 33.0 | 472 | 7.7 | 22.5 | -- | 2.8 |
| 16... | 1107 | 36.0 | 470 | 7.7 | 22.5 | -- | 2.6 |
| 16... | 1108 | 39.0 | 469 | 7.6 | 22.5 | -- | 2.6 |
| 16... | 1109 | 42.0 | 470 | 7.6 | 22.5 | -- | 2.0 |
| 16... | 1110 | 45.0 | 485 | 7.5 | 22.5 | -- | 1.7 |
| 16... | 1111 | 48.0 | 490 | 7.5 | 22.0 | -- | 1.6 |
| 16... | 1112 | 51.0 | 495 | 7.5 | 22.0 | -- | 1.3 |
| 16... | 1113 | 53.0 | 495 | 7.5 | 22.0 | -- | 1.4 |
| SEP | | | | | | | |
| 20... | 1059 | -- | -- | -- | -- | 1.50 | -- |
| 20... | 1100 | 0.0 | 489 | 8.3 | 18.5 | -- | 6.6 |
| 20... | 1101 | 3.0 | 490 | 8.4 | 18.5 | -- | 6.6 |
| 20... | 1102 | 6.0 | 491 | 8.4 | 18.5 | -- | 6.6 |
| 20... | 1103 | 9.0 | 493 | 8.4 | 18.0 | -- | 6.4 |
| 20... | 1104 | 12.0 | 493 | 8.3 | 18.0 | -- | 6.4 |
| 20... | 1105 | 15.0 | 493 | 8.3 | 18.0 | -- | 6.1 |
| 20... | 1106 | 18.0 | 494 | 8.3 | 18.0 | -- | 6.0 |
| 20... | 1107 | 21.0 | 494 | 8.3 | 18.0 | -- | 6.0 |
| 20... | 1108 | 24.0 | 495 | 8.3 | 18.0 | -- | 6.0 |
| 20... | 1109 | 27.0 | 495 | 8.3 | 18.0 | -- | 6.0 |
| 20... | 1110 | 30.0 | 495 | 8.3 | 18.0 | -- | 6.0 |
| 20... | 1111 | 33.0 | 494 | 8.3 | 18.0 | -- | 6.1 |
| 20... | 1112 | 36.0 | 494 | 8.3 | 18.0 | -- | 6.1 |
| 20... | 1113 | 39.0 | 495 | 8.3 | 18.0 | -- | 6.2 |
| 20... | 1114 | 42.0 | 495 | 8.3 | 18.0 | -- | 6.2 |
| 20... | 1115 | 45.0 | 495 | 8.3 | 18.0 | -- | 6.2 |
| 20... | 1116 | 48.0 | 496 | 8.2 | 18.0 | -- | 5.6 |
| 20... | 1117 | 51.0 | 497 | 8.2 | 18.0 | -- | 5.6 |

ARKANSAS RIVER BASIN

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07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 381559104465500 PUEBLO RESERVOIR SITE 5C (LAT 38 15 59N LONG 104 46 55W) | | | | | | | |
| OCT | | | | | | | |
| 17... | 1016 | -- | -- | -- | -- | 1.50 | -- |
| 17... | 1017 | 0.0 | 548 | 8.3 | 14.5 | -- | 7.2 |
| 17... | 1018 | 3.0 | 548 | 8.3 | 14.5 | -- | 7.0 |
| 17... | 1019 | 6.0 | 549 | 8.3 | 14.5 | -- | 6.9 |
| 17... | 1020 | 9.0 | 549 | 8.4 | 14.5 | -- | 6.9 |
| 17... | 1021 | 12.0 | 549 | 8.4 | 14.5 | -- | 6.9 |
| 17... | 1022 | 15.0 | 549 | 8.4 | 14.0 | -- | 6.9 |
| 17... | 1023 | 18.0 | 550 | 8.4 | 14.0 | -- | 6.9 |
| 17... | 1024 | 21.0 | 550 | 8.4 | 14.0 | -- | 6.9 |
| 17... | 1025 | 24.0 | 550 | 8.4 | 14.0 | -- | 6.9 |
| 17... | 1026 | 27.0 | 550 | 8.4 | 14.0 | -- | 6.9 |
| 17... | 1027 | 30.0 | 550 | 8.4 | 14.0 | -- | 6.9 |
| 17... | 1028 | 33.0 | 552 | 8.4 | 14.0 | -- | 6.9 |
| 17... | 1029 | 36.0 | 553 | 8.4 | 14.0 | -- | 6.8 |
| 17... | 1030 | 39.0 | 554 | 8.4 | 14.0 | -- | 6.8 |
| 17... | 1031 | 42.0 | 555 | 8.4 | 14.0 | -- | 6.7 |
| 17... | 1032 | 45.0 | 555 | 8.3 | 14.0 | -- | 6.6 |
| 381548104453300 PUEBLO RESERVOIR SITE 6C (LAT 38 15 48N LONG 104 45 33W) | | | | | | | |
| JUL 1988 | | | | | | | |
| 12... | 1434 | -- | -- | -- | -- | 2.70 | -- |
| 12... | 1435 | 0.0 | 403 | 8.8 | 24.0 | -- | 7.6 |
| 12... | 1436 | 6.0 | 409 | 8.6 | 23.5 | -- | 7.8 |
| 12... | 1437 | 12.0 | 411 | 8.6 | 23.5 | -- | 7.9 |
| 12... | 1438 | 18.0 | 411 | 8.6 | 23.5 | -- | 7.8 |
| 12... | 1439 | 21.0 | 411 | 8.6 | 23.5 | -- | 7.8 |
| 12... | 1440 | 24.0 | 412 | 8.4 | 22.5 | -- | 6.6 |
| 12... | 1441 | 27.0 | 412 | 8.3 | 22.5 | -- | 5.5 |
| 12... | 1442 | 30.0 | 422 | 8.3 | 22.5 | -- | 5.4 |
| 12... | 1443 | 33.0 | 423 | 8.2 | 22.0 | -- | 4.7 |
| 12... | 1444 | 36.0 | 405 | 8.1 | 21.5 | -- | 4.3 |
| 12... | 1445 | 42.0 | 405 | 7.9 | 21.0 | -- | 3.7 |
| 12... | 1446 | 48.0 | 368 | 8.0 | 20.5 | -- | 3.1 |
| 12... | 1447 | 54.0 | 396 | 7.7 | 20.0 | -- | 2.9 |
| 12... | 1448 | 60.0 | 419 | 7.7 | 19.5 | -- | 2.7 |
| 12... | 1449 | 66.0 | 429 | 7.7 | 19.0 | -- | 2.4 |
| 12... | 1450 | 72.0 | 415 | 7.6 | 18.5 | -- | 2.0 |
| 12... | 1451 | 78.0 | 454 | 7.7 | 18.0 | -- | 2.1 |
| 12... | 1452 | 84.0 | 463 | 7.6 | 17.0 | -- | 1.1 |
| 12... | 1453 | 90.0 | 489 | 7.7 | 16.0 | -- | 1.0 |
| 12... | 1454 | 96.0 | 530 | 7.7 | 14.5 | -- | 0.1 |
| AUG | | | | | | | |
| 16... | 1500 | 0.0 | 440 | 8.7 | 26.0 | -- | 8.6 |
| 16... | 1501 | 3.0 | 439 | 8.7 | 25.0 | -- | 9.0 |
| 16... | 1502 | 6.0 | 439 | 8.7 | 24.0 | -- | 8.6 |
| 16... | 1503 | 9.0 | 440 | 8.7 | 23.5 | -- | 8.0 |
| 16... | 1504 | 12.0 | 442 | 8.6 | 23.5 | -- | 7.6 |
| 16... | 1505 | 15.0 | 444 | 8.5 | 23.0 | -- | 6.7 |
| 16... | 1506 | 18.0 | 446 | 8.4 | 23.0 | -- | 6.4 |
| 16... | 1507 | 21.0 | 448 | 8.3 | 23.0 | -- | 5.6 |
| 16... | 1508 | 24.0 | 448 | 8.3 | 23.0 | -- | 5.7 |
| 16... | 1509 | 27.0 | 449 | 8.3 | 23.0 | -- | 5.5 |
| 16... | 1510 | 30.0 | 448 | 8.2 | 23.0 | -- | 5.5 |
| 16... | 1511 | 33.0 | 453 | 8.1 | 22.5 | -- | 4.4 |
| 16... | 1512 | 36.0 | 453 | 8.0 | 22.5 | -- | 4.2 |
| 16... | 1513 | 39.0 | 454 | 8.0 | 22.5 | -- | 4.0 |
| 16... | 1514 | 42.0 | 456 | 7.9 | 22.5 | -- | 3.9 |
| 16... | 1515 | 45.0 | 456 | 7.9 | 22.5 | -- | 3.6 |
| 16... | 1516 | 48.0 | 460 | 7.7 | 22.5 | -- | 2.2 |
| 16... | 1517 | 51.0 | 462 | 7.6 | 22.0 | -- | 2.0 |
| 16... | 1518 | 54.0 | 460 | 7.6 | 22.0 | -- | 1.4 |
| 16... | 1519 | 57.0 | 467 | 7.5 | 22.0 | -- | 1.0 |
| 16... | 1520 | 60.0 | 474 | 7.5 | 22.0 | -- | 0.7 |
| 16... | 1521 | 63.0 | 468 | 7.5 | 22.0 | -- | 0.4 |
| 16... | 1522 | 66.0 | 466 | 7.5 | 22.0 | -- | 0.2 |
| 16... | 1523 | 69.0 | 463 | 7.4 | 21.5 | -- | 0.0 |
| 16... | 1524 | 72.0 | 459 | 7.4 | 21.5 | -- | 0.0 |
| 16... | 1525 | 75.0 | 456 | 7.4 | 21.0 | -- | 0.0 |
| 16... | 1526 | 78.0 | 457 | 7.4 | 20.5 | -- | 0.0 |

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 381548104453300 PUEBLO RESERVOIR SITE 6C (LAT 38 15 48N LONG 104 45 33W) | | | | | | | |
| SEP | | | | | | | |
| 21... | 1139 | -- | -- | -- | -- | 1.10 | -- |
| 21... | 1140 | 0.0 | 498 | 8.1 | 18.0 | -- | 6.5 |
| 21... | 1141 | 3.0 | 498 | 8.1 | 18.0 | -- | 6.4 |
| 21... | 1142 | 6.0 | 498 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1143 | 9.0 | 498 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1144 | 12.0 | 498 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1145 | 15.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1146 | 18.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1147 | 21.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1148 | 24.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1149 | 27.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1150 | 30.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1151 | 33.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1152 | 36.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1153 | 39.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1154 | 42.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1155 | 45.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1156 | 48.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1157 | 51.0 | 499 | 8.1 | 18.0 | -- | 6.3 |
| 21... | 1158 | 54.0 | 502 | 8.1 | 18.0 | -- | 6.1 |
| 21... | 1159 | 57.0 | 503 | 8.1 | 18.0 | -- | 6.1 |
| 21... | 1200 | 60.0 | 509 | 8.0 | 17.5 | -- | 5.6 |
| 21... | 1201 | 63.0 | 510 | 8.0 | 17.5 | -- | 5.6 |
| 21... | 1202 | 66.0 | 517 | 8.0 | 17.5 | -- | 5.5 |
| 21... | 1203 | 69.0 | 522 | 8.0 | 17.5 | -- | 5.4 |
| 21... | 1204 | 72.0 | 525 | 8.0 | 17.5 | -- | 4.9 |
| 21... | 1205 | 75.0 | 527 | 8.0 | 17.5 | -- | 5.0 |
| OCT 1988 | | | | | | | |
| 17... | 1404 | -- | -- | -- | -- | 1.90 | -- |
| 17... | 1405 | 0.0 | 542 | 8.2 | 15.0 | -- | 7.2 |
| 17... | 1406 | 3.0 | 543 | 8.2 | 15.0 | -- | 6.9 |
| 17... | 1407 | 6.0 | 544 | 8.3 | 15.0 | -- | 6.7 |
| 17... | 1408 | 9.0 | 544 | 8.3 | 14.5 | -- | 6.7 |
| 17... | 1409 | 12.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1410 | 15.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1411 | 18.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1412 | 21.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1413 | 24.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1414 | 27.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1415 | 30.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1416 | 33.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1417 | 36.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1418 | 39.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1419 | 42.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1420 | 45.0 | 546 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1421 | 48.0 | 546 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1422 | 51.0 | 546 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1423 | 54.0 | 546 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1424 | 57.0 | 547 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1425 | 60.0 | 548 | 8.3 | 14.5 | -- | 6.6 |
| 17... | 1426 | 63.0 | 549 | 8.3 | 14.5 | -- | 6.4 |
| 17... | 1427 | 66.0 | 555 | 8.3 | 14.5 | -- | 6.1 |
| 17... | 1428 | 69.0 | 558 | 8.2 | 14.5 | -- | 5.9 |
| 17... | 1429 | 72.0 | 565 | 8.2 | 14.0 | -- | 5.4 |
| 17... | 1430 | 75.0 | 566 | 8.1 | 14.0 | -- | 5.1 |
| 17... | 1431 | 78.0 | 566 | 8.1 | 14.0 | -- | 4.9 |

ARKANSAS RIVER BASIN

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07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 381602104435200 PUEBLO RESERVOIR SITE 7B (LAT 38 16 02N LONG 104 43 52W) | | | | | | | |
| JUL 1988 | | | | | | | |
| 13... | 0924 | -- | -- | -- | -- | 2.90 | -- |
| 13... | 0925 | 0.0 | 420 | 8.6 | 23.0 | -- | 7.2 |
| 13... | 0926 | 3.0 | 420 | 8.6 | 23.0 | -- | 7.1 |
| 13... | 0927 | 6.0 | 420 | 8.6 | 23.0 | -- | 7.3 |
| 13... | 0928 | 9.0 | 420 | 8.6 | 23.0 | -- | 7.2 |
| 13... | 0929 | 12.0 | 420 | 8.6 | 23.0 | -- | 7.2 |
| 13... | 0930 | 15.0 | 421 | 8.6 | 23.0 | -- | 7.2 |
| 13... | 0931 | 18.0 | 421 | 8.6 | 23.0 | -- | 7.2 |
| 13... | 0932 | 21.0 | 422 | 8.6 | 23.0 | -- | 7.0 |
| 13... | 0933 | 24.0 | 425 | 8.6 | 23.0 | -- | 6.9 |
| 13... | 0934 | 27.0 | 425 | 8.5 | 22.5 | -- | 6.8 |
| 13... | 0935 | 30.0 | 425 | 8.5 | 22.5 | -- | 6.6 |
| 13... | 0936 | 33.0 | 425 | 8.5 | 22.5 | -- | 6.3 |
| 13... | 0937 | 36.0 | 426 | 8.3 | 22.0 | -- | 5.1 |
| 13... | 0938 | 39.0 | 418 | 8.0 | 21.5 | -- | 3.8 |
| 13... | 0939 | 42.0 | 402 | 7.9 | 21.0 | -- | 3.2 |
| 13... | 0940 | 45.0 | 411 | 7.8 | 20.5 | -- | 3.0 |
| 13... | 0941 | 48.0 | 413 | 7.8 | 20.0 | -- | 2.7 |
| 13... | 0942 | 51.0 | 416 | 7.8 | 20.0 | -- | 2.7 |
| 13... | 0943 | 54.0 | 427 | 7.7 | 19.5 | -- | 2.7 |
| 13... | 0944 | 57.0 | 428 | 7.7 | 19.5 | -- | 2.5 |
| 13... | 0945 | 60.0 | 440 | 7.7 | 19.0 | -- | 2.6 |
| 13... | 0946 | 63.0 | 448 | 7.7 | 19.0 | -- | 2.4 |
| 13... | 0947 | 66.0 | 454 | 7.7 | 18.5 | -- | 2.4 |
| 13... | 0948 | 69.0 | 453 | 7.7 | 18.5 | -- | 2.3 |
| 13... | 0949 | 72.0 | 450 | 7.7 | 18.5 | -- | 2.3 |
| 13... | 0950 | 75.0 | 451 | 7.7 | 18.5 | -- | 2.3 |
| 13... | 0951 | 78.0 | 460 | 7.7 | 17.5 | -- | 1.8 |
| 13... | 0952 | 81.0 | 471 | 7.7 | 17.0 | -- | 1.4 |
| 13... | 0953 | 84.0 | 476 | 7.7 | 17.0 | -- | 1.3 |
| 13... | 0954 | 87.0 | 475 | 7.8 | 17.0 | -- | 1.4 |
| 13... | 0955 | 90.0 | 497 | 7.8 | 16.0 | -- | 1.4 |
| 13... | 0956 | 93.0 | 526 | 7.8 | 15.0 | -- | 1.5 |
| 13... | 0957 | 96.0 | 533 | 7.8 | 14.5 | -- | 1.4 |
| 13... | 0958 | 99.0 | 544 | 7.8 | 14.0 | -- | 1.5 |
| 13... | 0959 | 102 | 546 | 7.8 | 14.0 | -- | 1.3 |
| 13... | 1000 | 105 | 553 | 7.8 | 13.5 | -- | 1.2 |
| 13... | 1001 | 108 | 562 | 7.8 | 13.0 | -- | 0.6 |
| 13... | 1002 | 111 | 564 | 7.8 | 12.5 | -- | 0.4 |
| 13... | 1003 | 114 | 566 | 7.8 | 12.5 | -- | 0.1 |
| 13... | 1004 | 116 | 568 | 7.8 | 12.5 | -- | 0.0 |
| AUG | | | | | | | |
| 17... | 1024 | -- | -- | -- | -- | 2.10 | -- |
| 17... | 1025 | 0.0 | 444 | 8.3 | 23.5 | -- | 6.8 |
| 17... | 1026 | 3.0 | 444 | 8.3 | 23.5 | -- | 6.9 |
| 17... | 1027 | 6.0 | 444 | 8.3 | 23.5 | -- | 6.8 |
| 17... | 1028 | 9.0 | 444 | 8.4 | 23.0 | -- | 6.7 |
| 17... | 1029 | 12.0 | 445 | 8.3 | 23.0 | -- | 6.7 |
| 17... | 1031 | 18.0 | 447 | 8.3 | 23.0 | -- | 6.6 |
| 17... | 1032 | 21.0 | 447 | 8.3 | 23.0 | -- | 6.5 |
| 17... | 1033 | 24.0 | 447 | 8.3 | 23.0 | -- | 6.5 |
| 17... | 1034 | 27.0 | 447 | 8.3 | 23.0 | -- | 6.3 |
| 17... | 1035 | 30.0 | 448 | 8.3 | 23.0 | -- | 6.5 |
| 17... | 1036 | 33.0 | 448 | 8.3 | 23.0 | -- | 6.6 |
| 17... | 1037 | 36.0 | 449 | 8.2 | 23.0 | -- | 6.0 |
| 17... | 1038 | 39.0 | 449 | 8.2 | 22.5 | -- | 6.0 |
| 17... | 1039 | 42.0 | 451 | 8.2 | 22.5 | -- | 5.8 |
| 17... | 1040 | 45.0 | 452 | 8.0 | 22.5 | -- | 5.0 |
| 17... | 1041 | 48.0 | 453 | 7.9 | 22.5 | -- | 4.1 |
| 17... | 1042 | 51.0 | 453 | 7.8 | 22.0 | -- | 3.7 |
| 17... | 1043 | 54.0 | 454 | 7.7 | 22.0 | -- | 3.2 |
| 17... | 1044 | 57.0 | 455 | 7.7 | 22.0 | -- | 2.9 |
| 17... | 1045 | 60.0 | 456 | 7.6 | 22.0 | -- | 2.5 |
| 17... | 1046 | 63.0 | 458 | 7.5 | 22.0 | -- | 1.3 |
| 17... | 1047 | 66.0 | 458 | 7.4 | 21.5 | -- | 0.5 |
| 17... | 1048 | 69.0 | 457 | 7.4 | 21.5 | -- | 0.1 |
| 17... | 1049 | 72.0 | 456 | 7.3 | 21.5 | -- | 0.0 |
| 17... | 1050 | 75.0 | 455 | 7.3 | 21.0 | -- | 0.0 |
| 17... | 1051 | 78.0 | 455 | 7.3 | 21.0 | -- | 0.0 |
| 17... | 1052 | 81.0 | 453 | 7.3 | 21.0 | -- | 0.0 |
| 17... | 1053 | 84.0 | 450 | 7.3 | 20.5 | -- | 0.0 |
| 17... | 1054 | 87.0 | 448 | 7.3 | 20.0 | -- | 0.0 |
| 17... | 1055 | 90.0 | 451 | 7.4 | 19.0 | -- | 0.0 |
| 17... | 1056 | 93.0 | 453 | 7.4 | 19.0 | -- | 0.0 |
| 17... | 1057 | 96.0 | 457 | 7.5 | 18.0 | -- | 0.0 |
| 17... | 1058 | 99.0 | 462 | 7.6 | 17.5 | -- | 0.0 |
| 17... | 1059 | 101 | 466 | 7.6 | 17.5 | -- | 0.0 |

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 381602104435200 PUEBLO RESERVOIR SITE 7B (LAT 38 16 02N LONG 104 43 52W) | | | | | | | |
| SEP 1988 | | | | | | | |
| 21... | 1007 | -- | -- | -- | -- | 1.20 | -- |
| 21... | 1008 | 0.0 | 496 | 8.2 | 18.0 | -- | 6.8 |
| 21... | 1009 | 3.0 | 496 | 8.2 | 18.0 | -- | 6.8 |
| 21... | 1010 | 6.0 | 496 | 8.2 | 18.0 | -- | 6.7 |
| 21... | 1011 | 9.0 | 497 | 8.2 | 18.0 | -- | 6.7 |
| 21... | 1012 | 12.0 | 497 | 8.2 | 18.0 | -- | 6.7 |
| 21... | 1013 | 15.0 | 497 | 8.2 | 18.0 | -- | 6.7 |
| 21... | 1014 | 18.0 | 497 | 8.2 | 18.0 | -- | 6.6 |
| 21... | 1015 | 21.0 | 498 | 8.2 | 18.0 | -- | 6.6 |
| 21... | 1016 | 24.0 | 498 | 8.2 | 18.0 | -- | 6.6 |
| 21... | 1017 | 27.0 | 498 | 8.2 | 18.0 | -- | 6.6 |
| 21... | 1018 | 30.0 | 498 | 8.2 | 18.0 | -- | 6.5 |
| 21... | 1019 | 33.0 | 499 | 8.2 | 18.0 | -- | 6.4 |
| 21... | 1020 | 36.0 | 499 | 8.1 | 18.0 | -- | 6.1 |
| 21... | 1021 | 39.0 | 500 | 8.1 | 18.0 | -- | 6.1 |
| 21... | 1022 | 42.0 | 500 | 8.1 | 18.0 | -- | 6.0 |
| 21... | 1023 | 45.0 | 500 | 8.1 | 18.0 | -- | 6.0 |
| 21... | 1024 | 48.0 | 500 | 8.1 | 18.0 | -- | 6.0 |
| 21... | 1025 | 51.0 | 502 | 8.1 | 18.0 | -- | 5.8 |
| 21... | 1026 | 54.0 | 503 | 8.0 | 18.0 | -- | 5.7 |
| 21... | 1027 | 57.0 | 503 | 8.0 | 18.0 | -- | 5.7 |
| 21... | 1028 | 60.0 | 504 | 8.0 | 18.0 | -- | 5.7 |
| 21... | 1029 | 63.0 | 506 | 8.0 | 18.0 | -- | 5.6 |
| 21... | 1030 | 66.0 | 507 | 8.0 | 18.0 | -- | 5.6 |
| 21... | 1031 | 69.0 | 507 | 8.0 | 18.0 | -- | 5.5 |
| 21... | 1032 | 72.0 | 510 | 8.0 | 18.0 | -- | 5.3 |
| 21... | 1033 | 75.0 | 513 | 8.0 | 17.5 | -- | 5.1 |
| 21... | 1034 | 78.0 | 515 | 8.0 | 17.5 | -- | 4.9 |
| 21... | 1035 | 81.0 | 519 | 7.9 | 17.5 | -- | 4.8 |
| 21... | 1036 | 84.0 | 526 | 7.8 | 17.5 | -- | 4.1 |
| 21... | 1037 | 87.0 | 529 | 7.8 | 17.5 | -- | 3.8 |
| 21... | 1038 | 90.0 | 532 | 7.8 | 17.5 | -- | 3.5 |
| 21... | 1039 | 93.0 | 533 | 7.8 | 17.5 | -- | 3.3 |
| 21... | 1040 | 96.0 | 535 | 7.8 | 17.5 | -- | 3.3 |
| OCT | | | | | | | |
| 18... | 0954 | -- | -- | -- | -- | 1.80 | -- |
| 18... | 0955 | 0.0 | 533 | 8.2 | 14.5 | -- | 7.1 |
| 18... | 0956 | 3.0 | 534 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 0957 | 6.0 | 536 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 0958 | 9.0 | 537 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 0959 | 12.0 | 538 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 1000 | 15.0 | 538 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 1001 | 18.0 | 539 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 1002 | 21.0 | 540 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 1003 | 24.0 | 540 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 1004 | 27.0 | 541 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 1005 | 30.0 | 541 | 8.3 | 14.5 | -- | 7.0 |
| 18... | 1006 | 33.0 | 541 | 8.3 | 14.5 | -- | 6.9 |
| 18... | 1007 | 36.0 | 541 | 8.3 | 14.5 | -- | 6.9 |
| 18... | 1008 | 39.0 | 541 | 8.3 | 14.5 | -- | 6.9 |
| 18... | 1009 | 42.0 | 542 | 8.3 | 14.5 | -- | 6.8 |
| 18... | 1010 | 45.0 | 542 | 8.3 | 14.5 | -- | 6.8 |
| 18... | 1011 | 48.0 | 542 | 8.3 | 14.5 | -- | 6.8 |
| 18... | 1012 | 51.0 | 542 | 8.3 | 14.5 | -- | 6.8 |
| 18... | 1013 | 54.0 | 543 | 8.3 | 14.5 | -- | 6.8 |
| 18... | 1014 | 57.0 | 543 | 8.3 | 14.5 | -- | 6.8 |
| 18... | 1015 | 60.0 | 545 | 8.3 | 14.5 | -- | 6.6 |
| 18... | 1016 | 63.0 | 545 | 8.3 | 14.5 | -- | 6.5 |
| 18... | 1017 | 66.0 | 545 | 8.3 | 14.5 | -- | 6.5 |
| 18... | 1018 | 69.0 | 546 | 8.2 | 14.5 | -- | 6.3 |
| 18... | 1019 | 72.0 | 548 | 8.2 | 14.5 | -- | 6.1 |
| 18... | 1020 | 75.0 | 548 | 8.2 | 14.5 | -- | 6.1 |
| 18... | 1021 | 78.0 | 548 | 8.2 | 14.5 | -- | 6.1 |
| 18... | 1022 | 81.0 | 548 | 8.2 | 14.5 | -- | 6.0 |
| 18... | 1023 | 84.0 | 549 | 8.2 | 14.5 | -- | 6.0 |
| 18... | 1024 | 87.0 | 550 | 8.2 | 14.5 | -- | 5.9 |
| 18... | 1025 | 90.0 | 550 | 8.2 | 14.5 | -- | 5.8 |
| 18... | 1026 | 92.0 | 551 | 8.2 | 14.5 | -- | 5.8 |

ARKANSAS RIVER BASIN

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07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

381725104494400 - PUEBLO RESERVOIR SITE 3B

| DATE | TIME | SAM- PLING DEPTH (FEET) | TUR- BID- ITY (FTU) | 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) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | FLUO- RIDE, DIS- SOLVED (MG/L AS F) |
|-------|------|----------------------------------|------------------------------|---|--|--|--|---|---|---|---|--|
| JUL | | | | | | | | | | | | |
| 12... | 1020 | 5.0 | 3.4 | 150 | 43 | 11 | 15 | 0.5 | 2.4 | 92 | 6.2 | 0.48 |
| 12... | 1125 | 38.0 | 85 | 170 | 50 | 11 | 17 | 0.6 | 2.9 | 97 | 6.6 | 0.54 |
| AUG | | | | | | | | | | | | |
| 16... | 1325 | 3.0 | 5.2 | 210 | 58 | 16 | 20 | 0.6 | 3.2 | 110 | 7.4 | 0.54 |
| 16... | 1350 | 24.0 | 170 | 250 | 68 | 19 | 25 | 0.7 | 4.2 | 130 | 8.6 | 0.58 |
| SEP | | | | | | | | | | | | |
| 20... | 1315 | 16.0 | 59 | 270 | 73 | 21 | 27 | 0.7 | 3.6 | 160 | 9.7 | 0.52 |
| 20... | 1320 | 2.0 | 16 | 220 | 60 | 17 | 24 | 0.7 | 3.2 | 120 | 11 | 0.47 |
| 20... | 1325 | 16.0 | 27 | 280 | 73 | 23 | 31 | 0.8 | 3.6 | 160 | 10 | 0.50 |
| OCT | | | | | | | | | | | | |
| 17... | 1100 | 1.0 | 10 | 280 | 71 | 24 | 31 | 0.8 | 3.9 | 190 | 11 | 0.65 |
| 17... | 1140 | 17.0 | 70 | 290 | 73 | 25 | 33 | 0.9 | 4.1 | 190 | 11 | 0.58 |

| DATE | 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, 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- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTH, TOTAL (MG/L AS P) | PHOS- PHOROUS ORTH, DIS- SOLVED (MG/L AS P) | ARSENIC DIS- SOLVED (UG/L AS AS) | ARSENIC TOTAL (UG/L AS AS) |
|-------|--|---|--|---|--|---|---|--|--|---|--|-------------------------------------|
| JUL | | | | | | | | | | | | |
| 12... | 0.003 | 0.001 | 0.039 | 0.052 | 0.032 | 0.025 | -- | 0.056 | 0.004 | -- | <1 | <1 |
| 12... | <0.001 | 0.001 | 0.136 | 0.152 | 0.141 | 0.135 | -- | 0.047 | <0.001 | -- | <1 | <1 |
| AUG | | | | | | | | | | | | |
| 16... | 0.004 | 0.003 | <0.010 | <0.010 | 0.039 | 0.025 | -- | 0.050 | 0.059 | -- | <1 | 1 |
| 16... | 0.001 | 0.002 | <0.010 | <0.010 | 0.127 | 0.105 | -- | 0.089 | 0.095 | -- | 1 | 3 |
| SEP | | | | | | | | | | | | |
| 20... | 0.001 | 0.008 | 0.117 | 0.130 | 0.051 | 0.062 | -- | 0.030 | 0.063 | -- | <1 | 2 |
| 20... | 0.003 | 0.008 | -- | 0.045 | 0.019 | 0.027 | -- | 0.044 | 0.047 | -- | <1 | <1 |
| 20... | 0.006 | 0.008 | 0.110 | 0.121 | 0.055 | 0.055 | 0.024 | 0.026 | 0.017 | 0.016 | 1 | 1 |
| OCT | | | | | | | | | | | | |
| 17... | 0.001 | 0.001 | 0.001 | 0.009 | 0.102 | 0.109 | -- | 0.036 | 0.049 | -- | <1 | 1 |
| 17... | 0.001 | 0.002 | 0.066 | 0.084 | 0.160 | 0.154 | -- | 0.037 | 0.063 | -- | 1 | 2 |

| DATE | BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) | BARIUM, DIS- SOLVED (UG/L AS BA) | 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) | IRON, DIS- SOLVED (UG/L AS FE) | LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) | LEAD, DIS- SOLVED (UG/L AS PB) |
|-------|---|--|---|--|--|---|---|--|---|--|---|--|
| JUL | | | | | | | | | | | | |
| 12... | 50 | 46 | <1 | <1 | 1 | <1 | 12 | 8 | 100 | 15 | 2 | <1 |
| 12... | 70 | 52 | 3 | <1 | 2 | <1 | 19 | 4 | 1400 | 13 | 6 | 1 |
| AUG | | | | | | | | | | | | |
| 16... | 80 | 70 | <10 | <1 | 2 | <1 | 10 | 3 | 80 | 8 | <10 | <1 |
| 16... | 100 | 100 | <10 | <1 | 8 | <1 | 25 | 2 | 1200 | 9 | <10 | <1 |
| SEP | | | | | | | | | | | | |
| 20... | 100 | 69 | <10 | <1 | 3 | <1 | 19 | 3 | 730 | 1 | <10 | <1 |
| 20... | -- | 77 | <10 | <1 | 2 | <1 | 11 | 4 | 300 | 20 | <10 | <1 |
| 20... | 300 | 73 | 1 | <1 | 2 | <1 | 14 | 1 | 1300 | 7 | <5 | <5 |
| OCT | | | | | | | | | | | | |
| 17... | 70 | 67 | <10 | <1 | 2 | <1 | 12 | 4 | 1000 | 22 | <10 | <1 |
| 17... | 90 | 67 | <10 | <1 | 3 | <1 | 14 | 11 | 1800 | 16 | <10 | <1 |

| DATE | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) | MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) | NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) | NICKEL, DIS- SOLVED (UG/L AS NI) | SELE- NIUM, TOTAL (UG/L AS SE) | SELE- NIUM, DIS- SOLVED (UG/L AS SE) | 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) |
|-------|---|--|--|---|---|--|--|---|---|--|---|--|
| JUL | | | | | | | | | | | | |
| 12... | 19 | 3 | 8 | 8 | 8 | 7 | 2 | 2 | <1 | <1.0 | 20 | 1 |
| 12... | 130 | 67 | 12 | 10 | 13 | 8 | 2 | 1 | <1 | <1.0 | 30 | 3 |
| AUG | | | | | | | | | | | | |
| 16... | 40 | 9 | 8 | 6 | <10 | 2 | 3 | 3 | <10 | <1.0 | 10 | 6 |
| 16... | 200 | 93 | 17 | 7 | 15 | 2 | 3 | 2 | <10 | <1.0 | 50 | 10 |
| SEP | | | | | | | | | | | | |
| 20... | 86 | 32 | 13 | 11 | <10 | 3 | 3 | 3 | <10 | <1.0 | 30 | 10 |
| 20... | 32 | 9 | 11 | 9 | <10 | 4 | 4 | 4 | <10 | <1.0 | 10 | 10 |
| 20... | 80 | 28 | 4 | 5 | 5 | 2 | 3 | 3 | 1 | <1.0 | <10 | <3 |
| OCT | | | | | | | | | | | | |
| 17... | 87 | 28 | 11 | 12 | <10 | 6 | 3 | 3 | <10 | <1.0 | 10 | <1 |
| 17... | 120 | 51 | 13 | 11 | <10 | 6 | 4 | 4 | <10 | <1.0 | 30 | <1 |

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

381559104465500 - PUEBLO RESERVOIR SITE 5C

| DATE | TIME | SAM- PLING DEPTH (FEET) | TUR- BID- ITY (FTU) | 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) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | FLUO- RIDE, DIS- SOLVED (MG/L AS F) |
|-------|------|----------------------------------|------------------------------|---|--|--|--|---|---|---|---|--|
| JUL | | | | | | | | | | | | |
| 12... | 1325 | 8.0 | 1.5 | 170 | 47 | 12 | 16 | 0.6 | 2.5 | 95 | 6.7 | 0.51 |
| 12... | 1410 | 65.0 | 7.1 | 170 | 48 | 12 | 16 | 0.6 | 2.5 | 110 | 6.5 | 0.49 |
| AUG | | | | | | | | | | | | |
| 16... | 1050 | 6.0 | 2.0 | 190 | 51 | 15 | 19 | 0.6 | 2.9 | 120 | 6.6 | 0.49 |
| 16... | 1200 | 51.0 | 16 | 190 | 51 | 16 | 20 | 0.7 | 3.2 | 120 | 7.2 | 0.51 |
| SEP | | | | | | | | | | | | |
| 20... | 1030 | 5.0 | 6.0 | 210 | 57 | 16 | 19 | 0.6 | 3.0 | 140 | 7.6 | 0.45 |
| 20... | 1050 | 48.0 | 12 | 210 | 57 | 16 | 20 | 0.6 | 3.1 | 120 | 8.9 | 0.44 |
| OCT | | | | | | | | | | | | |
| 17... | 0955 | 5.0 | 1.0 | -- | 57 | -- | -- | -- | 3.1 | 130 | 8.7 | 0.52 |
| 17... | 1010 | 44.0 | 1.8 | -- | 54 | -- | -- | -- | 3.2 | -- | 8.5 | 0.55 |

| DATE | 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, 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- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTHO, TOTAL (MG/L AS P) | ARSENIC DIS- SOLVED (UG/L AS AS) | ARSENIC TOTAL (UG/L AS AS) | BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) | BARIUM, DIS- SOLVED (UG/L AS BA) |
|-------|--|---|--|---|--|---|--|---|--|-------------------------------------|---|--|
| JUL | | | | | | | | | | | | |
| 12... | 0.002 | <0.001 | 0.037 | 0.061 | 0.032 | 0.037 | 0.060 | 0.004 | <1 | <1 | 50 | 48 |
| 12... | 0.003 | 0.001 | 0.307 | 0.323 | 0.033 | 0.028 | 0.063 | 0.019 | <1 | <1 | 50 | 48 |
| AUG | | | | | | | | | | | | |
| 16... | 0.005 | 0.005 | <0.010 | <0.010 | 0.032 | -- | -- | 0.025 | <1 | <1 | 70 | 69 |
| 16... | 0.007 | 0.006 | 0.050 | 0.038 | 0.036 | 0.037 | -- | 0.030 | <1 | 1 | 90 | 66 |
| SEP | | | | | | | | | | | | |
| 20... | -- | -- | -- | -- | 0.023 | 0.024 | 0.033 | 0.030 | <1 | <1 | 70 | 70 |
| 20... | -- | -- | -- | -- | 0.023 | 0.023 | 0.028 | 0.036 | <1 | 1 | 70 | 74 |
| OCT | | | | | | | | | | | | |
| 17... | 0.001 | 0.001 | 0.227 | 0.258 | 0.065 | 0.066 | 0.023 | 0.016 | <1 | <1 | -- | -- |
| 17... | 0.001 | 0.002 | 0.190 | 0.242 | 0.094 | 0.094 | 0.021 | 0.021 | <1 | <1 | 70 | 73 |

| 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) | 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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) |
|-------|---|--|--|---|---|--|---|--|---|--|---|
| JUL | | | | | | | | | | | |
| 12... | <1 | <1 | <1 | <1 | 7 | 1 | 70 | 20 | 1 | <1 | 8 |
| 12... | <1 | <1 | <1 | <1 | 6 | 3 | 160 | 33 | 2 | <1 | 110 |
| AUG | | | | | | | | | | | |
| 16... | <10 | <1 | 2 | <1 | 29 | 3 | 90 | 1 | <10 | <1 | 17 |
| 16... | <10 | <1 | 2 | <1 | 19 | 3 | 460 | 15 | <10 | <1 | 120 |
| SEP | | | | | | | | | | | |
| 20... | <10 | <1 | 1 | <1 | 29 | 3 | -- | <1 | <10 | <1 | 32 |
| 20... | <10 | <1 | 1 | <1 | 14 | 3 | 350 | <1 | <10 | <1 | 40 |
| OCT | | | | | | | | | | | |
| 17... | <10 | <1 | 1 | <1 | 10 | 4 | 120 | 21 | <10 | <1 | 28 |
| 17... | <10 | <1 | 1 | <1 | 10 | 4 | 430 | 16 | <10 | <1 | 58 |

| DATE | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) | MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) | NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) | NICKEL, DIS- SOLVED (UG/L AS NI) | SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) | SELE- NIUM, DIS- SOLVED (UG/L AS SE) | 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) |
|-------|--|--|---|---|--|--|---|---|--|---|--|
| JUL | | | | | | | | | | | |
| 12... | 1 | 8 | 8 | 7 | 6 | 2 | 2 | <1 | <1.0 | 8 | 3 |
| 12... | 55 | 10 | 9 | 7 | 8 | 2 | 2 | <1 | <1.0 | 10 | 7 |
| AUG | | | | | | | | | | | |
| 16... | 9 | 6 | 7 | <10 | 2 | 3 | 3 | <10 | <1.0 | 20 | 10 |
| 16... | 78 | 6 | 6 | <10 | 3 | 3 | 3 | <10 | <1.0 | 20 | 9 |
| SEP | | | | | | | | | | | |
| 20... | 9 | 10 | 8 | <10 | 4 | 4 | 4 | <10 | <1.0 | 20 | 10 |
| 20... | 9 | 9 | 7 | <10 | 3 | 4 | 4 | <10 | <1.0 | 20 | 9 |
| OCT | | | | | | | | | | | |
| 17... | 6 | 6 | 11 | <10 | 5 | 4 | 4 | <10 | <1.0 | <10 | <1 |
| 17... | 16 | 10 | 13 | <10 | 3 | 3 | 4 | <10 | <1.0 | <10 | <1 |

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued

201

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

381602104435200 - PUEBLO RESERVOIR SITE 7B

| DATE | TIME | SAM- PLING DEPTH (FEET) | TUR- BID- ITY (FTU) | 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) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | FLUO- RIDE, DIS- SOLVED (MG/L AS F) |
|-------|------|----------------------------------|------------------------------|---|--|--|--|---|---|---|---|--|
| JUL | | | | | | | | | | | | |
| 13... | 0900 | 9.0 | 1.1 | 170 | 49 | 13 | 18 | 0.6 | 2.6 | 130 | 6.3 | 0.51 |
| 13... | 1030 | 115 | 2.5 | 230 | 63 | 17 | 25 | 0.8 | 3.5 | -- | 9.6 | 0.60 |
| AUG | | | | | | | | | | | | |
| 17... | 0950 | 7.0 | 1.2 | 200 | 54 | 15 | 18 | 0.6 | 3.0 | 120 | 6.9 | 0.48 |
| 17... | 1020 | 100 | 22 | 200 | 56 | 15 | 17 | 0.5 | 2.9 | 110 | 6.4 | 0.47 |
| SEP | | | | | | | | | | | | |
| 21... | 0940 | 4.0 | -- | 210 | 56 | 16 | 20 | 0.6 | 3.0 | 120 | 8.2 | 0.44 |
| 21... | 1000 | 96.0 | -- | 220 | 60 | 17 | 21 | 0.6 | 3.2 | 130 | 8.2 | 0.45 |
| OCT | | | | | | | | | | | | |
| 18... | 0920 | 6.0 | 0.28 | 220 | 59 | 18 | 25 | 0.8 | 3.2 | -- | 8.2 | 0.54 |
| 18... | 0940 | 90.0 | 6.9 | 230 | 61 | 18 | 26 | 0.8 | 3.0 | -- | 8.4 | 0.54 |

| DATE | 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, 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- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) | ARSENIC DIS- SOLVED (UG/L AS AS) | ARSENIC TOTAL (UG/L AS AS) | BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) | BARIUM, DIS- SOLVED (UG/L AS BA) |
|-------|--|---|--|---|--|---|--|--|--|-------------------------------------|---|--|
| JUL | | | | | | | | | | | | |
| 13... | 0.001 | 0.001 | 0.048 | 0.079 | 0.031 | 0.035 | 0.047 | -- | <1 | <1 | 50 | 46 |
| 13... | <0.001 | 0.001 | 0.447 | 0.454 | 0.025 | 0.025 | 0.088 | -- | <1 | <1 | 60 | 54 |
| AUG | | | | | | | | | | | | |
| 17... | 0.005 | 0.005 | <0.010 | <0.010 | 0.021 | 0.033 | 0.107 | -- | <1 | <1 | 70 | 64 |
| 17... | 0.013 | 0.016 | 0.137 | 0.112 | 0.176 | 0.168 | 0.126 | 0.063 | 1 | 2 | 80 | 58 |
| SEP | | | | | | | | | | | | |
| 21... | 0.010 | -- | 0.225 | 0.225 | 0.021 | 0.019 | 0.021 | -- | <1 | 1 | 60 | 68 |
| 21... | -- | 0.031 | 0.178 | 0.180 | 0.089 | 0.044 | 0.037 | -- | <1 | 2 | 90 | 86 |
| OCT | | | | | | | | | | | | |
| 18... | 0.001 | 0.001 | 0.310 | 0.275 | 0.052 | 0.071 | 0.013 | -- | <1 | <1 | -- | -- |
| 18... | 0.003 | 0.008 | 0.278 | 0.301 | 0.078 | 0.075 | 0.016 | -- | <1 | 1 | -- | -- |

| 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) | 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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) |
|-------|---|--|--|---|---|--|---|--|---|--|---|
| JUL | | | | | | | | | | | |
| 13... | <1 | <1 | <1 | <1 | 6 | 4 | 50 | 11 | <1 | <1 | 5 |
| 13... | 2 | <1 | <1 | <1 | 9 | 5 | 60 | 5 | 5 | <1 | 290 |
| AUG | | | | | | | | | | | |
| 17... | <10 | <1 | 1 | <1 | 15 | 3 | 100 | 1 | <10 | <1 | 17 |
| 17... | <10 | <1 | 2 | <1 | 13 | 1 | 430 | 3 | <10 | <1 | 620 |
| SEP | | | | | | | | | | | |
| 21... | <10 | <1 | 2 | <1 | 22 | 2 | 200 | 8 | <10 | <1 | 32 |
| 21... | <10 | <1 | 2 | <1 | 14 | 3 | 580 | 5 | <10 | <1 | 300 |
| OCT | | | | | | | | | | | |
| 18... | <10 | <1 | <1 | <1 | 8 | 3 | 90 | 16 | <10 | <1 | 28 |
| 18... | <10 | <1 | 2 | <1 | 7 | 3 | 420 | 21 | <10 | <1 | 170 |

| DATE | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) | MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) | NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) | NICKEL, DIS- SOLVED (UG/L AS NI) | SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) | SELE- NIUM, DIS- SOLVED (UG/L AS SE) | 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) |
|-------|--|--|---|---|--|--|---|---|--|---|--|
| JUL | | | | | | | | | | | |
| 13... | 5 | 8 | 8 | 7 | 6 | 3 | 2 | <1 | <1.0 | 9 | 1 |
| 13... | 5 | 11 | 10 | 10 | 11 | 3 | 3 | 1 | 1.0 | 10 | 3 |
| AUG | | | | | | | | | | | |
| 17... | 9 | 5 | 6 | <10 | 3 | 3 | 3 | <10 | <1.0 | 9 | 9 |
| 17... | 590 | 6 | 6 | <10 | 2 | 2 | 2 | <10 | <1.0 | 20 | 9 |
| SEP | | | | | | | | | | | |
| 21... | 9 | 9 | 9 | <10 | 3 | 4 | 4 | <10 | <1.0 | 20 | 10 |
| 21... | 220 | 11 | 9 | <10 | 4 | 4 | 4 | <10 | <1.0 | 20 | 12 |
| OCT | | | | | | | | | | | |
| 18... | 9 | 9 | 11 | <10 | 3 | 3 | 4 | <10 | <1.0 | <10 | <1 |
| 18... | 110 | 11 | 13 | <10 | 4 | 3 | 4 | <10 | <1.0 | <10 | <1 |

ARKANSAS RIVER BASIN

07099350 PUEBLO RESERVOIR NEAR PUEBLO CO--Continued

381725104494400 PUEBLO RESERVOIR SITE 3B
PHYTOPLANKTON

| TAXA | Date | July 12, 1988 | Aug. 16, 1988 |
|---|-------|------------------|------------------|
| | Depth | 5 ft. | 3 ft. |
| TAXA | | COUNT (CELLS/ML) | COUNT (CELLS/ML) |
| BACILLARIOPHYTA (Diatoms) | | | |
| Order Centrales | | | |
| Cyclotella stelligera | | 41 | -- |
| Stephanodiscus niagarae | | 63 | -- |
| Order Pennales | | | |
| Cocconeis placentula var. lineata | | -- | 31 |
| Fragilaria crotonensis | | 5400 | -- |
| Fragilaria vaucheriae | | 120 | -- |
| Nitzschia paleacea | | -- | 21 |
| CHLOROPHYTA (Green algae) | | | |
| Carteria klebsii | | 150 | 19 |
| Chlamydomonas globosa | | 190 | -- |
| Chlorococcum humicola | | 160 | 36 |
| Cosmarium depressum var. achondrum | | -- | 72 |
| Dictyosphaerium pulchellum | | 170 | -- |
| Scenedesmus bijuga | | -- | 120 |
| Scenedesmus quadricauda var. longispina | | 160 | -- |
| Schroederia judayi | | 42 | -- |
| CYANOPHYTA (Blue-green algae) | | | |
| Aphanocapsa delicatissima | | 4300 | 26700 |
| Aphanocapsa elachista var. conferta | | 3100 | 38100 |
| Microcystis aeruginosa | | 1900 | -- |
| CHRYSOPHYTA (Golden brown algae) | | | |
| Chrysocapsa planctonica | | 680 | 920 |
| Dinobryon divergens | | 100 | -- |
| Mallomonas acaroides var. moskovensis | | -- | 120 |
| PYRRHOPHYTA (Dinoflagellates) | | | |
| Ceratium hirundinella | | -- | 87 |
| Peridinium inconspicuum | | 83 | 5800 |
| CRYPTOPHYTA (Cryptomonads) | | | |
| Cryptomonas ovata | | -- | 52 |
| Rhodomonas minuta | | 95 | 93 |
| TOTAL CELLS/ML | | 16,754 | 72,171 |
| NUMBER OF SPECIES | | 17 | 14 |

07099350 PUEBLO RESERVOIR NEAR PUEBLO CO--Continued

381725104494400 PUEBLO RESERVOIR SITE 7B
PHYTOPLANKTON

| | Date Depth | July 13, 1988 9 ft. | Aug. 17, 1988 7 ft. |
|---------------------------------------|---------------|------------------------|------------------------|
| TAXA | | COUNT (CELLS/ML) | COUNT (CELLS/ML) |
| BACILLARIOPHYTA (Diatoms) | | | |
| Order Pennales | | | |
| Asterionella formosa | | 530 | -- |
| Fragilaria crontonensis | | 4600 | -- |
| Fragilaria vaucheriae | | 38 | -- |
| Navicula sp. | | -- | 19 |
| Synedra pulchella | | -- | 42 |
| CHLOROPHYTA (Green algae) | | | |
| Carteria klebsii | | 76 | 32 |
| Chlamydomonas globosa | | 220 | 140 |
| Chlamydomonas epiphytica | | 140 | -- |
| Chlorococcum humicola | | 850 | -- |
| Dictyosphaerium pulchellum | | 74 | -- |
| Oocystis lacustris | | 84 | -- |
| Oocystis solitaria | | 17 | -- |
| Pandorina morum | | 410 | -- |
| Scenedesmus bijuga | | -- | 53 |
| Schroederia judayi | | 19 | -- |
| CYANOPHYTA (Blue-green algae) | | | |
| Aphanocapsa delicatissima | | -- | 17800 |
| Aphanocapsa elachista var. conferta | | 1400 | 56000 |
| Dactylococcopsis fascicularis | | 320 | 84 |
| CHRYSTOPHYTA (Golden brown algae) | | | |
| Chrysocapsa planctonica | | -- | 240 |
| Dinobryon divergens | | 480 | -- |
| Lagynion ampullaceum | | 53 | -- |
| Mallomonas acaroides var. moskovensis | | -- | 17 |
| Monallantus brevicylindrus | | 160 | 18 |
| PYRRHOPHYTA (Dinoflagellates) | | | |
| Peridinium inconspicuum | | 42 | 38 |
| CRYPTOPHYTA (Cryptomonads) | | | |
| Cryptomonas erosa | | 41 | -- |
| Rhodomonas minuta | | 440 | 120 |
| TOTAL CELLS/ML | | 9,994 | 74,603 |
| NUMBER OF SPECIES | | 20 | 13 |

ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

LOCATION.--Lat 38°16'17", long 104°43'06", in NE¼NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on left bank 450 ft downstream from headgate of West Pueblo ditch, 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.

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 2,000 ft downstream, at different 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.

AVERAGE DISCHARGE.--8 years (water years 1966-73), 643 ft³/s; 465,900 acre-ft/yr, prior to completion of Pueblo Dam; 14 years (1975-88), 761 ft³/s; 551,300 acre-ft/yr, subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s, Aug. 1, 1966, gage height, 9.4 ft, from floodmarks, present site and datum, from rating curve extended above 1,600 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 28 ft³/s, May 11, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,140 ft³/s at 1545 June 30, gage height, 4.60 ft; minimum daily, 95 ft³/s, Nov. 15, 16, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 330 | 412 | 104 | 453 | 560 | 120 | 367 | 526 | 912 | 1940 | 1690 | 463 |
| 2 | 313 | 412 | 105 | 455 | 462 | 120 | 348 | 608 | 691 | 1600 | 1830 | 443 |
| 3 | 285 | 412 | 108 | 455 | 407 | 120 | 346 | 603 | 720 | 1220 | 1780 | 396 |
| 4 | 275 | 420 | 109 | 441 | 348 | 120 | 380 | 581 | 804 | 950 | 1650 | 360 |
| 5 | 276 | 425 | 110 | 414 | 313 | 120 | 490 | 565 | 1050 | 1410 | 1340 | 298 |
| 6 | 276 | 428 | 110 | 404 | 310 | 121 | 618 | 545 | 1780 | 1880 | 656 | 284 |
| 7 | 276 | 430 | 110 | 401 | 317 | 208 | 664 | 530 | 2020 | 1760 | 504 | 321 |
| 8 | 282 | 434 | 111 | 399 | 348 | 306 | 520 | 598 | 1820 | 1300 | 758 | 350 |
| 9 | 292 | 438 | 112 | 402 | 393 | 332 | 414 | 681 | 1590 | 1550 | 898 | 317 |
| 10 | 305 | 428 | 111 | 403 | 437 | 317 | 464 | 649 | 1540 | 1760 | 726 | 303 |
| 11 | 310 | 417 | 114 | 428 | 452 | 310 | 472 | 643 | 1620 | 1640 | 709 | 301 |
| 12 | 310 | 414 | 116 | 446 | 430 | 310 | 474 | 623 | 1620 | 1610 | 678 | 300 |
| 13 | 294 | 415 | 118 | 446 | 416 | 310 | 474 | 411 | 1600 | 1490 | 699 | 439 |
| 14 | 299 | 332 | 118 | 445 | 421 | 468 | 470 | 392 | 1520 | 1480 | 688 | 528 |
| 15 | 319 | 95 | 118 | 428 | 422 | 536 | 442 | 601 | 1390 | 912 | 748 | 389 |
| 16 | 354 | 95 | 118 | 421 | 395 | 467 | 406 | 781 | 1140 | 834 | 736 | 370 |
| 17 | 370 | 98 | 119 | 420 | 348 | 442 | 406 | 936 | 1020 | 860 | 764 | 360 |
| 18 | 370 | 96 | 122 | 419 | 292 | 352 | 469 | 994 | 1050 | 889 | 853 | 378 |
| 19 | 385 | 95 | 123 | 474 | 187 | 347 | 508 | 1090 | 1050 | 1040 | 886 | 346 |
| 20 | 394 | 96 | 123 | 507 | 110 | 347 | 477 | 1170 | 1020 | 1100 | 848 | 318 |
| 21 | 394 | 96 | 333 | 507 | 111 | 348 | 429 | 1150 | 1180 | 1100 | 796 | 352 |
| 22 | 397 | 98 | 456 | 484 | 113 | 347 | 378 | 1000 | 1340 | 992 | 956 | 373 |
| 23 | 371 | 102 | 484 | 468 | 115 | 346 | 535 | 847 | 1430 | 802 | 1020 | 324 |
| 24 | 355 | 106 | 504 | 468 | 118 | 370 | 576 | 687 | 1490 | 721 | 998 | 277 |
| 25 | 356 | 105 | 510 | 467 | 120 | 397 | 459 | 496 | 1380 | 1070 | 902 | 267 |
| 26 | 382 | 105 | 511 | 464 | 120 | 375 | 279 | 489 | 1270 | 1520 | 846 | 274 |
| 27 | 398 | 100 | 512 | 495 | 120 | 374 | 359 | 620 | 1160 | 1560 | 892 | 280 |
| 28 | 409 | 100 | 475 | 544 | 119 | 384 | 427 | 765 | 1240 | 1490 | 961 | 280 |
| 29 | 415 | 102 | 451 | 558 | 119 | 387 | 419 | 939 | 1530 | 1480 | 788 | 280 |
| 30 | 415 | 103 | 449 | 556 | --- | 363 | 421 | 1120 | 1950 | 1520 | 675 | 253 |
| 31 | 415 | --- | 451 | 558 | --- | 379 | --- | 1160 | --- | 1650 | 465 | --- |
| TOTAL | 10622 | 7409 | 7415 | 14230 | 8423 | 9843 | 13491 | 22800 | 39927 | 41130 | 28740 | 10224 |
| MEAN | 343 | 247 | 239 | 459 | 290 | 318 | 450 | 735 | 1331 | 1327 | 927 | 341 |
| MAX | 415 | 438 | 512 | 558 | 560 | 536 | 664 | 1170 | 2020 | 1940 | 1830 | 528 |
| MIN | 275 | 95 | 104 | 399 | 110 | 120 | 279 | 392 | 691 | 721 | 465 | 253 |
| AC-FT | 21070 | 14700 | 14710 | 28230 | 16710 | 19520 | 26760 | 45220 | 79200 | 81580 | 57010 | 20280 |

CAL YR 1987 TOTAL 348008 MEAN 953 MAX 5380 MIN 95 AC-FT 690300
WTR YR 1988 TOTAL 214254 MEAN 585 MAX 2020 MIN 95 AC-FT 425000

ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

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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.--Daily data not published is either missing or of poor quality. Daily maximum and minimum specific conductance data available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 726 microsiemens May 5, 1986; minimum, 223 microsiemens July 13, 1986.

WATER TEMPERATURE: Maximum, 21.8°C Sept. 6, 1988; minimum, 1.7°C Jan. 23-25, 1988.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 630 microsiemens Sept. 30; minimum, 351 microsiemens June 6.

WATER TEMPERATURE: Maximum, 21.8°C Aug. 9 and Sept. 6; minimum, 1.7°C Jan. 23-25.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 445 | 491 | 520 | 507 | 521 | 582 | 554 | --- | 467 | 479 | 395 | 506 |
| 2 | 451 | 485 | 513 | 507 | --- | 594 | 555 | --- | 482 | 476 | 412 | --- |
| 3 | 457 | 488 | 513 | 507 | --- | 587 | 554 | --- | 483 | --- | 449 | --- |
| 4 | 449 | 490 | 522 | 507 | --- | 588 | 551 | --- | 482 | --- | 466 | --- |
| 5 | 453 | 488 | 525 | 508 | --- | 580 | 547 | --- | 472 | --- | 455 | --- |
| 6 | 457 | 489 | 527 | 509 | --- | 580 | 544 | --- | 413 | --- | 459 | --- |
| 7 | 451 | 484 | 525 | 507 | --- | 571 | 545 | --- | 398 | --- | 462 | 497 |
| 8 | 450 | 493 | 520 | 507 | --- | 559 | 550 | --- | 490 | 531 | 453 | 510 |
| 9 | 452 | 486 | 521 | 515 | 536 | 559 | 552 | --- | 525 | 521 | 452 | --- |
| 10 | 454 | 484 | 523 | 524 | 534 | 562 | 548 | --- | 557 | 517 | 456 | --- |
| 11 | 453 | 479 | 524 | 514 | 541 | 562 | 549 | --- | 568 | 511 | 454 | --- |
| 12 | 452 | 482 | 522 | 507 | 536 | 561 | 549 | --- | 569 | 509 | 455 | --- |
| 13 | 456 | 487 | 518 | 510 | 534 | 560 | 547 | --- | 567 | 502 | 453 | --- |
| 14 | 459 | 498 | 516 | 510 | 536 | 555 | 554 | --- | 568 | 501 | 454 | --- |
| 15 | 461 | 509 | 518 | 511 | 537 | 557 | 546 | --- | 565 | 521 | 454 | --- |
| 16 | 460 | 499 | 519 | 512 | 539 | 563 | 492 | --- | 580 | 512 | 456 | --- |
| 17 | 457 | 496 | 522 | 511 | 539 | 561 | 515 | --- | 593 | 505 | 455 | --- |
| 18 | 460 | 495 | 525 | 514 | 541 | 566 | 524 | --- | 596 | 498 | 457 | --- |
| 19 | 460 | 495 | 525 | 515 | 552 | 565 | 510 | --- | 592 | 488 | 444 | --- |
| 20 | 462 | 498 | 531 | 514 | 557 | 565 | 511 | --- | 589 | 483 | 440 | --- |
| 21 | 463 | 505 | 518 | 514 | 551 | 565 | 490 | --- | 579 | 478 | 452 | --- |
| 22 | 471 | 498 | 501 | 516 | 552 | 566 | 456 | --- | 574 | 478 | 460 | 525 |
| 23 | 472 | 499 | 503 | 515 | 555 | 565 | 408 | --- | 568 | 484 | 467 | 540 |
| 24 | 476 | 506 | 504 | 515 | 561 | 564 | 395 | 544 | 562 | 482 | 468 | 549 |
| 25 | 476 | 510 | 505 | 515 | 561 | 560 | 414 | 542 | 561 | 471 | 474 | 551 |
| 26 | 472 | 514 | 505 | 515 | 562 | 561 | --- | 538 | 562 | 454 | 470 | 572 |
| 27 | 479 | 511 | 506 | 514 | 565 | 561 | --- | 528 | 560 | 451 | 470 | 575 |
| 28 | 475 | 516 | 506 | 516 | 569 | 557 | --- | 517 | 559 | 447 | 470 | 583 |
| 29 | 482 | 518 | 506 | 516 | 575 | 553 | --- | 509 | 553 | 435 | 484 | 596 |
| 30 | 485 | 518 | 504 | 516 | --- | 555 | --- | 490 | 529 | 392 | 501 | 609 |
| 31 | 489 | --- | 507 | 517 | --- | 554 | --- | 465 | --- | 428 | 490 | --- |
| MEAN | 463 | 497 | 516 | 512 | --- | 566 | --- | --- | 539 | --- | 458 | --- |
| MAX | 489 | 518 | 531 | 524 | --- | 594 | --- | --- | 596 | --- | 501 | --- |
| MIN | 445 | 479 | 501 | 507 | --- | 553 | --- | --- | 398 | --- | 395 | --- |

ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 19.3 | 18.4 | 14.1 | 13.6 | 9.2 | 8.1 | 4.7 | 4.2 | 2.4 | 2.2 | 4.8 | 3.3 |
| 2 | 19.1 | 18.3 | 14.3 | 13.7 | 8.9 | 8.1 | 4.5 | 4.0 | 2.5 | 2.3 | 3.6 | 3.3 |
| 3 | 19.1 | 18.2 | 14.1 | 13.5 | 9.3 | 8.3 | 4.3 | 3.8 | 2.8 | 2.2 | 4.4 | 3.3 |
| 4 | 19.1 | 18.1 | 14.1 | 13.5 | 8.8 | 8.0 | 4.2 | 3.6 | 2.7 | 2.2 | 4.9 | 3.2 |
| 5 | 18.8 | 18.0 | 14.1 | 13.5 | 8.7 | 7.9 | 3.9 | 3.5 | 2.6 | 2.2 | 4.8 | 3.2 |
| 6 | 18.6 | 17.9 | 14.0 | 13.5 | 8.4 | 7.5 | 3.6 | 3.5 | 2.8 | 2.1 | 5.1 | 3.3 |
| 7 | 18.4 | 17.8 | 14.0 | 13.4 | 8.9 | 7.3 | 3.9 | 2.8 | 2.9 | 2.2 | 4.0 | 3.5 |
| 8 | 18.3 | 17.7 | 13.8 | 13.4 | 8.5 | 7.8 | 3.3 | 2.8 | 3.0 | 2.2 | 4.5 | 3.3 |
| 9 | 18.2 | 17.4 | 13.8 | 13.2 | 8.6 | 7.7 | 3.5 | 3.0 | 3.2 | 2.2 | 4.6 | 3.5 |
| 10 | 17.8 | 17.2 | 13.6 | 13.0 | 8.7 | 7.7 | 3.8 | 3.2 | 3.0 | 2.7 | 4.8 | 3.8 |
| 11 | 17.8 | 17.0 | 13.3 | 12.8 | 8.6 | 7.6 | 3.3 | 2.4 | 3.3 | 2.7 | 4.3 | 3.9 |
| 12 | 17.6 | 16.9 | 13.3 | 12.7 | 7.9 | 7.4 | 3.0 | 2.3 | 3.3 | 2.6 | 4.8 | 3.8 |
| 13 | 17.3 | 16.6 | 13.1 | 12.5 | 7.7 | 7.1 | 3.1 | 2.4 | 3.3 | 2.6 | 4.7 | 3.8 |
| 14 | 16.8 | 16.6 | 12.8 | 12.0 | 7.7 | 6.7 | 3.1 | 2.3 | 3.4 | 2.6 | 4.7 | 3.6 |
| 15 | 17.1 | 16.5 | 12.0 | 11.3 | 7.4 | 6.4 | 3.0 | 2.6 | 3.5 | 2.8 | 4.7 | 3.8 |
| 16 | 16.9 | 16.1 | 12.3 | 11.2 | 7.1 | 6.4 | 2.7 | 2.6 | 3.5 | 2.8 | 4.3 | 3.9 |
| 17 | 16.7 | 16.2 | 12.3 | 10.9 | 7.3 | 6.2 | 3.0 | 2.4 | 3.5 | 2.8 | 4.4 | 4.0 |
| 18 | 16.6 | 15.9 | 11.8 | 10.8 | 7.1 | 6.1 | 2.8 | 2.4 | 3.4 | 2.7 | 4.7 | 3.8 |
| 19 | 16.4 | 15.7 | 11.7 | 10.6 | 6.8 | 6.0 | 2.7 | 2.4 | 3.7 | 2.8 | 5.0 | 3.7 |
| 20 | 16.2 | 15.4 | 11.5 | 10.5 | 6.6 | 5.7 | 2.7 | 1.9 | 4.0 | 2.7 | 5.2 | 4.1 |
| 21 | 15.9 | 15.2 | 11.3 | 10.2 | 6.4 | 5.5 | 2.5 | 1.8 | 4.0 | 2.6 | 5.5 | 4.2 |
| 22 | 15.7 | 15.0 | 11.5 | 10.3 | 6.4 | 5.9 | 2.8 | 1.9 | 4.1 | 2.8 | 5.6 | 4.7 |
| 23 | 15.4 | 14.8 | 11.1 | 10.0 | 6.3 | 5.7 | 2.6 | 1.7 | 3.9 | 2.7 | 5.7 | 5.0 |
| 24 | 15.2 | 14.7 | 10.9 | 9.7 | 5.9 | 5.6 | 2.3 | 1.7 | 3.8 | 2.6 | 6.4 | 5.3 |
| 25 | 15.1 | 14.5 | 10.5 | 9.5 | 5.7 | 5.5 | 2.5 | 1.7 | 3.9 | 2.6 | 6.5 | 5.3 |
| 26 | 15.2 | 14.3 | 9.8 | 9.1 | 5.6 | 5.3 | 2.4 | 1.9 | 4.2 | 2.7 | 6.4 | 5.4 |
| 27 | 14.8 | 14.2 | 10.0 | 8.9 | 5.4 | 5.0 | 2.3 | 1.9 | 4.3 | 2.9 | 6.9 | 5.6 |
| 28 | 14.7 | 14.1 | 9.7 | 8.7 | 5.4 | 4.8 | 2.6 | 2.0 | 4.5 | 3.2 | 6.2 | 5.8 |
| 29 | 14.6 | 14.0 | 9.4 | 8.5 | 5.3 | 4.7 | 2.4 | 2.1 | 4.6 | 3.2 | 6.6 | 5.5 |
| 30 | 14.3 | 13.8 | 9.2 | 8.3 | 5.1 | 4.6 | 2.7 | 2.1 | --- | --- | 6.5 | 5.6 |
| 31 | 14.2 | 13.7 | --- | --- | 4.9 | 4.4 | 2.3 | 2.0 | --- | --- | 5.7 | 5.4 |
| MONTH | 19.3 | 13.7 | 14.3 | 8.3 | 9.3 | 4.4 | 4.7 | 1.7 | 4.6 | 2.1 | 6.9 | 3.2 |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 5.8 | 5.5 | 8.6 | 7.6 | 11.5 | 10.5 | 13.7 | 13.4 | 19.2 | 18.6 | 21.6 | 20.9 |
| 2 | 6.1 | 5.4 | 9.2 | 8.1 | 11.5 | 10.7 | 13.9 | 13.3 | 19.4 | 18.8 | 21.7 | 21.1 |
| 3 | 6.8 | 5.5 | 9.8 | 8.8 | 11.8 | 10.8 | --- | --- | 19.7 | 19.2 | 21.6 | 20.8 |
| 4 | 6.9 | 5.9 | 9.9 | 9.1 | 11.6 | 10.8 | --- | --- | 19.9 | 19.2 | 21.7 | 20.8 |
| 5 | 7.1 | 6.0 | 9.8 | 9.1 | 11.7 | 10.8 | --- | --- | 19.9 | 19.1 | 21.6 | 20.7 |
| 6 | 6.9 | 6.0 | 10.6 | 9.1 | 11.6 | 10.8 | --- | --- | 19.5 | 18.5 | 21.8 | 20.7 |
| 7 | 7.0 | 6.0 | 10.7 | 9.7 | 11.6 | 11.1 | --- | --- | 19.4 | 18.4 | 21.7 | 20.8 |
| 8 | 6.9 | 5.9 | 10.6 | 10.0 | 11.7 | 11.0 | 14.5 | 14.1 | 20.0 | 18.8 | 21.5 | 20.7 |
| 9 | 6.8 | 6.0 | 10.7 | 10.1 | 11.7 | 11.0 | 15.0 | 14.2 | 20.1 | 19.4 | 21.6 | 20.8 |
| 10 | 7.2 | 6.3 | 10.7 | 10.0 | 11.9 | 10.8 | 15.0 | 14.6 | 20.1 | 19.4 | 21.5 | 20.7 |
| 11 | 7.4 | 6.3 | 10.8 | 10.1 | 11.6 | 10.9 | 15.2 | 14.9 | 20.1 | 19.6 | 21.5 | 20.5 |
| 12 | 7.2 | 6.2 | 11.0 | 10.2 | 11.8 | 11.1 | 15.6 | 15.1 | 20.1 | 19.7 | 20.7 | 20.5 |
| 13 | 7.2 | 6.2 | 11.2 | 10.3 | 11.7 | 11.1 | 16.1 | 15.5 | 20.4 | 19.7 | 20.6 | 20.4 |
| 14 | 7.1 | 5.6 | 11.0 | 10.3 | 11.9 | 11.4 | 16.2 | 15.6 | 20.5 | 20.0 | 20.6 | 19.9 |
| 15 | 7.0 | 5.6 | 10.9 | 10.3 | 12.0 | 11.3 | 16.3 | 14.9 | 20.6 | 20.1 | 20.4 | 19.6 |
| 16 | 6.6 | 5.7 | 11.9 | 10.3 | 12.0 | 11.4 | 16.2 | 14.7 | 20.9 | 20.2 | 20.0 | 19.2 |
| 17 | 7.2 | 5.7 | 11.0 | 10.4 | 12.1 | 11.4 | 16.0 | 15.5 | 20.8 | 20.2 | 20.0 | 19.1 |
| 18 | 7.2 | 5.8 | 10.8 | 10.4 | 12.0 | 11.6 | 16.5 | 15.5 | 21.1 | 20.5 | 19.8 | 19.1 |
| 19 | 7.6 | 6.0 | 10.6 | 10.3 | 12.3 | 11.6 | 16.8 | 15.6 | 21.3 | 20.8 | 19.7 | 18.9 |
| 20 | 7.3 | 6.1 | 10.7 | 10.4 | 12.2 | 11.8 | 16.8 | 16.3 | 21.2 | 20.7 | 19.9 | 18.9 |
| 21 | 7.1 | 6.2 | 10.8 | 10.4 | 12.3 | 11.7 | 17.0 | 16.6 | 21.2 | 20.8 | 19.5 | 19.1 |
| 22 | 7.3 | 6.3 | 10.7 | 10.5 | 12.5 | 11.7 | 17.0 | 16.5 | 21.4 | 20.8 | 19.6 | 18.8 |
| 23 | 7.6 | 6.6 | 11.0 | 10.4 | 12.5 | 12.0 | 16.9 | 16.3 | 21.4 | 21.0 | 19.3 | 18.6 |
| 24 | 7.7 | 7.0 | 10.9 | 10.2 | 12.7 | 12.0 | 17.1 | 16.5 | 21.4 | 20.9 | 19.4 | 18.5 |
| 25 | 8.2 | 7.0 | 11.2 | 10.3 | 12.9 | 12.3 | 17.7 | 16.5 | 21.4 | 20.9 | 19.2 | 18.3 |
| 26 | 8.2 | 7.1 | 11.2 | 10.2 | 13.1 | 12.0 | 18.0 | 17.3 | 21.5 | 21.0 | 19.0 | 18.1 |
| 27 | 8.1 | 7.4 | 11.1 | 10.5 | 12.9 | 12.4 | 18.4 | 17.6 | 21.3 | 21.0 | 19.3 | 18.5 |
| 28 | 8.1 | 7.5 | 11.1 | 10.5 | 13.1 | 12.5 | 18.4 | 17.8 | 21.6 | 21.2 | 19.1 | 18.3 |
| 29 | 8.2 | 7.6 | 11.0 | 10.5 | 13.6 | 12.9 | 18.6 | 18.0 | 21.8 | 21.2 | 18.9 | 18.1 |
| 30 | 8.3 | 7.6 | 11.2 | 10.5 | 13.9 | 13.0 | 18.8 | 18.3 | 21.7 | 21.0 | 18.7 | 17.8 |
| 31 | --- | --- | 11.0 | 10.5 | --- | --- | 18.9 | 18.4 | 21.5 | 20.9 | --- | --- |
| MONTH | 8.3 | 5.4 | 11.9 | 7.6 | 13.9 | 10.5 | --- | --- | 21.8 | 18.4 | 21.8 | 17.8 |

ARKANSAS RIVER BASIN

207

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°51'17", long 104°52'39", in SE¼SW¼ sec.3, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 200 ft upstream from diversion to city of Colorado Springs, 0.5 mi east of bridge on U.S. Highway 24 near west city limits of Colorado Springs, and 1.0 mi downstream from Sutherland Creek.

DRAINAGE AREA.--103 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder and Parshall flume with overflow weirs. Elevation of gage is 6,110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 15-27, 31, Jan. 1-12, Feb. 5-6, and Aug. 10 to Sept. 8. Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation and municipal use, and at times, transbasin diversion from Beaver Creek drainage and transmountain diversions from Colorado River basin.

AVERAGE DISCHARGE.--30 years, 14.6 ft³/s; 10,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft³/s, Aug. 4, 1964, gage height, 5.27 ft, from rating curve extended above 190 ft³/s, on basis of slope-area measurements at gage heights, 3.87, 4.52, and 5.27 ft; minimum daily, 2.0 ft³/s, Jan. 24, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163 ft³/s at 2045 June 23, gage height, 3.19 ft; minimum daily, 5.5 ft³/s, Sept. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 7.4 | 11 | 7.6 | 7.2 | 6.7 | 8.2 | 9.4 | 13 | 11 | 12 | 11 | 6.5 |
| 2 | 7.6 | 10 | 9.7 | 7.4 | 7.3 | 8.7 | 9.8 | 13 | 10 | 12 | 10 | 6.5 |
| 3 | 7.3 | 11 | 11 | 7.5 | 7.6 | 8.3 | 10 | 13 | 10 | 13 | 12 | 6.4 |
| 4 | 7.4 | 9.4 | 9.5 | 6.5 | 7.2 | 8.5 | 11 | 13 | 9.9 | 12 | 20 | 6.2 |
| 5 | 7.6 | 9.0 | 9.5 | 6.0 | 7.0 | 8.6 | 11 | 13 | 12 | 12 | 23 | 6.0 |
| 6 | 7.6 | 9.0 | 9.3 | 6.0 | 7.0 | 8.7 | 11 | 13 | 13 | 11 | 17 | 6.0 |
| 7 | 7.8 | 8.8 | 9.3 | 6.4 | 7.6 | 8.8 | 12 | 20 | 9.6 | 11 | 20 | 6.0 |
| 8 | 7.6 | 8.9 | 9.0 | 6.8 | 7.5 | 8.5 | 12 | 11 | 8.8 | 13 | 17 | 6.0 |
| 9 | 7.8 | 8.6 | 7.7 | 8.0 | 7.5 | 9.3 | 12 | 11 | 9.0 | 10 | 18 | 14 |
| 10 | 7.7 | 8.9 | 8.5 | 8.0 | 7.2 | 9.6 | 11 | 11 | 16 | 11 | 17 | 12 |
| 11 | 7.8 | 9.0 | 8.3 | 8.0 | 7.6 | 9.3 | 12 | 10 | 11 | 10 | 15 | 12 |
| 12 | 7.6 | 8.4 | 7.7 | 9.0 | 7.6 | 8.4 | 12 | 10 | 13 | 8.9 | 13 | 10 |
| 13 | 10 | 8.7 | 6.5 | 8.7 | 7.5 | 9.3 | 12 | 11 | 12 | 7.6 | 12 | 7.2 |
| 14 | 14 | 9.6 | 6.7 | 7.6 | 7.3 | 12 | 13 | 12 | 11 | 7.4 | 10 | 7.1 |
| 15 | 11 | 9.5 | 7.0 | 7.8 | 7.5 | 8.6 | 14 | 11 | 13 | 9.6 | 9.0 | 7.9 |
| 16 | 9.6 | 8.3 | 7.5 | 7.8 | 7.7 | 8.2 | 14 | 10 | 11 | 8.5 | 8.5 | 6.4 |
| 17 | 9.0 | 8.2 | 8.0 | 7.6 | 7.9 | 8.4 | 15 | 7.6 | 9.9 | 9.3 | 8.0 | 6.0 |
| 18 | 8.5 | 7.9 | 8.0 | 7.5 | 7.5 | 11 | 14 | 9.2 | 9.7 | 9.9 | 7.5 | 5.9 |
| 19 | 8.5 | 8.8 | 7.8 | 6.4 | 7.3 | 9.8 | 14 | 22 | 9.4 | 9.3 | 8.5 | 5.6 |
| 20 | 8.7 | 8.9 | 7.6 | 7.3 | 7.3 | 9.9 | 14 | 28 | 9.6 | 7.9 | 10 | 5.7 |
| 21 | 9.8 | 9.1 | 8.0 | 8.1 | 7.4 | 9.7 | 13 | 19 | 15 | 7.1 | 10 | 5.8 |
| 22 | 9.5 | 9.0 | 8.5 | 7.7 | 7.1 | 9.6 | 13 | 17 | 14 | 6.9 | 9.5 | 6.3 |
| 23 | 9.5 | 8.8 | 7.7 | 7.7 | 6.9 | 9.5 | 13 | 14 | 17 | 6.3 | 9.0 | 6.3 |
| 24 | 9.5 | 8.6 | 6.9 | 7.7 | 6.4 | 9.7 | 12 | 14 | 8.6 | 6.8 | 8.0 | 6.0 |
| 25 | 10 | 8.2 | 6.8 | 7.6 | 6.4 | 9.0 | 13 | 12 | 9.0 | 10 | 7.5 | 5.7 |
| 26 | 13 | 8.9 | 6.8 | 7.4 | 7.1 | 9.1 | 12 | 12 | 17 | 9.8 | 7.0 | 5.7 |
| 27 | 9.5 | 8.6 | 7.0 | 7.4 | 7.6 | 10 | 12 | 11 | 40 | 7.6 | 7.5 | 5.6 |
| 28 | 10 | 7.9 | 7.4 | 7.7 | 8.1 | 11 | 13 | 11 | 32 | 6.5 | 8.0 | 5.5 |
| 29 | 11 | 7.8 | 7.6 | 7.6 | 8.3 | 9.2 | 12 | 11 | 26 | 9.1 | 8.0 | 5.8 |
| 30 | 14 | 7.6 | 7.7 | 7.6 | --- | 9.9 | 13 | 11 | 16 | 12 | 7.5 | 5.9 |
| 31 | 12 | --- | 8.0 | 7.3 | --- | 9.6 | --- | 11 | --- | 11 | 7.0 | --- |
| TOTAL | 288.3 | 266.4 | 248.6 | 231.3 | 213.1 | 288.4 | 369.2 | 404.8 | 413.5 | 298.5 | 355.5 | 208.0 |
| MEAN | 9.30 | 8.88 | 8.02 | 7.46 | 7.35 | 9.30 | 12.3 | 13.1 | 13.8 | 9.63 | 11.5 | 6.93 |
| MAX | 14 | 11 | 11 | 9.0 | 8.3 | 12 | 15 | 28 | 40 | 13 | 23 | 14 |
| MIN | 7.3 | 7.6 | 6.5 | 6.0 | 6.4 | 8.2 | 9.4 | 7.6 | 8.6 | 6.3 | 7.0 | 5.5 |
| AC-FT | 572 | 528 | 493 | 459 | 423 | 572 | 732 | 803 | 820 | 592 | 705 | 413 |

CAL YR 1987 TOTAL 6217.9 MEAN 17.0 MAX 103 MIN 5.4 AC-FT 12330
WTR YR 1988 TOTAL 3585.6 MEAN 9.80 MAX 40 MIN 5.5 AC-FT 7110

ARKANSAS RIVER BASIN

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|--|
| OCT 21... | 1045 | 9.8 | 302 | 8.2 | 4.0 | 10.4 | 1.2 | K26 | 120 |
| NOV 18... | 1050 | 7.9 | 393 | 8.4 | 0.0 | 11.6 | 0.7 | K20 | 52 |
| DEC 16... | 0920 | E7.5 | 375 | 8.2 | 0.0 | 11.4 | 0.2 | K4 | 47 |
| JAN 20... | 1030 | 7.3 | 384 | 7.9 | 0.5 | 11.9 | 0.3 | K2 | K7 |
| FEB 24... | 1215 | 6.4 | 427 | 8.4 | 1.0 | 11.2 | 1.0 | <7 | K40 |
| MAR 23... | 1025 | E9.5 | -- | 8.0 | 5.5 | 10.2 | 0.7 | K6 | K18 |
| APR 20... | 1015 | 14 | 259 | 8.2 | 6.5 | 10.3 | 0.6 | K4 | 44 |
| MAY 18... | 1015 | 9.2 | 300 | 8.0 | 12.0 | 8.4 | -- | 130 | 170 |
| JUN 15... | 1010 | 13 | 321 | 8.3 | 13.5 | 8.1 | 0.8 | 1200 | 1000 |
| JUL 27... | 1015 | 7.6 | 377 | 8.4 | 14.0 | 7.9 | 0.7 | K2100 | 1500 |
| AUG 24... | 1125 | E8.0 | 322 | 8.3 | 15.5 | 7.8 | 0.3 | 820 | 980 |
| SEP 28... | 1025 | 5.5 | 394 | 8.4 | 9.0 | 9.1 | E1.2 | 240 | K480 |

| DATE | ALKA- LINITY LAB (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) |
|-----------|---|---|---|---|--|--|--|---|
| OCT 21... | 116 | 15 | 13 | 6 | <0.01 | 0.20 | 0.90 | <1 |
| NOV 18... | 156 | 22 | 19 | 5 | <0.01 | 0.20 | 0.90 | <1 |
| DEC 16... | 146 | 21 | 20 | <1 | <0.01 | <0.20 | 1.20 | <1 |
| JAN 20... | 137 | 20 | 16 | 3 | <0.01 | 0.20 | 1.20 | -- |
| FEB 24... | 162 | 23 | 20 | 49 | 0.02 | 0.30 | 1.00 | 1 |
| MAR 23... | 116 | 19 | 15 | 41 | 0.04 | 0.30 | 1.20 | <1 |
| APR 20... | 96 | 16 | 11 | 12 | <0.01 | <0.20 | 0.70 | <1 |
| MAY 18... | 104 | 15 | 14 | 47 | 0.02 | <0.20 | 0.70 | 1 |
| JUN 15... | 119 | 17 | 14 | 28 | 0.05 | 0.40 | 0.90 | 1 |
| JUL 27... | 142 | 18 | 17 | 11 | 0.02 | 0.50 | 1.00 | 1 |
| AUG 24... | 73 | 20 | 11 | 11 | 0.02 | 0.80 | 0.40 | <1 |
| SEP 28... | 160 | 18 | 17 | 2 | <0.01 | 0.30 | 0.80 | <1 |

E ESTIMATED

K BASED ON NON-IDEAL COUNT

ARKANSAS RIVER BASIN

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07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | CHROMIUM, DIS-SOLVED (UG/L AS CR) | COPPER, TOTAL RECOVERABLE (UG/L AS CU) | IRON, TOTAL RECOVERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | LEAD, TOTAL RECOVERABLE (UG/L AS PB) | MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) | MANGANESE, DIS-SOLVED (UG/L AS MN) | ZINC, TOTAL RECOVERABLE (UG/L AS ZN) |
|-----------|--|--|--|--|--|---|---|--|
| OCT 21... | <10 | 2 | 510 | 180 | <5 | 60 | 40 | 20 |
| NOV 18... | <1 | 4 | 380 | 180 | <5 | 90 | 80 | 10 |
| DEC 16... | <1 | 1 | 270 | 80 | <5 | 60 | 50 | <10 |
| JAN 20... | <1 | 3 | 330 | 100 | <5 | 70 | 60 | <10 |
| FEB 24... | <1 | 7 | 1600 | 790 | <5 | 180 | 160 | 10 |
| MAR 23... | <1 | 4 | 1200 | 10 | <5 | 100 | 50 | 40 |
| APR 20... | <1 | 4 | 650 | <10 | <5 | 80 | 50 | 40 |
| MAY 18... | <1 | 11 | 880 | 60 | <5 | 110 | 40 | 40 |
| JUN 15... | <1 | 4 | 1200 | 40 | 7 | 100 | 30 | 30 |
| JUL 27... | <1 | 3 | 870 | <10 | <5 | 60 | 20 | 240 |
| AUG 24... | <1 | 2 | 530 | 40 | <5 | 90 | 50 | 10 |
| SEP 28... | <1 | 4 | 310 | 70 | <5 | 40 | 40 | 40 |

ARKANSAS RIVER BASIN

07103747 MONUMENT CREEK AT PALMER LAKE, CO

LOCATION.--Lat 39°06'07", long 104°53'27", in SE¼SE¼ 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.

DRAINAGE AREA.--25.9 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 6,950 ft above National Geodetic Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 15, 18, 26-29, Dec. 14-16, 20-21, 24-29, Jan. 2-24, Feb. 15-19, 24-25, Mar. 2, 4-5, 7-9, 11-19, 31, and Aug. 15-26. Records good except for estimated daily discharges, which are poor. Storage and diversions upstream from station for municipal supply of Palmer Lake.

AVERAGE DISCHARGE.--11 years (water years 1978-88), 7.52 ft³/s; 5,450 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216 ft³/s, Aug. 2, 1981, from rating curve extended above 130 ft³/s, gage height, 2.07 ft, from floodmark; minimum daily, 0.10 ft³/s, many days in 1978-79.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46 ft³/s at 1830 May 24, gage height, 1.55 ft; minimum daily, 0.50 ft³/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 1.1 | 2.5 | 2.0 | 1.3 | 1.2 | 2.5 | 6.1 | 19 | 25 | 4.5 | .90 | .54 |
| 2 | 1.1 | 2.1 | 1.6 | 1.2 | 1.2 | 2.6 | 6.6 | 20 | 23 | 3.6 | .71 | .58 |
| 3 | 1.1 | 1.7 | 1.7 | 1.1 | 1.2 | 2.6 | 7.4 | 19 | 20 | 3.2 | .69 | .57 |
| 4 | .96 | 1.5 | 1.8 | 1.0 | 1.1 | 2.5 | 8.8 | 20 | 18 | 2.9 | 2.9 | .53 |
| 5 | 1.1 | 1.5 | 1.8 | .90 | 1.1 | 2.4 | 9.5 | 18 | 18 | 2.5 | 2.8 | .52 |
| 6 | 1.1 | 1.4 | 1.8 | .80 | 1.2 | 2.5 | 11 | 17 | 14 | 2.6 | 2.2 | .52 |
| 7 | 1.1 | 1.4 | 1.9 | .82 | 1.1 | 2.5 | 13 | 15 | 13 | 4.3 | 1.8 | .50 |
| 8 | 1.1 | 1.6 | 1.8 | .85 | 1.1 | 2.5 | 16 | 14 | 12 | 3.6 | 2.1 | .51 |
| 9 | 1.1 | 1.5 | 1.6 | 1.0 | 1.1 | 2.8 | 14 | 13 | 11 | 4.3 | 1.8 | .53 |
| 10 | 1.2 | 1.4 | 1.7 | 1.1 | 1.1 | 2.6 | 12 | 12 | 11 | 3.6 | 1.7 | .60 |
| 11 | 1.3 | 1.4 | 1.8 | 1.2 | 1.1 | 2.5 | 12 | 12 | 9.9 | 3.0 | 1.4 | .74 |
| 12 | 1.2 | 1.4 | 1.7 | 1.1 | 1.1 | 2.3 | 13 | 11 | 9.4 | 2.4 | 1.5 | .85 |
| 13 | 1.3 | 1.3 | 1.7 | 1.1 | 1.2 | 2.2 | 15 | 11 | 8.8 | 1.8 | 1.2 | .81 |
| 14 | 1.9 | 1.4 | 1.5 | 1.2 | 1.3 | 2.3 | 17 | 11 | 8.6 | 1.5 | 1.0 | .87 |
| 15 | 2.4 | 1.5 | 1.4 | 1.2 | 1.3 | 2.4 | 18 | 10 | 12 | 1.4 | .90 | .92 |
| 16 | 2.0 | 1.7 | 1.4 | 1.1 | 1.4 | 2.2 | 18 | 9.4 | 10 | 1.4 | .80 | .88 |
| 17 | 2.5 | 1.9 | 1.5 | 1.0 | 1.3 | 2.1 | 21 | 8.8 | 9.1 | 1.3 | .70 | .91 |
| 18 | 1.8 | 2.0 | 1.5 | .95 | 1.2 | 2.2 | 22 | 8.3 | 8.4 | 1.2 | .75 | 1.0 |
| 19 | 1.5 | 2.2 | 1.5 | .90 | 1.2 | 2.3 | 23 | 13 | 7.5 | 1.2 | .80 | 1.0 |
| 20 | 1.5 | 2.2 | 1.5 | .90 | 1.3 | 2.5 | 22 | 22 | 6.4 | 1.2 | .90 | 1.0 |
| 21 | 1.4 | 2.5 | 1.6 | .88 | 1.4 | 2.9 | 22 | 25 | 6.1 | 1.1 | .85 | .91 |
| 22 | 1.4 | 2.5 | 1.5 | .88 | 1.5 | 3.2 | 23 | 27 | 6.1 | .99 | .78 | .97 |
| 23 | 1.5 | 2.2 | 1.3 | .88 | 1.5 | 3.9 | 22 | 29 | 6.0 | .81 | .72 | 1.0 |
| 24 | 1.4 | 2.0 | 1.2 | .90 | 1.7 | 4.7 | 21 | 41 | 5.1 | .88 | .70 | 1.0 |
| 25 | 1.3 | 1.8 | 1.1 | .97 | 1.7 | 5.1 | 19 | 39 | 4.6 | .77 | .65 | .95 |
| 26 | 1.3 | 1.7 | 1.1 | .92 | 1.8 | 6.6 | 18 | 40 | 4.8 | .69 | .63 | .95 |
| 27 | 1.3 | 1.6 | 1.1 | .97 | 2.0 | 8.2 | 18 | 37 | 5.1 | .70 | .73 | .93 |
| 28 | 1.4 | 1.6 | 1.2 | .97 | 2.1 | 9.3 | 17 | 33 | 4.4 | .69 | .79 | .93 |
| 29 | 1.4 | 1.6 | 1.2 | 1.0 | 2.3 | 7.0 | 17 | 31 | 4.4 | 1.2 | .80 | .98 |
| 30 | 1.5 | 1.7 | 1.3 | 1.1 | --- | 6.7 | 18 | 28 | 5.8 | 1.2 | .76 | 1.1 |
| 31 | 2.3 | --- | 1.4 | 1.1 | --- | 6.0 | --- | 26 | --- | 1.1 | .75 | --- |
| TOTAL | 44.56 | 52.8 | 47.2 | 31.29 | 39.8 | 112.1 | 480.4 | 639.5 | 307.5 | 61.63 | 35.71 | 24.10 |
| MEAN | 1.44 | 1.76 | 1.52 | 1.01 | 1.37 | 3.62 | 16.0 | 20.6 | 10.2 | 1.99 | 1.15 | .80 |
| MAX | 2.5 | 2.5 | 2.0 | 1.3 | 2.3 | 9.3 | 23 | 41 | 25 | 4.5 | 2.9 | 1.1 |
| MIN | .96 | 1.3 | 1.1 | .80 | 1.1 | 2.1 | 6.1 | 8.3 | 4.4 | .69 | .63 | .50 |
| AC-FT | 88 | 105 | 94 | 62 | 79 | 222 | 953 | 1270 | 610 | 122 | 71 | 48 |

CAL YR 1987 TOTAL 3074.36 MEAN 8.42 MAX 149 MIN .73 AC-FT 6100
WTR YR 1988 TOTAL 1876.59 MEAN 5.13 MAX 41 MIN .50 AC-FT 3720

ARKANSAS RIVER BASIN

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07103747 MONUMENT CREEK AT PALMER LAKE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---April 1977 to September 1980; January 1984 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|--|
| OCT 22... | 0945 | <1.4 | 176 | 8.2 | 6.5 | 9.4 | 0.3 | E1 | 380 |
| NOV 19... | 1000 | 2.2 | 152 | 7.6 | 2.5 | 11.0 | 0.3 | K2 | K12 |
| DEC 17... | 0955 | 1.5 | -- | 7.8 | 0.0 | 11.2 | 0.3 | K1 | K7 |
| JAN 21... | 1015 | E0.88 | 157 | 7.5 | 0.5 | -- | 0.6 | <1 | K3 |
| FEB 25... | 1040 | E1.7 | 148 | 8.1 | 1.5 | 11.0 | 0.1 | <7 | K7 |
| MAR 24... | 1120 | 4.7 | -- | 7.9 | 5.0 | 9.9 | 0.8 | <1 | K4 |
| APR 21... | 1030 | 22 | 83 | 7.9 | 6.0 | 9.7 | -- | <1 | K12 |
| MAY 19... | 1110 | 13 | 109 | 8.0 | 9.5 | 8.8 | 0.4 | K25 | 90 |
| JUN 16... | 1035 | 10 | 105 | 8.0 | 14.5 | 7.9 | 0.8 | K8 | 64 |
| JUL 28... | 1035 | 0.69 | -- | 8.2 | 20.5 | 6.9 | 0.6 | K60 | K40 |
| AUG 25... | 1105 | 0.65 | 196 | 8.2 | 20.5 | 7.5 | 0.9 | >200 | 58 |
| SEP 29... | 1100 | 0.98 | 204 | 8.1 | 13.0 | 8.2 | 0.7 | K23 | K10 |

| DATE | ALKA- LINITY LAB (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) |
|-----------|---|---|---|---|--|--|--|---|
| OCT 22... | 73 | 11 | 2.7 | 6 | <0.01 | 0.40 | <0.10 | <1 |
| NOV 19... | 61 | 11 | 2.8 | 1 | 0.02 | 0.30 | <0.10 | <1 |
| DEC 17... | 59 | 11 | 4.3 | 5 | 0.02 | 0.20 | 0.10 | 1 |
| JAN 21... | 62 | 11 | 3.4 | <1 | 0.02 | 0.20 | 0.20 | -- |
| FEB 25... | 57 | 12 | 3.6 | 99 | <0.01 | <0.20 | 0.20 | 1 |
| MAR 24... | 45 | 11 | 0.20 | 45 | <0.01 | 0.20 | 0.10 | <1 |
| APR 21... | 26 | 10 | 1.1 | 29 | 0.01 | <0.20 | <0.10 | <1 |
| MAY 19... | 34 | 9.9 | 2.0 | 48 | 0.02 | 0.30 | <0.10 | 1 |
| JUN 16... | 36 | 9.0 | 1.3 | 8 | 0.03 | 0.30 | <0.10 | <1 |
| JUL 28... | 74 | 8.5 | 3.6 | 2 | <0.01 | 0.30 | <0.10 | 1 |
| AUG 25... | 83 | 8.7 | 3.8 | 2 | 0.01 | 0.40 | <0.10 | <1 |
| SEP 29... | 90 | 13 | 4.4 | <1 | <0.01 | 0.40 | <0.10 | <1 |

K BASED ON NON-IDEAL COUNT
E ESTIMATED

ARKANSAS RIVER BASIN

07103747 MONUMENT CREEK AT PALMER LAKE, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|-----------|---|---|---|--|---|---|--|---|
| OCT 22... | <10 | 1 | 290 | 180 | <5 | 40 | 50 | <10 |
| NOV 19... | -- | 3 | 250 | 90 | <5 | 40 | 50 | <10 |
| DEC 17... | <1 | 2 | 230 | 70 | <5 | 30 | 40 | <10 |
| JAN 21... | <1 | 2 | 250 | 60 | <5 | 40 | 40 | <10 |
| FEB 25... | <1 | 7 | 4800 | 30 | <5 | 100 | 40 | 100 |
| MAR 24... | <1 | 5 | 1800 | 20 | <5 | 50 | <10 | 20 |
| APR 21... | <1 | 3 | 1600 | 230 | <5 | 40 | 10 | 10 |
| MAY 19... | <1 | 3 | 1000 | 50 | <5 | 40 | 20 | 180 |
| JUN 16... | <1 | 3 | 570 | 40 | <5 | 50 | 20 | 40 |
| JUL 28... | <1 | 2 | 560 | 180 | <5 | 90 | 60 | 20 |
| AUG 25... | <1 | 2 | 490 | 70 | <5 | 90 | 70 | <10 |
| SEP 29... | <1 | 2 | 360 | 90 | <5 | 80 | 80 | <10 |

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LOCATION.--Lat 39°01'52", long 104°50'52", in SW¼SW¼ 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.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Elevation of gage is 6,640 ft above National Geodetic Datum of 1929, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 372 ft³/s, Apr. 30, 1985, gage height, 6.05 ft; minimum daily, 1.1 ft³/s, Aug. 21, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72 ft³/s at 1300 May 26, gage height, 4.52 ft; maximum gage height, 5.39 ft. at 1215 Jan. 13 (backwater from ice); minimum daily, 1.4 ft³/s, Aug. 1-2.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-------|-----------|---------|---------|-------------|------|--------|-------|-------|-------|------|
| 1 | 4.1 | 5.9 | 9.5 | 5.6 | 5.6 | 17 | 16 | 23 | 46 | 5.0 | 1.4 | 2.1 |
| 2 | 4.0 | 7.0 | 6.7 | 5.6 | 5.4 | 17 | 17 | 24 | 26 | 4.2 | 1.4 | 1.8 |
| 3 | 4.1 | 7.9 | 6.7 | 5.4 | 5.0 | 16 | 21 | 29 | 24 | 4.3 | 1.5 | 1.7 |
| 4 | 4.3 | 13 | 5.6 | 5.0 | 4.5 | 17 | 27 | 37 | 26 | 4.5 | 6.7 | 1.7 |
| 5 | 4.2 | 9.8 | 8.8 | 4.0 | 4.5 | 16 | 27 | 34 | 29 | 5.9 | 12 | 1.7 |
| 6 | 4.6 | 4.9 | 11 | 4.0 | 5.0 | 7.0 | 26 | 34 | 28 | 4.0 | 9.5 | 1.8 |
| 7 | 4.7 | 4.6 | 25 | 3.5 | 5.5 | 7.0 | 17 | 35 | 28 | 9.9 | 10 | 3.6 |
| 8 | 4.8 | 5.7 | 5.3 | 3.5 | 6.5 | 7.6 | 19 | 24 | 23 | 18 | 7.9 | 3.7 |
| 9 | 4.5 | 3.9 | 7.7 | 4.0 | 7.5 | 6.7 | 24 | 21 | 19 | 30 | 6.1 | 3.1 |
| 10 | 4.5 | 4.1 | 9.0 | 5.0 | 7.0 | 6.8 | 25 | 23 | 9.7 | 19 | 6.1 | 1.6 |
| 11 | 4.2 | 5.1 | 6.0 | 5.5 | 7.2 | 6.4 | 30 | 25 | 9.5 | 16 | 5.7 | 1.8 |
| 12 | 3.3 | 14 | 5.1 | 5.0 | 8.0 | 6.5 | 31 | 25 | 9.1 | 20 | 6.6 | 2.4 |
| 13 | 3.8 | 15 | 4.7 | 5.0 | 8.5 | 7.0 | 32 | 24 | 16 | 20 | 4.6 | 2.0 |
| 14 | 8.0 | 11 | 4.5 | 5.5 | 8.0 | 7.5 | 33 | 21 | 23 | 24 | 4.0 | 2.2 |
| 15 | 8.4 | 7.0 | 4.5 | 6.5 | 8.8 | 7.5 | 33 | 8.4 | 25 | 28 | 3.4 | 2.5 |
| 16 | 6.7 | 5.9 | 5.0 | 6.0 | 7.2 | 6.9 | 20 | 7.9 | 21 | 31 | 2.5 | 2.1 |
| 17 | 6.3 | 4.8 | 5.5 | 5.5 | 8.2 | 11 | 30 | 18 | 14 | 34 | 2.5 | 1.9 |
| 18 | 8.9 | 4.5 | 5.5 | 5.0 | 7.7 | 10 | 39 | 26 | 12 | 19 | 3.8 | 1.8 |
| 19 | 14 | 5.0 | 5.0 | 4.5 | 6.7 | 9.9 | 46 | 31 | 12 | 10 | 5.7 | 1.9 |
| 20 | 10 | 5.6 | 5.0 | 4.5 | 5.6 | 14 | 46 | 45 | 11 | 6.0 | 6.2 | 2.0 |
| 21 | 4.5 | 7.7 | 5.2 | 5.0 | 6.1 | 14 | 47 | 43 | 12 | 4.8 | 6.0 | 2.3 |
| 22 | 4.2 | 12 | 5.5 | 5.5 | 6.0 | 13 | 47 | 50 | 9.9 | 4.6 | 6.1 | 2.4 |
| 23 | 3.6 | 12 | 5.5 | 6.0 | 4.7 | 13 | 45 | 50 | 13 | 4.0 | 5.6 | 2.4 |
| 24 | 3.6 | 11 | 5.0 | 5.5 | 7.9 | 15 | 36 | 54 | 13 | 2.5 | 3.5 | 2.3 |
| 25 | 4.5 | 9.5 | 5.5 | 5.5 | 8.0 | 13 | 29 | 58 | 13 | 2.3 | 2.8 | 1.8 |
| 26 | 4.4 | 8.9 | 6.2 | 6.0 | 7.0 | 12 | 29 | 67 | 11 | 2.3 | 3.1 | 1.7 |
| 27 | 2.9 | 9.1 | 6.4 | 7.0 | 9.9 | 14 | 30 | 62 | 14 | 2.2 | 2.4 | 1.6 |
| 28 | 4.6 | 9.5 | 6.5 | 8.5 | 18 | 14 | 38 | 58 | 14 | 2.3 | 1.9 | 1.6 |
| 29 | 4.9 | 10 | 6.5 | 8.5 | 17 | 17 | 37 | 53 | 13 | 1.9 | 1.9 | 1.9 |
| 30 | 5.4 | 10 | 5.5 | 7.5 | --- | 15 | 29 | 47 | 12 | 1.9 | 1.9 | 3.7 |
| 31 | 5.9 | --- | 6.1 | 6.5 | --- | 15 | --- | 45 | --- | 1.6 | 2.2 | --- |
| TOTAL | 165.9 | 244.4 | 210.0 | 170.1 | 217.0 | 359.8 | 926 | 1102.3 | 536.2 | 343.2 | 145.0 | 65.1 |
| MEAN | 5.35 | 8.15 | 6.77 | 5.49 | 7.48 | 11.6 | 30.9 | 35.6 | 17.9 | 11.1 | 4.68 | 2.17 |
| MAX | 14 | 15 | 25 | 8.5 | 18 | 17 | 47 | 67 | 46 | 34 | 12 | 3.7 |
| MIN | 2.9 | 3.9 | 4.5 | 3.5 | 4.5 | 6.4 | 16 | 7.9 | 9.1 | 1.6 | 1.4 | 1.6 |
| AC-FT | 329 | 485 | 417 | 337 | 430 | 714 | 1840 | 2190 | 1060 | 681 | 288 | 129 |
| CAL YR 1987 | TOTAL 6741.0 | | MEAN 18.5 | MAX 232 | MIN 1.6 | AC-FT 13370 | | | | | | |
| WTR YR 1988 | TOTAL 4485.0 | | MEAN 12.3 | MAX 67 | MIN 1.4 | AC-FT 8900 | | | | | | |

ARKANSAS RIVER BASIN

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD AT U.S. AIR FORCE ACADEMY, CO--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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, UM-MF (COLS./ 100 ML) | STREP- TOCOC- CI, FECAL, KF AGAR (COLS. PER 100 ML) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|---|--|
| OCT 22... | 1115 | 4.2 | 256 | 8.2 | 5.5 | 10.2 | 6.1 | K32 | 64 |
| NOV 19... | 1130 | E5.0 | 268 | 7.8 | 0.0 | 11.4 | 8.4 | K19 | K93 |
| DEC 17... | 1155 | E5.5 | 260 | 7.8 | 0.0 | 10.8 | E6.3 | 28 | 62 |
| JAN 21... | 1230 | E5.0 | 313 | 7.4 | 0.5 | 11.8 | 5.6 | 70 | 330 |
| FEB 25... | 1300 | 8.0 | 258 | 8.0 | 3.5 | 10.2 | 6.4 | <2 | K24 |
| MAR 24... | 1315 | 15 | -- | 8.0 | 9.0 | 8.9 | <6.7 | <7 | K50 |
| APR 21... | 1230 | 47 | 126 | 8.1 | 13.5 | 8.2 | 3.2 | K2 | 56 |
| MAY 19... | 1320 | 31 | 141 | 8.0 | 11.5 | 8.7 | 3.2 | 130 | 240 |
| JUN 16... | 1240 | 21 | 146 | 8.1 | 22.0 | 6.7 | 3.6 | K120 | K80 |
| JUL 28... | 1240 | 2.3 | 239 | 8.8 | 22.0 | 6.7 | 2.4 | K200 | 77 |
| AUG 25... | 1300 | 2.8 | -- | 8.9 | 21.5 | 8.6 | 1.1 | 44 | K40 |
| SEP 29... | 1310 | 1.9 | 341 | 8.4 | 13.0 | 9.5 | 2.3 | K12 | K32 |

| DATE | ALKA- LITY LAB (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) |
|--------------|---|---|---|---|--|--|--|---|
| OCT 22... | 74 | 20 | 12 | 2 | 1.00 | 2.2 | 0.50 | <1 |
| NOV 19... | 67 | 27 | 15 | 8 | 1.50 | 3.0 | 0.60 | <1 |
| DEC 17... | 66 | 25 | 14 | 7 | 2.30 | 4.0 | 0.60 | <1 |
| JAN 21... | 69 | 30 | 15 | <1 | 3.70 | 5.0 | 0.40 | -- |
| FEB 25... | 64 | 27 | 11 | 28 | 1.50 | 2.3 | 0.50 | 1 |
| MAR 24... | 55 | 16 | 7.6 | 151 | 0.60 | 1.9 | 0.30 | <1 |
| APR 21... | 37 | 13 | 4.2 | 111 | 0.17 | 0.60 | 0.20 | <1 |
| MAY 19... | 42 | 13 | 4.3 | 82 | 0.13 | 0.40 | 0.20 | <1 |
| JUN 16... | 43 | 13 | 5.4 | 9 | 0.23 | 0.50 | 0.50 | 1 |
| JUL 28... | 71 | 21 | 13 | 2 | 0.03 | 1.3 | 0.60 | 1 |
| AUG 25... | 118 | 110 | 15 | 59 | 0.01 | 0.80 | 1.40 | <1 |
| SEP 29... | 86 | 38 | 22 | 1 | <0.01 | 0.50 | 1.30 | <1 |

K BASED ON NON IDEAL COLONY COUNT.
E ESTIMATED

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD AT U.S. AIR FORCE ACADEMY, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|-------|---|---|---|--|---|---|--|---|
| OCT | | | | | | | | |
| 22... | <10 | 3 | 460 | 230 | <5 | 70 | 60 | <10 |
| NOV | | | | | | | | |
| 19... | <1 | 5 | 1000 | 50 | <5 | 90 | 70 | <10 |
| DEC | | | | | | | | |
| 17... | 1 | 9 | 450 | 100 | <5 | 80 | 80 | <10 |
| JAN | | | | | | | | |
| 21... | <1 | 5 | 310 | 80 | <5 | 240 | 250 | 10 |
| FEB | | | | | | | | |
| 25... | <1 | 10 | 830 | 120 | <5 | 140 | 100 | 10 |
| MAR | | | | | | | | |
| 24... | <1 | 5 | 4400 | 30 | <5 | 290 | 90 | 40 |
| APR | | | | | | | | |
| 21... | <1 | 4 | 3300 | 30 | <5 | 130 | 30 | 20 |
| MAY | | | | | | | | |
| 19... | <1 | 1 | 920 | 50 | <5 | 90 | 40 | 20 |
| JUN | | | | | | | | |
| 16... | <1 | 3 | 1200 | 160 | <5 | 110 | 30 | 50 |
| JUL | | | | | | | | |
| 28... | <1 | 2 | 660 | 60 | <5 | 100 | 60 | <10 |
| AUG | | | | | | | | |
| 25... | <1 | 7 | 1600 | <10 | <5 | 60 | 20 | 40 |
| SEP | | | | | | | | |
| 29... | <1 | 6 | 620 | 40 | <5 | 80 | 60 | 10 |

LOCATION.--Lat 38°58'14", long 104°54'08", in SW¹SW¹ sec.28, T.12 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 500 ft upstream from diversion to city of Colorado Springs water-treatment plant. 2.7 mi south of U.S. Air Force Academy chapel. and 4.4 mi upstream from mouth.

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,180 ft above National Geodetic Datum of 1929. from topographic map.

REMARKS.--Estimated daily discharges: Nov. 24-25, 29-30, Dec. 1, 13-17, and Dec. 24 to Feb. 26. Records fair except those for estimated daily discharges, which are poor. Natural flow of stream affected by trans-mountain diversions from Colorado River basin, storage reservoirs, and operation of water-supply system. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--18 years, 1.97 ft³/s; 1,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD:--Maximum discharge, 80 ft³/s, May 8, 1980, gage height, 2.73 ft, from rating curve extended above 34 ft³/s; maximum gage height, 3.88 ft, Dec. 22, 1983 (backwater from ice); no flow many days in 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.4 ft³/s at 1545 Mar. 19, gage height, 1.63 ft, maximum gage height, 1.86 ft at 1230 Nov. 30 (backwater from ice); minimum daily discharge, 0.05 ft³/s, July 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|------|-----------|---------|---------|-----------|-------|-------|-------|------|------|------|
| 1 | .28 | .38 | .33 | .20 | .21 | .26 | .45 | 1.5 | .96 | .35 | .13 | .13 |
| 2 | .28 | .36 | .35 | .20 | .20 | .26 | .51 | 1.5 | .89 | .30 | .09 | .14 |
| 3 | .27 | .33 | .31 | .18 | .18 | .24 | .62 | 1.4 | .87 | .26 | .28 | .13 |
| 4 | .24 | .33 | .31 | .18 | .18 | .24 | .76 | 1.3 | .81 | .22 | .88 | .13 |
| 5 | .24 | .33 | .33 | .16 | .16 | .25 | .84 | 1.3 | .82 | .21 | 1.0 | .11 |
| 6 | .24 | .33 | .30 | .16 | .16 | .26 | .89 | 1.2 | .74 | .23 | .54 | .13 |
| 7 | .26 | .33 | .29 | .18 | .18 | .27 | 1.1 | 1.2 | .68 | .25 | .45 | .08 |
| 8 | .28 | .33 | .28 | .20 | .20 | .27 | 1.2 | 1.1 | .66 | .25 | .38 | .06 |
| 9 | .30 | .30 | .35 | .22 | .20 | .29 | .95 | 1.0 | .61 | .24 | .31 | .06 |
| 10 | .33 | .28 | .30 | .25 | .20 | .28 | 1.6 | 1.1 | .63 | .22 | .26 | .06 |
| 11 | .33 | .32 | .30 | .27 | .20 | .27 | .92 | 1.0 | .60 | .18 | .23 | .06 |
| 12 | .31 | .32 | .22 | .25 | .20 | .27 | 1.1 | .95 | .63 | .14 | .21 | .34 |
| 13 | .36 | .33 | .20 | .25 | .20 | .28 | 1.2 | .89 | .56 | .11 | .21 | .26 |
| 14 | .64 | .35 | .20 | .27 | .20 | .29 | 1.3 | .88 | .53 | .12 | .16 | .26 |
| 15 | .47 | .36 | .21 | .28 | .20 | .28 | 1.4 | .83 | .53 | .12 | .16 | .30 |
| 16 | .39 | .37 | .23 | .27 | .18 | .35 | 1.4 | .79 | .49 | .10 | .19 | .19 |
| 17 | .36 | .38 | .23 | .26 | .16 | .67 | 1.6 | .76 | .44 | .10 | .60 | .15 |
| 18 | .35 | .32 | .24 | .26 | .18 | .78 | 1.7 | .76 | .41 | .12 | .66 | .13 |
| 19 | .38 | .29 | .24 | .22 | .19 | 2.8 | 1.8 | 1.2 | .38 | .16 | .33 | .11 |
| 20 | .38 | .32 | .23 | .21 | .20 | 1.7 | 1.8 | 1.3 | .37 | .15 | .28 | .10 |
| 21 | .38 | .33 | .24 | .22 | .20 | .66 | 1.9 | 1.2 | .36 | .10 | .23 | .11 |
| 22 | .37 | .31 | .24 | .24 | .20 | .58 | 1.9 | 1.3 | .36 | .07 | .25 | .13 |
| 23 | .37 | .29 | .24 | .22 | .20 | .63 | 1.8 | 1.2 | .48 | .06 | .24 | .15 |
| 24 | .38 | .32 | .23 | .21 | .20 | .58 | 1.8 | 1.2 | .34 | .06 | .20 | .17 |
| 25 | .38 | .31 | .22 | .21 | .21 | .55 | 1.7 | 1.1 | .30 | .05 | .16 | .14 |
| 26 | .36 | .29 | .22 | .23 | .21 | .62 | 1.6 | 1.1 | .40 | .07 | .16 | .11 |
| 27 | .37 | .28 | .23 | .25 | .22 | .78 | 1.5 | 1.0 | .56 | .06 | .18 | .11 |
| 28 | .36 | .29 | .23 | .25 | .24 | .73 | 1.5 | 1.0 | .38 | .43 | .19 | .11 |
| 29 | .36 | .31 | .22 | .23 | .25 | 1.1 | 1.5 | .99 | .49 | .47 | .18 | .11 |
| 30 | .41 | .31 | .21 | .22 | --- | 1.9 | 1.5 | .96 | .51 | .33 | .15 | .11 |
| 31 | .43 | --- | .21 | .21 | --- | .45 | --- | .97 | --- | .19 | .13 | --- |
| TOTAL | 10.86 | 9.70 | 7.94 | 6.96 | 5.71 | 18.89 | 39.84 | 33.98 | 16.79 | 5.72 | 9.42 | 4.18 |
| MEAN | .35 | .32 | .26 | .22 | .20 | .61 | 1.33 | 1.10 | .56 | .18 | .30 | .14 |
| MAX | .64 | .38 | .35 | .28 | .25 | 2.8 | 1.9 | 1.5 | .96 | .47 | 1.0 | .34 |
| MIN | .24 | .28 | .20 | .16 | .16 | .24 | .45 | .76 | .30 | .05 | .09 | .06 |
| AC-FT | 22 | 19 | 16 | 14 | 11 | 37 | 79 | 67 | 33 | 11 | 19 | 8.3 |
| CAL YR 1987 | TOTAL 401.98 | | MEAN 1.10 | MAX 9.8 | MIN .06 | AC-FT 797 | | | | | | |
| WTR YR 1988 | TOTAL 169.99 | | MEAN .46 | MAX 2.8 | MIN .05 | AC-FT 337 | | | | | | |

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LOCATION.--Lat 38°55'41", long 104°38'35", in SW¼SW¼ sec.8, T. 13S, R.67W., El Paso County, Hydrologic Unit 11020003, on left bank 70 ft upstream from Vincent Drive bridge, 0.3 mi south of Woodman Valley Road, and 0.3 mi upstream from mouth.

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

GAGE.--Water-stage recorder. Elevation of gage is 6,265 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 13 to Feb. 12. Records fair except for estimated daily discharges, and those for discharges above about 60 ft/s, which are poor. Natural flow of stream affected by storage reservoirs and runoff from industrial and residential areas of northeast Colorado Springs. Discharge and selected water-quality data for a synoptic sampling are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 830 ft³/s, Aug. 21, 1986, gage height, 7.68 ft, from rating curve extended above about 60 ft³/s, on basis of computation of peak flow at width contraction; minimum daily, 1.0 ft³/s, Oct. 8, 1986.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 466 ft³/s, at 0300 Aug. 4, gage height, 5.60 ft; minimum daily, 1.8 ft³/s, May 15-16.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---------------|--------------|-------|-----------|--------|---------|------------|-------|-------|-------|-------|-------|-------|
| 1 | 3.4 | 4.1 | 4.2 | 3.4 | 3.6 | 8.0 | 4.8 | 3.1 | 3.5 | 3.7 | 3.1 | 6.3 |
| 2 | 3.5 | 4.3 | 4.2 | 3.3 | 3.6 | 8.0 | 5.6 | 3.5 | 2.8 | 3.5 | 2.8 | 3.7 |
| 3 | 3.5 | 4.3 | 4.4 | 3.2 | 3.5 | 7.8 | 4.8 | 3.2 | 2.8 | 3.2 | 16 | 3.5 |
| 4 | 3.8 | 4.3 | 4.5 | 3.1 | 3.5 | 7.8 | 4.9 | 4.4 | 2.5 | 4.1 | 49 | 3.2 |
| 5 | 3.8 | 4.3 | 4.5 | 3.0 | 3.7 | 8.1 | 4.9 | 3.9 | 2.2 | 3.9 | 5.5 | 2.9 |
| 6 | 3.9 | 4.3 | 4.8 | 3.0 | 4.0 | 7.8 | 4.6 | 3.5 | 2.2 | 4.0 | 3.1 | 3.2 |
| 7 | 3.9 | 4.7 | 4.8 | 3.0 | 4.4 | 8.0 | 4.4 | 2.8 | 2.3 | 27 | 3.9 | 3.9 |
| 8 | 3.9 | 4.8 | 4.8 | 3.1 | 5.0 | 8.0 | 3.9 | 2.4 | 2.4 | 14 | 2.5 | 3.9 |
| 9 | 3.5 | 4.7 | 4.8 | 3.2 | 4.9 | 8.1 | 3.2 | 2.2 | 8.2 | 47 | 4.6 | 3.9 |
| 10 | 3.5 | 4.5 | 4.8 | 3.3 | 4.7 | 8.0 | 2.8 | 3.2 | 5.3 | 6.3 | 4.3 | 3.5 |
| 11 | 3.5 | 4.5 | 4.8 | 3.4 | 5.0 | 7.9 | 3.2 | 2.8 | 4.4 | 4.3 | 3.7 | 3.2 |
| 12 | 3.9 | 4.4 | 4.8 | 3.5 | 6.0 | 7.4 | 3.6 | 2.4 | 3.5 | 3.9 | 3.7 | 5.3 |
| 13 | 4.6 | 4.4 | 4.3 | 3.4 | 6.3 | 7.3 | 3.1 | 2.2 | 3.2 | 3.5 | 3.5 | 4.8 |
| 14 | 6.1 | 4.4 | 3.9 | 3.7 | 6.6 | 8.0 | 3.6 | 2.2 | 3.2 | 3.5 | 3.5 | 3.6 |
| 15 | 5.0 | 4.8 | 3.5 | 4.0 | 7.8 | 8.2 | 3.7 | 1.8 | 10 | 3.1 | 3.5 | 4.8 |
| 16 | 4.4 | 4.8 | 3.5 | 3.9 | 8.9 | 7.7 | 3.2 | 1.8 | 3.9 | 5.3 | 3.6 | 3.6 |
| 17 | 3.9 | 4.8 | 3.8 | 3.8 | 8.7 | 7.2 | 3.4 | 2.2 | 3.2 | 4.3 | 7.7 | 3.9 |
| 18 | 3.9 | 4.8 | 4.0 | 3.6 | 7.7 | 8.4 | 3.3 | 2.8 | 3.5 | 3.9 | 5.5 | 4.4 |
| 19 | 4.4 | 4.8 | 4.2 | 3.5 | 7.2 | 7.6 | 3.8 | 22 | 3.6 | 3.5 | 4.9 | 3.9 |
| 20 | 3.9 | 4.8 | 4.0 | 3.5 | 7.3 | 8.5 | 4.4 | 18 | 3.7 | 3.1 | 5.8 | 3.5 |
| 21 | 3.5 | 4.8 | 4.1 | 3.7 | 7.3 | 8.5 | 4.4 | | 4.3 | 2.8 | 6.2 | 3.9 |
| 22 | 3.5 | 4.8 | 4.2 | 3.8 | 7.1 | 8.0 | 4.6 | 10 | 5.3 | 7.5 | 2.6 | 6.6 |
| 23 | 3.5 | 4.8 | 4.2 | 3.8 | 7.0 | 7.7 | 3.9 | 4.3 | 9.2 | 2.4 | 15 | 3.9 |
| 24 | 3.6 | 4.8 | 3.8 | 3.8 | 7.0 | 6.8 | 3.5 | 3.5 | 3.5 | 2.6 | 5.3 | 3.9 |
| 25 | 3.8 | 4.7 | 3.5 | 3.6 | 7.3 | 6.4 | 3.2 | 3.2 | 3.4 | 2.6 | 4.4 | 3.9 |
| 26 | 3.9 | 4.8 | 3.5 | 3.5 | 7.4 | 6.5 | 3.1 | 2.8 | 6.8 | 2.5 | 4.4 | 3.5 |
| 27 | 3.9 | 4.8 | 3.6 | 3.7 | 9.0 | 6.3 | 3.2 | 2.8 | 7.4 | 2.6 | 3.9 | 3.5 |
| 28 | 3.9 | 4.8 | 3.8 | 4.1 | 8.9 | 6.2 | 3.5 | 2.8 | 4.0 | 2.8 | 3.5 | 3.5 |
| 29 | 3.9 | 4.5 | 3.8 | 4.4 | 8.0 | 5.7 | 3.2 | 2.5 | 4.6 | 12 | 3.5 | 3.2 |
| 30 | 3.9 | 4.4 | 3.7 | 4.2 | --- | 5.5 | 3.5 | 3.2 | 4.0 | 5.4 | 3.2 | 3.2 |
| 31 | 3.9 | --- | 3.6 | 3.8 | --- | 4.9 | --- | 3.9 | --- | 3.5 | 3.5 | --- |
| TOTAL | 121.6 | 138.0 | 128.4 | 110.3 | 181.4 | 230.3 | 115.3 | 134.7 | 131.1 | 196.9 | 199.7 | 115.4 |
| MEAN | 3.92 | 4.60 | 4.14 | 3.56 | 6.26 | 7.43 | 3.84 | 4.35 | 4.37 | 6.35 | 6.44 | 3.85 |
| MAX | 6.1 | 4.8 | 4.8 | 4.4 | 9.0 | 8.5 | 5.6 | 22 | 10 | 47 | 49 | 6.3 |
| MIN | 3.4 | 4.1 | 3.5 | 3.0 | 3.5 | 4.9 | 2.8 | 1.8 | 2.2 | 2.4 | 2.5 | 2.9 |
| AC-FT | 241 | 274 | 255 | 219 | 360 | 457 | 229 | 267 | 260 | 391 | 396 | 229 |
| CAL YR 1987 | TOTAL 2110.2 | | MEAN 5.78 | MAX 82 | MIN 1.3 | AC-FT 4190 | | | | | | |
| WTR YR 1988</ | | | | | | | | | | | | |

ARKANSAS RIVER BASIN

07104000 MONUMENT CREEK AT PIKEVIEW, CO

LOCATION.--Lat 38°55'04", long 104°49'05", in NW¼SE¼ sec.18, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of abandoned bridge at northeast edge of Pikeview, 600 ft upstream from unnamed tributary, 1,200 ft upstream from bridge on U.S. Interstate Highway I-25, and 0.7 mi downstream from Dry Creek.

DRAINAGE AREA.--204 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to September 1949, January 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,203.26 ft above National Geodetic Vertical Datum of 1929. September 1938 to October 1949, nonrecording gage at present site at datum 0.10 ft, lower.

REMARKS.--Estimated daily discharges: Dec. 13 to Feb. 14. Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, municipal use and return flow from irrigation, and sewage-effluent discharge.

AVERAGE DISCHARGE.--23 years (water years 1939-49, 1977-88), 28.8 ft³/s; 20,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,750 ft³/s, Aug. 5, 1981, gage height, 7.48 ft, from rating curve extended above 100 ft³/s, on basis of slope-area measurement of peak flow; no flow July 24, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30, 1935, reached a stage of about 14 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,410 ft³/s at 1300 July 9, gage height, 5.51 ft, from rating curve extended above 250 ft³/s, on basis of three slope-area measurements of peak flow; minimum daily, 7.1 ft³/s, Sept. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|------|------|-------|------|------|------|-------|-------|-------|-------|
| 1 | 25 | 22 | 35 | 20 | 14 | 14 | 19 | 55 | 72 | 19 | 12 | 14 |
| 2 | 22 | 22 | 35 | 19 | 12 | 17 | 22 | 61 | 53 | 16 | 11 | 9.0 |
| 3 | 20 | 22 | 29 | 19 | 11 | 14 | 26 | 52 | 51 | 13 | 19 | 8.3 |
| 4 | 25 | 24 | 30 | 18 | 12 | 15 | 47 | 78 | 50 | 12 | 52 | 7.4 |
| 5 | 18 | 24 | 31 | 17 | 16 | 16 | 41 | 73 | 46 | 16 | 23 | 7.1 |
| 6 | 16 | 19 | 33 | 16 | 22 | 13 | 45 | 62 | 41 | 16 | 20 | 7.3 |
| 7 | 17 | 20 | 39 | 17 | 26 | 15 | 37 | 60 | 39 | 42 | 21 | 8.6 |
| 8 | 18 | 23 | 28 | 20 | 28 | 12 | 40 | 52 | 41 | 30 | 21 | 9.2 |
| 9 | 16 | 19 | 25 | 23 | 26 | 12 | 48 | 44 | 47 | 121 | 20 | 9.3 |
| 10 | 16 | 18 | 31 | 22 | 30 | 14 | 41 | 50 | 29 | 18 | 19 | 8.1 |
| 11 | 12 | 17 | 35 | 19 | 35 | 11 | 65 | 45 | 26 | 13 | 20 | 7.6 |
| 12 | 13 | 24 | 30 | 20 | 25 | 14 | 61 | 33 | 24 | 13 | 20 | 14 |
| 13 | 20 | 26 | 28 | 23 | 19 | 12 | 55 | 33 | 23 | 13 | 18 | 12 |
| 14 | 29 | 27 | 23 | 28 | 16 | 15 | 37 | 30 | 28 | 12 | 18 | 11 |
| 15 | 19 | 25 | 22 | 23 | 13 | 11 | 40 | 15 | 38 | 12 | 17 | 13 |
| 16 | 22 | 23 | 24 | 20 | 12 | 12 | 26 | 14 | 28 | 13 | 14 | 9.6 |
| 17 | 20 | 26 | 27 | 17 | 16 | 11 | 45 | 19 | 20 | 11 | 17 | 11 |
| 18 | 18 | 23 | 30 | 16 | 13 | 14 | 55 | 30 | 23 | 13 | 16 | 12 |
| 19 | 22 | 23 | 31 | 14 | 9.4 | 13 | 66 | 68 | 24 | 13 | 15 | 9.1 |
| 20 | 21 | 25 | 29 | 14 | 10 | 19 | 73 | 85 | 25 | 14 | 14 | 8.6 |
| 21 | 20 | 25 | 30 | 14 | 13 | 16 | 76 | 72 | 24 | 12 | 15 | 10 |
| 22 | 21 | 28 | 31 | 16 | 12 | 15 | 74 | 75 | 33 | 11 | 14 | 10 |
| 23 | 21 | 27 | 31 | 18 | 11 | 20 | 72 | 83 | 36 | 10 | 27 | 10 |
| 24 | 22 | 26 | 26 | 18 | 10 | 18 | 68 | 81 | 23 | 11 | 15 | 9.7 |
| 25 | 21 | 23 | 21 | 15 | 12 | 16 | 43 | 84 | 22 | 12 | 14 | 9.8 |
| 26 | 20 | 25 | 19 | 13 | 10 | 16 | 50 | 90 | 30 | 11 | 12 | 10 |
| 27 | 18 | 25 | 20 | 14 | 12 | 21 | 64 | 85 | 26 | 11 | 12 | 10 |
| 28 | 25 | 26 | 22 | 17 | 15 | 18 | 58 | 82 | 20 | 11 | 12 | 10 |
| 29 | 24 | 27 | 23 | 17 | 14 | 19 | 60 | 79 | 24 | 17 | 11 | 10 |
| 30 | 24 | 28 | 24 | 16 | --- | 18 | 64 | 81 | 24 | 12 | 9.6 | 12 |
| 31 | 22 | --- | 22 | 15 | --- | 21 | --- | 77 | --- | 12 | 11 | --- |
| TOTAL | 627 | 712 | 864 | 558 | 474.4 | 472 | 1518 | 1848 | 990 | 560 | 539.6 | 297.7 |
| MEAN | 20.2 | 23.7 | 27.9 | 18.0 | 16.4 | 15.2 | 50.6 | 59.6 | 33.0 | 18.1 | 17.4 | 9.92 |
| MAX | 29 | 28 | 39 | 28 | 35 | 21 | 76 | 90 | 72 | 121 | 52 | 14 |
| MIN | 12 | 17 | 19 | 13 | 9.4 | 11 | 19 | 14 | 20 | 10 | 9.6 | 7.1 |
| AC-FT | 1240 | 1410 | 1710 | 1110 | 941 | 936 | 3010 | 3670 | 1960 | 1110 | 1070 | 590 |
| CAL YR 1987 | TOTAL | 15318.0 | MEAN | 42.0 | MAX | 240 | MIN | 20.0 | AC-FT | 30380 | | |
| WTR YR 1988 | TOTAL | 9460.7 | MEAN | 25.8 | MAX | 121 | MIN | 7.1 | AC-FT | 18770 | | |

ARKANSAS RIVER BASIN

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07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|--|
| OCT | | | | | | | | | |
| 22... | 1300 | 18 | 429 | 8.1 | 12.0 | 8.0 | E8.8 | K56 | 83 |
| NOV | | | | | | | | | |
| 19... | 1315 | 23 | 465 | 8.0 | 5.0 | 9.7 | 13 | K7 | K200 |
| DEC | | | | | | | | | |
| 17... | 1325 | E27 | 424 | 8.0 | 0.0 | 11.6 | E6.7 | K20 | K56 |
| JAN | | | | | | | | | |
| 21... | 1515 | E14 | 422 | 7.7 | 0.5 | 11.7 | 3.0 | K3 | 44 |
| FEB | | | | | | | | | |
| 25... | 1520 | 12 | 405 | 8.2 | 7.5 | 9.1 | 3.0 | K7 | 420 |
| MAR | | | | | | | | | |
| 24... | 1500 | 18 | -- | 8.2 | 11.0 | 8.4 | 2.5 | K5 | K100 |
| APR | | | | | | | | | |
| 21... | 1410 | 76 | 195 | 8.2 | 16.0 | 7.6 | 3.1 | <5 | K85 |
| MAY | | | | | | | | | |
| 19... | 1455 | 68 | -- | 8.0 | 12.0 | 8.6 | 5.6 | K1100 | >1000 |
| JUN | | | | | | | | | |
| 16... | 1400 | 28 | 240 | 8.2 | 22.0 | 6.9 | 1.8 | 170 | 610 |
| JUL | | | | | | | | | |
| 28... | 1415 | 11 | 431 | 8.5 | 24.5 | 6.4 | 1.1 | K1100 | 310 |
| AUG | | | | | | | | | |
| 25... | 1440 | 14 | 436 | 8.4 | 24.5 | 6.4 | 0.6 | 400 | 660 |
| SEP | | | | | | | | | |
| 29... | 1500 | 10 | 478 | 8.4 | 15.5 | 7.8 | 0.9 | 120 | 150 |

| DATE | ALKA- LINITY LAB (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) |
|-------|---|---|---|--|--|--|--|---|
| OCT | | | | | | | | |
| 22... | 112 | 56 | 15 | 122 | 1.20 | 2.3 | 2.40 | <1 |
| NOV | | | | | | | | |
| 19... | 108 | 72 | 20 | 202 | 1.50 | 2.7 | 2.60 | <1 |
| DEC | | | | | | | | |
| 17... | 99 | 65 | 19 | 40 | 1.00 | 2.5 | 2.70 | <1 |
| JAN | | | | | | | | |
| 21... | 105 | 71 | 17 | 50 | 0.40 | 1.0 | 2.30 | -- |
| FEB | | | | | | | | |
| 25... | 93 | 68 | 15 | 94 | 0.20 | 0.50 | 2.10 | 1 |
| MAR | | | | | | | | |
| 24... | 77 | 48 | 13 | 375 | 0.19 | 0.50 | 1.30 | <1 |
| APR | | | | | | | | |
| 21... | 52 | 27 | 6.1 | 502 | 0.03 | 0.30 | 0.60 | <1 |
| MAY | | | | | | | | |
| 19... | 74 | 41 | 10 | 464 | 0.10 | 0.50 | 0.70 | <1 |
| JUN | | | | | | | | |
| 16... | 64 | 31 | 8.9 | 148 | 0.03 | 0.30 | 1.00 | <1 |
| JUL | | | | | | | | |
| 28... | 118 | 70 | 15 | 1 | <0.01 | 0.90 | 1.50 | <1 |
| AUG | | | | | | | | |
| 25... | 119 | 66 | 14 | 121 | 0.01 | 0.70 | 1.40 | <1 |
| SEP | | | | | | | | |
| 29... | 135 | 81 | 16 | 107 | <0.01 | 0.20 | 2.00 | 1 |

K BASED ON NON-IDEAL COUNT
E ESTIMATED

ARKANSAS RIVER BASIN

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | CHROMIUM, DIS-SOLVED (UG/L AS CR) | COPPER, TOTAL RECOVERABLE (UG/L AS CU) | IRON, TOTAL RECOVERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | LEAD, TOTAL RECOVERABLE (UG/L AS PB) | MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) | MANGANESE, DIS-SOLVED (UG/L AS MN) | ZINC, TOTAL RECOVERABLE (UG/L AS ZN) |
|-----------|--|--|--|--|--|---|---|--|
| OCT 22... | <10 | 8 | 2900 | 20 | <5 | 110 | 30 | 30 |
| NOV 19... | <1 | 7 | 5000 | 10 | 5 | 160 | 30 | 40 |
| DEC 17... | <1 | 8 | 1600 | 30 | <5 | 50 | 40 | <10 |
| JAN 21... | <1 | 3 | 1400 | <10 | <5 | 70 | 40 | 20 |
| FEB 25... | <1 | 21 | 19000 | 310 | 8 | 510 | 40 | 130 |
| MAR 24... | <1 | 7 | 6200 | <10 | <5 | 160 | 10 | 60 |
| APR 21... | <1 | 12 | 9700 | 30 | 9 | 290 | 10 | 70 |
| MAY 19... | 3 | 25 | 25000 | 3400 | 30 | 590 | 160 | 20 |
| JUN 16... | <1 | 5 | 3500 | 10 | 7 | 120 | <10 | 40 |
| JUL 28... | <1 | 4 | 2600 | <10 | 5 | 70 | <10 | 30 |
| AUG 25... | <1 | 6 | 2500 | <10 | <5 | 50 | <10 | 20 |
| SEP 29... | <1 | 6 | 3000 | <10 | <5 | 60 | <10 | 20 |

ARKANSAS RIVER BASIN

221

07104905 MONUMENT CREEK AT BIJOU STREET AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°50'14", long 104°49'44", in NW1/4NW1/4 sec.18, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, at bridge on Bijou Street in Colorado Springs.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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, UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|---|--|
| OCT | | | | | | | | | |
| 22... | 1500 | 24 | 628 | 8.3 | 13.0 | 8.3 | 4.6 | 240 | 220 |
| NOV | | | | | | | | | |
| 19... | 1510 | 32 | 623 | 8.2 | 5.5 | 10.0 | 9.3 | 62 | 240 |
| DEC | | | | | | | | | |
| 17... | 1535 | 26 | 640 | 8.2 | 0.0 | 11.3 | E2.7 | K50 | 380 |
| JAN | | | | | | | | | |
| 21... | 1415 | 20 | 755 | 7.9 | 0.0 | 11.3 | -- | K12 | K95 |
| FEB | | | | | | | | | |
| 25... | 1345 | 25 | 594 | 8.2 | 9.5 | 7.6 | 3.7 | <600 | 5700 |
| MAR | | | | | | | | | |
| 24... | 1330 | 41 | 460 | 8.2 | 13.0 | 8.8 | 1.2 | <20 | <80 |
| APR | | | | | | | | | |
| 21... | 1515 | 69 | 280 | 8.1 | 17.0 | 8.5 | 2.6 | K20 | K120 |
| MAY | | | | | | | | | |
| 19... | 1545 | 222 | 314 | 7.8 | 12.5 | 8.7 | E7.5 | K6000 | K10000 |
| JUN | | | | | | | | | |
| 16... | 1430 | 45 | 378 | 7.6 | 22.0 | 6.5 | 1.7 | 330 | 1500 |
| JUL | | | | | | | | | |
| 28... | 1430 | 11 | 705 | 7.2 | 24.0 | 6.2 | 1.3 | 310 | 460 |
| AUG | | | | | | | | | |
| 25... | 1330 | 17 | 588 | 8.3 | 24.0 | 6.1 | 0.9 | 670 | 570 |
| SEP | | | | | | | | | |
| 29... | 1430 | 11 | 730 | 8.2 | 16.0 | 8.2 | 1.7 | K2400 | K1300 |

| DATE | ALKA- LINITY LAB (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) |
|-------|---|---|---|---|--|--|--|---|
| OCT | | | | | | | | |
| 22... | 144 | 110 | 18 | 241 | 0.23 | 0.90 | 3.90 | <1 |
| NOV | | | | | | | | |
| 19... | 132 | 120 | 25 | 238 | 0.45 | 1.9 | 4.00 | <1 |
| DEC | | | | | | | | |
| 17... | 136 | 130 | 28 | 104 | 0.39 | 0.40 | 4.30 | <1 |
| JAN | | | | | | | | |
| 21... | 155 | 150 | 25 | 11 | 0.03 | 0.50 | 3.60 | -- |
| FEB | | | | | | | | |
| 25... | 127 | 130 | 20 | 593 | 0.07 | 0.30 | 3.10 | <1 |
| MAR | | | | | | | | |
| 24... | 100 | 90 | 16 | 94 | 0.02 | 0.50 | 2.10 | <1 |
| APR | | | | | | | | |
| 21... | 63 | 46 | 8.0 | 468 | 0.03 | 0.20 | 1.10 | 1 |
| MAY | | | | | | | | |
| 19... | 107 | 58 | 12 | 561 | 0.25 | 1.2 | 1.20 | <1 |
| JUN | | | | | | | | |
| 16... | 87 | 64 | 10 | 373 | 0.03 | 0.30 | 1.50 | 1 |
| JUL | | | | | | | | |
| 28... | 153 | 170 | 19 | 70 | 0.04 | 0.60 | 2.80 | <1 |
| AUG | | | | | | | | |
| 25... | 141 | 120 | 17 | 87 | 0.03 | 0.80 | 2.00 | <1 |
| SEP | | | | | | | | |
| 29... | 171 | 170 | 21 | 64 | 0.11 | 0.60 | 3.60 | <1 |

K BASED ON NON-IDEAL COUNT
E ESTIMATED

ARKANSAS RIVER BASIN

07104905 MONUMENT CREEK AT BIJOU STREET AT COLORADO SPRINGS, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|--------------|---|---|---|--|---|---|--|---|
| OCT 22... | <1 | 10 | 5500 | 120 | 6 | 120 | <10 | 40 |
| NOV 19... | <1 | 11 | 7900 | <10 | 20 | 200 | <10 | 50 |
| DEC 17... | -- | 6 | 4500 | 10 | 5 | 110 | 20 | 20 |
| JAN 21... | <5 | 11 | <10 | 15 | <5 | 10 | 7 | 20 |
| FEB 25... | 1 | 24 | 23000 | 20 | 8 | 650 | 10 | 160 |
| MAR 24... | <1 | 14 | 7300 | <10 | 6 | 190 | <10 | 60 |
| APR 21... | <1 | 12 | 1300 | 10 | 12 | 360 | <10 | 70 |
| MAY 19... | <1 | 39 | 50000 | 30 | 43 | 910 | 30 | 360 |
| JUN 16... | <1 | 11 | 8500 | 20 | 16 | 220 | <10 | 50 |
| JUL 28... | <1 | 6 | 1500 | 10 | <5 | 60 | <10 | 30 |
| AUG 25... | <1 | 4 | 2200 | 10 | <5 | 50 | <10 | 10 |
| SEP 29... | 2 | 9 | 160 | <10 | <5 | 70 | <10 | 50 |

223

LOCATION.--Lat 38°48'59", long 104°49'20", in NE¼SW¼ sec.19, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 31 ft upstream from bridge on Nevada Ave. in Colorado Springs, 100 ft downstream from mouth of Cheyenne Creek, and 1.3 mi downstream from Monument Creek.

WATER-DISCHARGE RECORDS

REMARKS.--Estimated daily discharges: Dec. 14-17, Jan. 7, 19-22, and Aug. 5. Records good except for estimated daily discharges, 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,020 ft³/s at 1430 Aug. 9, gage height, 6.09 ft, from rating curve extended on basis of slope-area measurement of peak flow; minimum daily, 11 ft³/s, Sept. 22.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|---------|--------|-------------|------|------|------|------|------|------|------|
| 1 | 34 | 28 | 29 | 30 | 21 | 43 | 36 | 49 | 86 | 44 | 23 | 22 |
| 2 | 31 | 31 | 43 | 30 | 26 | 60 | 41 | 58 | 64 | 39 | 14 | 20 |
| 3 | 29 | 31 | 43 | 27 | 31 | 46 | 45 | 54 | 51 | 28 | 44 | 14 |
| 4 | 28 | 36 | 34 | 25 | 20 | 42 | 58 | 61 | 52 | 24 | 417 | 14 |
| 5 | 28 | 38 | 35 | 24 | 25 | 40 | 60 | 59 | 59 | 29 | 110 | 15 |
| 6 | 26 | 33 | 30 | 26 | 33 | 35 | 59 | 63 | 58 | 23 | 78 | 15 |
| 7 | 23 | 34 | 41 | 24 | 37 | 38 | 54 | 76 | 47 | 214 | 79 | 14 |
| 8 | 25 | 34 | 37 | 26 | 29 | 28 | 51 | 49 | 43 | 73 | 65 | 13 |
| 9 | 30 | 31 | 31 | 31 | 41 | 28 | 62 | 40 | 103 | 271 | 279 | 14 |
| 10 | 29 | 30 | 37 | 31 | 44 | 28 | 59 | 55 | 76 | 49 | 48 | 13 |
| 11 | 29 | 27 | 37 | 38 | 49 | 24 | 62 | 47 | 37 | 31 | 42 | 12 |
| 12 | 27 | 35 | 30 | 30 | 65 | 22 | 62 | 39 | 33 | 29 | 40 | 60 |
| 13 | 47 | 41 | 25 | 33 | 44 | 30 | 63 | 37 | 32 | 25 | 33 | 44 |
| 14 | 119 | 43 | 24 | 31 | 31 | 34 | 65 | 39 | 36 | 21 | 35 | 34 |
| 15 | 43 | 47 | 24 | 44 | 32 | 30 | 71 | 30 | 104 | 26 | 32 | 34 |
| 16 | 37 | 44 | 27 | 23 | 34 | 29 | 59 | 26 | 56 | 29 | 26 | 23 |
| 17 | 31 | 36 | 32 | 22 | 34 | 29 | 69 | 21 | 33 | 31 | 51 | 20 |
| 18 | 26 | 34 | 37 | 21 | 33 | 33 | 78 | 30 | 28 | 26 | 68 | 16 |
| 19 | 30 | 36 | 33 | 20 | 31 | 30 | 89 | 122 | 26 | 29 | 34 | 15 |
| 20 | 36 | 37 | 31 | 20 | 35 | 45 | 82 | 151 | 26 | 23 | 23 | 15 |
| 21 | 34 | 36 | 31 | 22 | 38 | 42 | 77 | 118 | 87 | 20 | 26 | 14 |
| 22 | 31 | 39 | 34 | 24 | 36 | 40 | 77 | 108 | 135 | 18 | 28 | 11 |
| 23 | 28 | 37 | 30 | 26 | 27 | 37 | 68 | 109 | 166 | 19 | 64 | 15 |
| 24 | 26 | 40 | 28 | 31 | 21 | 40 | 65 | 109 | 56 | 19 | 47 | 17 |
| 25 | 27 | 37 | 28 | 31 | 29 | 36 | 60 | 108 | 42 | 21 | 31 | 17 |
| 26 | 34 | 47 | 30 | 21 | 29 | 38 | 54 | 117 | 115 | 14 | 20 | 17 |
| 27 | 19 | 37 | 28 | 27 | 29 | 39 | 56 | 114 | 156 | 12 | 20 | 16 |
| 28 | 17 | 31 | 26 | 26 | 40 | 45 | 59 | 110 | 86 | 23 | 20 | 13 |
| 29 | 28 | 33 | 34 | 31 | 41 | 40 | 60 | 106 | 86 | 81 | 15 | 17 |
| 30 | 45 | 31 | 35 | 25 | --- | 42 | 58 | 101 | 68 | 64 | 13 | 17 |
| 31 | 36 | --- | 38 | 29 | --- | 46 | --- | 102 | --- | 37 | 15 | --- |
| TOTAL | 1033 | 1074 | 1002 | 849 | 985 | 1139 | 1859 | 2308 | 2047 | 1392 | 1840 | 581 |
| MEAN | 33.3 | 35.8 | 32.3 | 27.4 | 34.0 | 36.7 | 62.0 | 74.5 | 68.2 | 44.9 | 59.4 | 19.4 |
| MAX | 119 | 47 | 43 | 44 | 65 | 60 | 89 | 151 | 166 | 271 | 417 | 60 |
| MIN | 17 | 27 | 24 | 20 | 20 | 22 | 36 | 21 | 26 | 12 | 13 | 11 |
| AC-FT | 2050 | 2130 | 1990 | 1680 | 1950 | 2260 | 3690 | 4580 | 4060 | 2760 | 3650 | 1150 |
| CAL YR 1987 | TOTAL 27775 | MEAN 76.1 | MAX 552 | MIN 17 | AC-FT 55090 | | | | | | | |
| WTR YR 1988 | TOTAL 16109 | MEAN 44.0 | MAX 417 | MIN 11 | AC-FT 31950 | | | | | | | |

ARKANSAS RIVER BASIN

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|
| OCT 21... | 1230 | 34 | 582 | 8.3 | 10.5 | 9.2 | E4.3 | 76 |
| NOV 18... | 1240 | 34 | 684 | 8.3 | 2.5 | 10.9 | 1.9 | K35 |
| DEC 16... | 1140 | E27 | 737 | 8.2 | 0.5 | 11.3 | E0.4 | K12 |
| JAN 20... | 1220 | E20 | 784 | 7.8 | 2.0 | 11.4 | E0.9 | 180 |
| FEB 24... | 1420 | 21 | 740 | 8.3 | 10.0 | 9.7 | 1.4 | K20 |
| MAR 23... | 1235 | 37 | 246 | 8.3 | 16.0 | 8.3 | -- | K30 |
| APR 20... | 1315 | 82 | 316 | 8.2 | 16.0 | 8.6 | 1.8 | K70 |
| MAY 18... | 1220 | 30 | 478 | 8.0 | 21.0 | 7.0 | E0.6 | >300 |
| JUN 15... | 1215 | 104 | -- | 8.2 | 20.5 | 6.9 | 3.4 | K1800 |
| JUL 27... | 1215 | 12 | 815 | 8.4 | 25.5 | 6.2 | 0.9 | K2000 |
| AUG 24... | 1340 | 47 | -- | 8.2 | 26.0 | 6.2 | 0.6 | K1000 |
| SEP 28... | 1230 | 13 | 830 | 8.3 | 15.5 | 8.2 | E1.6 | 460 |

| DATE | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY LAB (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) | 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) |
|--------------|--|---|---|---|--|--|--|--|
| OCT 21... | 130 | 138 | 110 | 17 | 80 | 2.60 | 0.16 | 0.60 |
| NOV 18... | K190 | 146 | 150 | 28 | 85 | 2.80 | 0.12 | 0.90 |
| DEC 16... | 50 | 164 | 160 | 28 | 49 | 3.30 | 0.02 | 0.30 |
| JAN 20... | 220 | 158 | 180 | 31 | 14 | 3.20 | 0.02 | 0.50 |
| FEB 24... | 390 | 135 | 170 | 23 | 206 | 2.80 | <0.01 | 0.30 |
| MAR 23... | K3800 | 112 | 120 | 20 | 269 | 2.30 | 0.02 | 0.30 |
| APR 20... | K70 | 74 | 55 | 10 | 384 | 1.00 | 0.01 | 0.30 |
| MAY 18... | >1000 | 104 | 95 | 16 | 32 | 1.60 | 1.30 | 2.3 |
| JUN 15... | K5300 | 96 | 67 | 11 | 688 | 1.40 | 0.04 | 0.80 |
| JUL 27... | 200 | 165 | 210 | 24 | 50 | 2.60 | 0.15 | 0.90 |
| AUG 24... | 880 | 115 | 14 | 12 | 33 | 0.70 | <0.01 | 0.50 |
| SEP 28... | 400 | 180 | 220 | 26 | 23 | 3.10 | <0.01 | 0.40 |

E ESTIMATED.

K BASED ON NON-IDEAL COUNT

ARKANSAS RIVER BASIN

225

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|--------------|---|---|---|---|--|---|---|--|---|
| OCT 21... | <1 | <10 | 4 | 2100 | 510 | <5 | 90 | 50 | 20 |
| NOV 18... | <1 | <1 | 6 | 2400 | 40 | 5 | 140 | 80 | 30 |
| DEC 16... | <1 | 2 | 4 | 2500 | 30 | <5 | 140 | 80 | 20 |
| JAN 20... | -- | <1 | 3 | 790 | 230 | 5 | 110 | 90 | 30 |
| FEB 24... | 1 | <1 | 13 | 5100 | 1400 | <5 | 210 | 130 | 50 |
| MAR 23... | <1 | <1 | 11 | 6500 | <10 | <5 | 170 | 10 | 50 |
| APR 20... | <1 | <1 | 8 | 9000 | <10 | 8 | 270 | <10 | 60 |
| MAY 18... | 1 | <1 | 7 | 5000 | 1100 | 6 | 190 | 90 | 70 |
| JUN 15... | 1 | <1 | 23 | 18000 | 10 | 38 | 460 | 10 | 190 |
| JUL 27... | 1 | <1 | 5 | 1500 | <10 | 5 | 90 | 40 | 40 |
| AUG 24... | <1 | <1 | <1 | 1300 | 20 | 5 | 80 | 20 | 20 |
| SEP 28... | <1 | <1 | 5 | 650 | 20 | <5 | 70 | 60 | 30 |

ARKANSAS RIVER BASIN

07105510 FOUNTAIN CREEK ABOVE SEWAGE DISPOSAL PLANT AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'49", long 104°48'42", in SW¼SW¼ sec.20, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank, 15 ft upstream from Colorado Springs wastewater outfall, 0.3 mi downstream from Shooks Run, and 0.7mi downstream from streamflow gaging station 07105500 at Nevada Avenue bridge.

PERIOD OF RECORD.--March 1987 to September 1988 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|
| DEC 16... | 1335 | 31 | 782 | 8.2 | 1.0 | 11.5 | EO.7 | 40 |
| MAR 23... | 1510 | 41 | -- | 8.3 | 17.5 | 7.8 | -- | K28 |
| JUN 15... | 1430 | 54 | 412 | 8.1 | 22.5 | 6.5 | 2.7 | K1400 |
| SEP 28... | 1445 | 13 | 909 | 8.2 | 16.0 | 8.1 | E1.9 | K690 |

| DATE | STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINEITY LAB (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) |
|-----------|---|--|---|---|---|--|--|--|
| DEC 16... | 58 | 167 | 170 | 32 | 44 | 0.02 | 0.30 | 3.60 |
| MAR 23... | 87 | 113 | 120 | 22 | 311 | 0.02 | 0.40 | 2.20 |
| JUN 15... | K43000 | 95 | 83 | 12 | 611 | 0.03 | 0.30 | <1.30 |
| SEP 28... | 260 | 188 | 240 | 28 | 14 | <0.01 | 0.50 | 3.40 |

| DATE | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|-----------|---|---|---|---|--|---|---|--|---|
| DEC 16... | <1 | 1 | 5 | 2400 | 210 | <5 | 130 | 80 | 20 |
| MAR 23... | <1 | 1 | 7 | 5200 | 740 | <5 | 130 | 40 | 50 |
| JUN 15... | <1 | <1 | 18 | 13000 | 10 | 25 | 320 | <10 | 110 |
| SEP 28... | <1 | 1 | 6 | 610 | 20 | <5 | 70 | 50 | 20 |

E ESTIMATED
K BASED ON NON-IDEAL COUNT

ARKANSAS RIVER BASIN

227

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'11", long 104°47'43", in NE¼SE¼ sec.29, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 200 ft downstream from Janitell Road below Colorado Springs.

PERIOD OF RECORD.--April 1975 to June 1976, May 1979 to September 1979, December 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|--|---|
| OCT | | | | | | | | | | |
| 21... | 1415 | 86 | 827 | 7.9 | 15.5 | 7.7 | E18 | 150 | 180 | 25 |
| NOV | | | | | | | | | | |
| 18... | 1445 | 74 | 914 | 8.0 | 9.5 | 8.6 | 32 | 480 | K160 | 39 |
| DEC | | | | | | | | | | |
| 16... | 1510 | 55 | 886 | 8.0 | 5.5 | 9.4 | E15 | K2100 | 200 | 28 |
| JAN | | | | | | | | | | |
| 20... | 1400 | 90 | 820 | 7.5 | 0.5 | 8.6 | E13 | 220 | 170 | 23 |
| FEB | | | | | | | | | | |
| 24... | 1000 | 86 | 880 | 7.7 | 7.5 | 9.0 | 17 | <75 | 510 | 45 |
| MAR | | | | | | | | | | |
| 23... | 1115 | 122 | 762 | 7.7 | 13.0 | 8.8 | E21 | <40 | 110 | 53 |
| APR | | | | | | | | | | |
| 20... | 0945 | 150 | 507 | 7.3 | 11.0 | 9.0 | 8.4 | K1400 | 240 | 333 |
| MAY | | | | | | | | | | |
| 18... | 1045 | 109 | 836 | 7.7 | 17.0 | 8.0 | 11 | >1200 | >2000 | 72 |
| JUN | | | | | | | | | | |
| 15... | 1030 | 133 | 503 | 7.6 | 20.0 | 6.5 | -- | 570 | 8300 | 920 |
| JUL | | | | | | | | | | |
| 27... | 1040 | 71 | 879 | 7.7 | 20.0 | 6.5 | E15 | 390 | K1700 | 57 |
| AUG | | | | | | | | | | |
| 24... | 1100 | 118 | 752 | 7.4 | 20.0 | 7.7 | E14 | K4300 | K330 | 102 |
| SEP | | | | | | | | | | |
| 28... | 1000 | 69 | 944 | 7.7 | 16.0 | 8.0 | E18 | 410 | 310 | 22 |

| DATE | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) | IRON, TOTAL RECOV- ERABLE (UG/L AS FE) | LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|-------|--|--|--|---|---|---|---|---|---|
| OCT | | | | | | | | | |
| 21... | 9.50 | 12 | 2.30 | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | |
| 18... | 9.60 | 12 | 2.30 | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | |
| 16... | 6.80 | 11 | 3.10 | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | | |
| 20... | 11.0 | 12 | 1.70 | -- | 2 | 10 | 590 | <5 | 80 |
| FEB | | | | | | | | | |
| 24... | 18.0 | 15 | 1.30 | 1 | 7 | 17 | 1100 | <5 | 90 |
| MAR | | | | | | | | | |
| 23... | 11.0 | 10 | 1.20 | <1 | 20 | 11 | 2900 | <5 | 80 |
| APR | | | | | | | | | |
| 20... | 5.40 | 6.5 | 1.00 | <1 | <1 | 5 | 360 | 13 | 30 |
| MAY | | | | | | | | | |
| 18... | 6.90 | 37 | 2.50 | 1 | 1 | 8 | 1400 | 6 | 80 |
| JUN | | | | | | | | | |
| 15... | 4.70 | 6.5 | 1.30 | <1 | 1 | 29 | 1700 | 34 | 160 |
| JUL | | | | | | | | | |
| 27... | 12.0 | 13 | 1.70 | <1 | 10 | 13 | 1800 | 26 | 100 |
| AUG | | | | | | | | | |
| 24... | 7.40 | 8.0 | 1.10 | <1 | 1 | 10 | 3100 | <5 | 200 |
| SEP | | | | | | | | | |
| 28... | 13.0 | 16 | 1.50 | <1 | 3 | 21 | 1000 | 6 | 280 |

E ESTIMATED
K BASED ON NON-IDEAL COUNT

ARKANSAS RIVER BASIN

07105780 B DITCH DRAIN NEAR SECURITY, CO

LOCATION.--Lat 38°45'09", long 104°45'43", in SW¼SE¼ sec.10, T. 15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank, on Fort Carson Military Reservation, 800 ft upstream from Interstate 25, 0.7 mi upstream from mouth, and 1.0 mi southwest of Security.

DRAINAGE AREA.--Undetermined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1981 to September 1987. October 1987 to September 1988 seasonal only (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 5,724 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 16-23. Gage was discontinued Nov. 23, and restarted Mar. 24 (seasonal only). Records good except those for periods of estimated daily discharges, which are fair. Unknown amounts of flow are introduced to the stream from activities in the cantonment area of Fort Carson, upstream.

AVERAGE DISCHARGE.--6 years (water years 1982-87), 1.08 ft³/s; 782 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,700 ft³/s, Aug. 15, 1981, gage height, 13.78 ft, result of slope-area measurement of peak flow; minimum daily, 0.01 ft³/s, July 13, 16-18, 23-24, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 365 ft³/s, Aug. 4 at 2345, gage height, 7.86 ft.; minimum daily, 0.01 ft³/s, July 13, 16-18, 23-24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-----|-----|-----|-----|-----|------|------|------|------|-------|-------|
| 1 | .20 | .18 | --- | --- | --- | --- | .25 | .13 | .10 | .02 | .31 | 1.8 |
| 2 | .19 | .18 | --- | --- | --- | --- | .20 | .12 | .07 | .03 | .29 | .15 |
| 3 | .19 | .17 | --- | --- | --- | --- | .19 | .13 | .06 | .03 | .31 | .11 |
| 4 | .19 | .17 | --- | --- | --- | --- | .16 | .12 | .06 | .09 | 13 | .10 |
| 5 | .19 | .17 | --- | --- | --- | --- | .15 | .13 | .06 | .06 | 36 | .10 |
| 6 | .19 | .17 | --- | --- | --- | --- | .14 | .13 | .07 | .11 | .28 | .11 |
| 7 | .19 | .18 | --- | --- | --- | --- | .14 | .10 | .07 | .04 | .30 | .11 |
| 8 | .18 | .17 | --- | --- | --- | --- | .14 | .11 | .07 | .03 | .24 | .11 |
| 9 | .20 | .17 | --- | --- | --- | --- | .23 | .12 | .78 | .06 | .20 | .10 |
| 10 | .20 | .16 | --- | --- | --- | --- | .31 | .20 | .83 | .04 | .21 | .10 |
| 11 | .21 | .17 | --- | --- | --- | --- | .18 | .15 | .14 | .03 | .21 | .10 |
| 12 | .18 | .17 | --- | --- | --- | --- | .15 | .14 | .08 | .02 | .18 | .79 |
| 13 | .29 | .18 | --- | --- | --- | --- | .14 | .13 | .07 | .01 | .17 | 1.1 |
| 14 | .64 | .18 | --- | --- | --- | --- | .14 | .13 | .05 | .03 | .16 | 1.3 |
| 15 | .21 | .17 | --- | --- | --- | --- | .14 | .12 | .11 | .03 | .16 | 3.1 |
| 16 | .18 | .17 | --- | --- | --- | --- | .15 | .13 | .08 | .01 | .17 | .15 |
| 17 | .18 | .16 | --- | --- | --- | --- | .16 | .13 | .07 | .01 | 5.4 | .11 |
| 18 | .17 | .17 | --- | --- | --- | --- | .22 | .12 | .06 | .01 | .25 | .09 |
| 19 | .18 | .16 | --- | --- | --- | --- | .18 | 4.0 | 1.1 | .35 | .18 | .08 |
| 20 | .17 | .15 | --- | --- | --- | --- | .16 | .33 | .21 | .07 | .23 | .07 |
| 21 | .17 | .17 | --- | --- | --- | --- | .14 | .12 | .18 | .03 | .16 | .09 |
| 22 | .18 | .17 | --- | --- | --- | --- | .13 | .11 | .22 | .02 | .15 | .08 |
| 23 | .17 | .18 | --- | --- | --- | --- | .13 | .11 | .20 | .01 | .23 | .11 |
| 24 | .17 | --- | --- | --- | --- | .15 | .14 | .10 | .20 | .01 | .16 | .08 |
| 25 | .17 | --- | --- | --- | --- | .15 | .14 | .12 | .11 | .02 | .14 | .07 |
| 26 | .17 | --- | --- | --- | --- | .15 | .13 | .11 | .34 | .04 | .12 | .06 |
| 27 | .16 | --- | --- | --- | --- | .15 | .14 | .12 | .68 | .06 | .12 | .06 |
| 28 | .17 | --- | --- | --- | --- | .21 | .14 | .11 | .07 | .05 | .12 | .06 |
| 29 | .17 | --- | --- | --- | --- | .20 | .15 | .11 | .08 | 6.8 | .11 | .06 |
| 30 | .18 | --- | --- | --- | --- | .16 | .13 | .09 | .05 | .57 | .12 | .06 |
| 31 | .18 | --- | --- | --- | --- | .21 | --- | .23 | --- | .34 | .15 | --- |
| TOTAL | 6.22 | --- | --- | --- | --- | --- | 4.90 | 8.00 | 6.27 | 9.03 | 59.83 | 10.41 |
| MEAN | .20 | --- | --- | --- | --- | --- | .16 | .26 | .21 | .29 | 1.93 | .35 |
| MAX | .64 | --- | --- | --- | --- | --- | .31 | 4.0 | 1.1 | 6.8 | .36 | 3.1 |
| MIN | .16 | --- | --- | --- | --- | --- | .13 | .09 | .05 | .01 | .11 | .06 |
| AC-FT | 12 | --- | --- | --- | --- | --- | 9.7 | 16 | 12 | 18 | 119 | 21 |

ARKANSAS RIVER BASIN

229

07105780 B DITCH DRAIN NEAR SECURITY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|---|--|--|--|
| OCT | | | | | | | | | | | |
| 21... | 1350 | 0.18 | 7240 | 7.8 | 13.5 | 11.4 | 1.1 | 3 | 0.04 | 1.1 | 43.0 |
| NOV | | | | | | | | | | | |
| 18... | 1430 | 0.20 | 7350 | 8.1 | 1.5 | 13.0 | 1.1 | 5 | 0.06 | 0.70 | 46.0 |
| DEC | | | | | | | | | | | |
| 17... | 1215 | 0.29 | -- | 7.9 | 0.0 | 12.8 | 0.4 | <1 | 0.08 | <0.20 | 51.0 |
| JAN | | | | | | | | | | | |
| 21... | 1115 | 0.21 | 8100 | 8.1 | 0.0 | 13.0 | 2.1 | 21 | 0.58 | 1.4 | 39.0 |
| FEB | | | | | | | | | | | |
| 25... | 1115 | 0.21 | 5540 | 8.2 | 2.5 | 10.2 | <1.8 | 9 | 0.23 | 1.0 | 26.0 |
| MAR | | | | | | | | | | | |
| 24... | 1145 | 0.15 | 6620 | 8.1 | 13.0 | 12.6 | 1.3 | 17 | 0.06 | 1.0 | 35.0 |
| APR | | | | | | | | | | | |
| 21... | 1315 | 0.14 | 6000 | 8.3 | 22.0 | 11.2 | >1.4 | 30 | 0.07 | 1.1 | 28.0 |
| MAY | | | | | | | | | | | |
| 19... | 1330 | 7.0 | 1700 | 8.3 | 12.5 | 8.4 | 7.7 | 1510 | 0.12 | 3.1 | 7.80 |
| JUN | | | | | | | | | | | |
| 16... | 1145 | 0.10 | 5760 | 8.0 | 26.0 | 10.6 | 1.7 | 5 | 0.06 | 1.2 | 22.0 |
| JUL | | | | | | | | | | | |
| 28... | 1245 | 0.07 | 7870 | 8.2 | 24.5 | 10.0 | <0.9 | 6 | 0.09 | 1.6 | 7.10 |
| AUG | | | | | | | | | | | |
| 25... | 1115 | 0.16 | 5950 | 8.1 | 22.0 | 8.3 | 0.6 | 7 | 0.11 | 1.2 | 31.0 |
| SEP | | | | | | | | | | | |
| 29... | 1230 | 0.06 | 7410 | 8.1 | 12.0 | 10.4 | 1.2 | 28 | 0.07 | 1.5 | 48.0 |

E ESTIMATED

ARKANSAS RIVER BASIN

07105800 FOUNTAIN CREEK AT SECURITY, CO

LOCATION.--Lat 38°43'46", long 104°44'00", in SW¼ 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.

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WDR CO-85-1: 1984 (M).

GAGE.--Water-stage recorder. 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: Dec. 15-16, Jan. 3-7, and May 9-12. Records good except those above 2,000 ft³/s, which are fair, and estimated daily discharges, 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.

AVERAGE DISCHARGE.--24 years, 84.5 ft³/s; 61,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s, July 24, 1965, gage height, 11.30 ft, site and datum then in use, from floodmarks, from rating curve extended above 2,900 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 1.9 ft³/s, Mar. 1, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,320 ft³/s at 1545 Aug. 9, gage height, 7.10 ft, from rating curve based on slope-area measurements of peak flow; minimum daily, 52 ft³/s, July 4, Sept. 25-26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|------|------|---------|--------|-------|--------|------|------|------|------|
| 1 | 126 | 97 | 69 | 82 | 98 | 105 | 95 | 81 | 105 | 71 | 65 | 80 |
| 2 | 126 | 107 | 76 | 82 | 91 | 158 | 94 | 105 | 85 | 62 | 59 | 62 |
| 3 | 116 | 110 | 80 | 80 | 103 | 124 | 97 | 90 | 70 | 55 | 64 | 60 |
| 4 | 110 | 111 | 75 | 78 | 94 | 124 | 113 | 83 | 69 | 52 | 677 | 60 |
| 5 | 110 | 112 | 69 | 76 | 84 | 125 | 119 | 74 | 81 | 64 | 574 | 58 |
| 6 | 116 | 116 | 75 | 75 | 84 | 119 | 112 | 94 | 83 | 76 | 161 | 59 |
| 7 | 107 | 118 | 78 | 75 | 94 | 126 | 101 | 129 | 66 | 219 | 165 | 53 |
| 8 | 118 | 103 | 75 | 77 | 91 | 104 | 98 | 104 | 58 | 137 | 160 | 55 |
| 9 | 128 | 99 | 71 | 78 | 97 | 97 | 116 | 66 | 225 | 426 | 529 | 54 |
| 10 | 126 | 99 | 77 | 95 | 122 | 93 | 126 | 72 | 204 | 106 | 184 | 59 |
| 11 | 125 | 90 | 79 | 145 | 122 | 85 | 117 | 76 | 94 | 88 | 149 | 61 |
| 12 | 124 | 98 | 80 | 123 | 132 | 88 | 113 | 62 | 97 | 84 | 144 | 127 |
| 13 | 116 | 103 | 83 | 97 | 116 | 108 | 112 | 67 | 83 | 81 | 135 | 92 |
| 14 | 348 | 108 | 78 | 103 | 93 | 102 | 115 | 79 | 69 | 77 | 123 | 79 |
| 15 | 133 | 116 | 72 | 120 | 93 | 96 | 113 | 74 | 220 | 76 | 123 | 71 |
| 16 | 124 | 118 | 74 | 92 | 101 | 99 | 106 | 65 | 79 | 78 | 118 | 57 |
| 17 | 107 | 96 | 77 | 87 | 108 | 99 | 104 | 60 | 63 | 81 | 142 | 57 |
| 18 | 124 | 89 | 91 | 96 | 100 | 95 | 116 | 71 | 62 | 79 | 146 | 57 |
| 19 | 128 | 84 | 91 | 90 | 98 | 97 | 122 | 233 | 92 | 102 | 109 | 56 |
| 20 | 124 | 88 | 102 | 94 | 101 | 108 | 126 | 246 | 68 | 71 | 90 | 55 |
| 21 | 103 | 88 | 85 | 95 | 105 | 109 | 125 | 122 | 115 | 70 | 88 | 55 |
| 22 | 99 | 90 | 93 | 103 | 101 | 105 | 124 | 110 | 180 | 64 | 88 | 57 |
| 23 | 103 | 85 | 82 | 103 | 90 | 96 | 116 | 122 | 286 | 64 | 101 | 56 |
| 24 | 103 | 84 | 91 | 95 | 87 | 97 | 122 | 117 | 141 | 68 | 126 | 55 |
| 25 | 103 | 80 | 72 | 91 | 89 | 99 | 94 | 123 | 79 | 69 | 87 | 52 |
| 26 | 107 | 102 | 71 | 86 | 86 | 97 | 89 | 128 | 159 | 69 | 82 | 52 |
| 27 | 103 | 89 | 74 | 88 | 85 | 99 | 77 | 120 | 285 | 64 | 77 | 55 |
| 28 | 99 | 76 | 75 | 101 | 99 | 113 | 83 | 116 | 127 | 77 | 77 | 54 |
| 29 | 103 | 77 | 81 | 114 | 104 | 98 | 79 | 100 | 115 | 269 | 69 | 57 |
| 30 | 115 | 71 | 86 | 107 | --- | 99 | 83 | 92 | 119 | 139 | 74 | 57 |
| 31 | 111 | --- | 82 | 110 | --- | 108 | --- | 141 | --- | 80 | 76 | --- |
| TOTAL | 3785 | 2909 | 2464 | 2938 | 2868 | 3272 | 3207 | 3222 | 3579 | 3118 | 4862 | 1862 |
| MEAN | 122 | 97.0 | 79.5 | 94.8 | 98.9 | 106 | 107 | 104 | 119 | 101 | 157 | 62.1 |
| MAX | 348 | 118 | 102 | 145 | 132 | 158 | 126 | 246 | 286 | 426 | 677 | 127 |
| MIN | 99 | 71 | 69 | 75 | 84 | 85 | 77 | 60 | 58 | 52 | 59 | 52 |
| AC-FT | 7510 | 5770 | 4890 | 5830 | 5690 | 6490 | 6360 | 6390 | 7100 | 6180 | 9640 | 3690 |
| CAL YR 1987 | TOTAL | 52174 | MEAN | 143 | MAX 773 | MIN 63 | AC-FT | 103500 | | | | |
| WTR YR 1988 | TOTAL | 38086 | MEAN | 104 | MAX 677 | MIN 52 | AC-FT | 75540 | | | | |

ARKANSAS RIVER BASIN

231

07105820 CLOVER DITCH DRAIN NEAR WIDEFIELD, CO

LOCATION.--Lat 38°43'07", long 104°43'43", in SW¼NE¼ sec.25, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 200 ft downstream from Fort Carson Military Road No. 1, 500 ft upstream from bridge on Interstate 25, 0.2 mi upstream from mouth, and 1.2 mi south of Widefield.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1981 to September 1987. October 1987 to September 1988 seasonal only (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 5,620 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good except those above 70 ft³/s, which are poor. This station is operated primarily to monitor low flows downstream from Fort Carson sewage-treatment plant.

AVERAGE DISCHARGE.--6 years (water years 1982-87), 5.47 ft³/s; 3,960 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s, July 28, 1982, gage height, 9.64 ft, from rating curve extended above 50 ft³/s; no flow Oct. 5, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 218 ft³/s at 0100 Aug. 5, gage height, 5.78 ft, from rating curve extended above 70 ft³/s; minimum daily, 1.9 ft³/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| 1 | 2.7 | 3.8 | 4.2 | --- | --- | --- | 3.5 | 4.0 | 4.9 | 3.6 | 11 | 7.7 |
| 2 | 3.0 | 4.4 | 4.3 | --- | --- | --- | 3.7 | 3.7 | 3.2 | 3.2 | 9.3 | 6.2 |
| 3 | 3.9 | 4.2 | 4.3 | --- | --- | --- | 4.0 | 3.4 | 3.9 | 2.9 | 8.3 | 3.1 |
| 4 | 4.8 | 3.3 | 4.7 | --- | --- | --- | 3.6 | 2.6 | 4.5 | 3.4 | 19 | 4.4 |
| 5 | 4.6 | 3.4 | 4.2 | --- | --- | --- | 2.5 | 2.7 | 4.8 | 4.0 | 41 | 3.7 |
| 6 | 4.6 | 4.6 | 4.2 | --- | --- | --- | 2.6 | 3.6 | 4.6 | 3.0 | 6.5 | 3.1 |
| 7 | 3.9 | 4.6 | 4.1 | --- | --- | --- | 3.5 | 4.1 | 3.8 | 3.9 | 6.1 | 1.9 |
| 8 | 3.0 | 4.1 | 3.7 | --- | --- | --- | 3.0 | 4.4 | 3.5 | 4.7 | 6.2 | 2.5 |
| 9 | 3.7 | 4.3 | 3.8 | --- | --- | --- | 3.7 | 3.8 | 6.8 | 4.0 | 5.3 | 2.4 |
| 10 | 4.9 | 4.6 | 4.0 | --- | --- | --- | 6.0 | 4.9 | 11 | 4.4 | 4.8 | 2.6 |
| 11 | 4.9 | 4.1 | 4.2 | --- | --- | --- | 4.0 | 4.7 | 6.1 | 5.8 | 8.6 | 2.7 |
| 12 | 5.1 | 4.2 | 3.2 | --- | --- | --- | 3.3 | 5.1 | 3.9 | 5.5 | 6.1 | 6.2 |
| 13 | 5.1 | 3.9 | 3.6 | --- | --- | --- | 3.5 | 4.1 | 4.4 | 5.4 | 5.6 | 6.2 |
| 14 | 7.6 | 4.3 | 3.9 | --- | --- | --- | 3.4 | 3.6 | 4.0 | 5.3 | 5.8 | 7.9 |
| 15 | 4.1 | 4.1 | --- | --- | --- | --- | 3.6 | 4.1 | 4.4 | 5.5 | 5.0 | 10 |
| 16 | 5.4 | 4.3 | --- | --- | --- | --- | 3.0 | 5.2 | 3.7 | 5.6 | 4.5 | 3.8 |
| 17 | 4.8 | 4.2 | --- | --- | --- | --- | 3.7 | 5.8 | 4.6 | 5.3 | 10 | 3.7 |
| 18 | 4.6 | 4.2 | --- | --- | --- | --- | 4.5 | 5.0 | 4.5 | 5.8 | 10 | 3.6 |
| 19 | 4.5 | 4.9 | --- | --- | --- | --- | 3.9 | 10 | 10 | 6.6 | 8.4 | 2.9 |
| 20 | 3.2 | 4.8 | --- | --- | --- | --- | 2.4 | 7.7 | 9.4 | 3.8 | 10 | 2.7 |
| 21 | 3.8 | 4.7 | --- | --- | --- | --- | 2.8 | 5.6 | 6.8 | 3.0 | 6.9 | 3.2 |
| 22 | 4.4 | 4.3 | --- | --- | --- | --- | 3.6 | 5.4 | 12 | 3.5 | 6.7 | 3.8 |
| 23 | 5.0 | 4.3 | --- | --- | --- | --- | 3.0 | 5.7 | 5.8 | 4.0 | 4.1 | 4.2 |
| 24 | 4.6 | 4.0 | --- | --- | --- | --- | 2.7 | 4.8 | 5.9 | 4.1 | 4.3 | 3.3 |
| 25 | 4.1 | 3.9 | --- | --- | --- | --- | 3.7 | 4.2 | 5.1 | 3.8 | 3.5 | 3.7 |
| 26 | 4.3 | 4.0 | --- | --- | --- | --- | 2.7 | 5.0 | 7.2 | 3.0 | 3.6 | 2.9 |
| 27 | 4.4 | 4.0 | --- | --- | --- | --- | 2.6 | 5.4 | 7.3 | 2.8 | 4.3 | 2.3 |
| 28 | 4.6 | 4.1 | --- | --- | --- | --- | 3.6 | 5.2 | 3.8 | 3.3 | 4.0 | 2.7 |
| 29 | 4.3 | 4.8 | --- | --- | --- | --- | 4.5 | 5.9 | 5.1 | 13 | 3.6 | 2.7 |
| 30 | 3.4 | 4.5 | --- | --- | --- | --- | 4.2 | 5.2 | 4.0 | 10 | 3.2 | 3.0 |
| 31 | 3.3 | --- | --- | --- | --- | --- | --- | 7.6 | --- | 9.6 | 4.2 | --- |
| TOTAL | 134.6 | 126.9 | --- | --- | --- | --- | 104.8 | 152.5 | 169.0 | 151.8 | 239.9 | 119.1 |
| MEAN | 4.34 | 4.23 | --- | --- | --- | --- | 3.49 | 4.92 | 5.63 | 4.90 | 7.74 | 3.97 |
| MAX | 7.6 | 4.9 | --- | --- | --- | --- | 6.0 | 10 | 12 | 13 | 41 | 10 |
| MIN | 2.7 | 3.3 | --- | --- | --- | --- | 2.4 | 2.6 | 3.2 | 2.8 | 3.2 | 1.9 |
| AC-FT | 267 | 252 | --- | --- | --- | --- | 208 | 302 | 335 | 301 | 476 | 236 |

ARKANSAS RIVER BASIN

07105820 CLOVER DITCH DRAIN NEAR WIDEFIELD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|---|--|--|--|
| OCT | | | | | | | | | | | |
| 22... | 1445 | 4.8 | 1650 | 8.1 | 14.5 | 9.1 | 18 | 5 | 4.90 | 11 | 6.70 |
| NOV | | | | | | | | | | | |
| 18... | 1515 | 5.6 | 1430 | 8.2 | 9.0 | 8.4 | 18 | 8 | 6.00 | 5.2 | 6.50 |
| DEC | | | | | | | | | | | |
| 17... | 1430 | 3.9 | 1510 | 8.1 | 8.0 | 9.2 | 28 | 14 | 10.0 | 12 | 5.90 |
| JAN | | | | | | | | | | | |
| 21... | 0930 | 5.0 | 1570 | 8.0 | 5.0 | 8.8 | 29 | 10 | 11.0 | 16 | 4.40 |
| FEB | | | | | | | | | | | |
| 25... | 1015 | 5.0 | 1470 | 8.0 | 9.5 | 10.0 | 37 | 40 | 14.0 | 21 | 7.00 |
| MAR | | | | | | | | | | | |
| 24... | 1030 | 3.0 | 1510 | 8.2 | 12.0 | 10.0 | -- | 13 | 10.0 | 21 | 3.30 |
| APR | | | | | | | | | | | |
| 21... | 1130 | 2.9 | 1430 | 8.7 | 18.0 | 11.2 | 20 | 8 | 4.60 | 6.7 | 5.90 |
| MAY | | | | | | | | | | | |
| 19... | 1130 | 6.9 | 1560 | 7.8 | 14.0 | 8.8 | 35 | 78 | 2.10 | 3.4 | 4.70 |
| JUN | | | | | | | | | | | |
| 16... | 1000 | 3.3 | 1460 | 7.8 | 18.5 | 7.2 | 11 | 10 | 1.90 | 2.8 | 0.90 |
| JUL | | | | | | | | | | | |
| 28... | 1030 | 3.3 | 1520 | 7.7 | 22.0 | 7.6 | 9.3 | 4 | 1.40 | 2.6 | 7.70 |
| AUG | | | | | | | | | | | |
| 25... | 1000 | 4.5 | 1430 | 7.9 | 22.0 | -- | 6.6 | 10 | 2.20 | 4.9 | 8.20 |
| SEP | | | | | | | | | | | |
| 29... | 1045 | 3.4 | 1470 | 7.9 | 14.0 | 9.0 | 16 | 4 | 6.30 | 6.9 | 4.60 |

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LOCATION.--Lat 38°41'04", long 104°41'17", in NW¼SE¼ sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of bridge on county road, 1,000 ft east of Fountain, and 1.5 mi upstream from mouth.

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. 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.

REMARKS.--Estimated daily discharges: Jan. 1-9, 13, 18-21, 24-25, and Feb. 5-6. Records fair due to unstable channel conditions, except for estimated daily discharges, and those from 50 to 1,000 ft³/s, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years, 2.46 ft³/s; 1,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,600 ft³/s, July 28, 1985, gage height, 6.25 ft, from floodmark, from rating curve extended above 1,300 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.20 ft³/s, July 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 298 ft³/s at 2400 June 9, gage height, 6.83 ft; minimum daily, 0.67 ft³/s, Dec. 16.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|------|-----------|---------|---------|------------|-------|-------|--------|-------|-------|-------|
| 1 | 1.4 | 2.0 | 1.2 | .68 | 1.5 | 2.0 | 1.3 | 1.1 | 1.0 | 1.2 | 1.2 | 1.3 |
| 2 | 1.4 | 1.9 | 1.2 | .75 | 1.5 | 2.0 | 1.2 | 1.1 | .98 | 1.1 | 1.3 | .88 |
| 3 | 1.4 | 1.8 | 1.2 | .85 | 1.5 | 1.9 | 1.2 | 1.1 | .98 | 1.0 | 1.2 | .90 |
| 4 | 1.5 | 2.1 | 1.1 | .80 | 1.5 | 1.9 | 1.1 | 1.2 | .98 | .84 | 1.4 | .92 |
| 5 | 1.6 | 2.1 | 1.1 | .78 | 1.5 | 1.9 | 1.1 | .98 | .97 | .76 | 1.1 | .83 |
| 6 | 1.5 | 1.8 | 1.0 | .76 | 1.5 | 1.8 | 1.0 | .96 | .93 | .68 | 1.2 | .75 |
| 7 | 1.4 | 1.8 | .95 | 1.2 | 1.6 | 1.7 | 1.0 | .99 | 4.5 | .91 | 1.2 | .77 |
| 8 | 1.4 | 1.7 | .90 | 1.0 | 1.7 | 1.6 | 1.0 | .98 | 4.1 | 1.1 | 1.5 | .79 |
| 9 | 1.3 | 1.6 | .89 | .90 | 1.9 | 1.7 | 1.0 | 1.0 | 31 | 1.1 | 1.4 | .81 |
| 10 | 1.3 | 1.6 | .92 | .96 | 1.8 | 1.5 | 1.0 | 1.0 | 53 | .96 | 1.4 | .81 |
| 11 | 1.2 | 1.6 | .95 | 1.1 | 1.9 | 1.5 | 1.1 | 1.0 | 3.0 | 1.2 | 3.2 | .88 |
| 12 | 1.4 | 1.7 | .94 | 1.0 | 1.9 | 1.5 | 1.1 | 1.0 | 2.1 | 1.3 | 1.5 | .93 |
| 13 | 1.5 | 1.6 | .91 | .96 | 2.0 | 1.2 | 1.2 | .98 | 1.4 | 1.4 | 1.4 | .95 |
| 14 | 1.6 | 1.7 | .91 | .95 | 2.0 | 1.6 | 1.1 | .98 | 1.6 | 1.5 | 1.2 | 1.0 |
| 15 | 1.6 | 1.7 | .79 | .91 | 2.0 | 1.3 | 1.4 | .98 | 2.0 | 1.6 | 1.3 | 1.0 |
| 16 | 1.6 | 1.7 | .67 | .85 | 1.9 | 1.2 | .95 | .97 | 1.3 | 1.6 | 1.3 | .90 |
| 17 | 1.7 | 1.6 | .69 | .79 | 2.0 | 1.2 | 1.0 | .92 | 1.3 | 1.6 | 1.2 | .97 |
| 18 | 1.8 | 1.6 | .74 | .78 | 2.1 | 1.3 | 1.2 | .98 | 1.2 | 1.7 | 1.2 | .99 |
| 19 | 1.7 | 1.7 | .74 | .80 | 2.1 | 1.3 | 1.2 | 1.0 | 1.2 | 1.9 | 1.1 | 1.0 |
| 20 | 1.6 | 1.7 | .77 | .85 | 2.1 | 1.1 | 1.4 | 1.0 | 1.1 | 1.5 | 1.2 | 1.1 |
| 21 | 1.7 | 1.7 | .74 | .95 | 2.2 | 1.2 | 1.3 | 1.0 | 1.1 | 1.5 | 1.2 | 1.2 |
| 22 | 1.8 | 1.6 | .76 | 1.1 | 2.2 | 1.1 | 1.5 | 1.0 | 1.1 | 1.6 | 1.2 | 1.3 |
| 23 | 1.7 | 1.6 | .78 | 1.2 | 2.2 | 1.0 | 1.0 | 1.1 | 1.2 | 1.6 | 1.2 | 1.4 |
| 24 | 1.6 | 1.5 | .73 | 1.1 | 2.1 | .98 | 1.1 | 1.1 | 1.2 | 1.6 | 1.0 | 1.3 |
| 25 | 1.7 | 1.5 | .76 | 1.2 | 2.2 | .95 | 1.0 | 1.1 | 1.2 | 1.5 | .94 | 1.3 |
| 26 | 1.7 | 1.4 | .80 | 1.3 | 2.1 | .98 | 1.0 | 1.0 | 1.2 | 1.4 | .89 | 1.3 |
| 27 | 1.8 | 1.3 | .79 | 1.3 | 2.0 | .94 | 1.0 | 1.0 | 1.2 | 1.3 | .84 | 1.3 |
| 28 | 1.8 | 1.2 | .79 | 1.4 | 1.9 | 1.1 | 1.1 | 1.1 | 1.3 | 1.4 | .85 | 1.3 |
| 29 | 1.7 | 1.2 | .77 | 1.4 | 2.0 | 1.1 | 1.1 | 1.1 | 1.3 | 1.2 | .87 | 1.3 |
| 30 | 1.8 | 1.2 | .75 | 1.4 | --- | 1.4 | 1.0 | 1.2 | 1.3 | 1.2 | .85 | 1.2 |
| 31 | 1.9 | --- | .69 | 1.4 | --- | 1.5 | --- | 1.1 | --- | 1.2 | 1.0 | --- |
| TOTAL | 49.1 | 49.2 | 26.93 | 31.42 | 54.9 | 43.45 | 33.65 | 32.02 | 126.74 | 40.45 | 38.34 | 31.38 |
| MEAN | 1.58 | 1.64 | .87 | 1.01 | 1.89 | 1.40 | 1.12 | 1.03 | 4.22 | 1.30 | 1.24 | 1.05 |
| MAX | 1.9 | 2.1 | 1.2 | 1.4 | 2.2 | 2.0 | 1.5 | 1.2 | 53 | 1.9 | 3.2 | 1.4 |
| MIN | 1.2 | 1.2 | .67 | .68 | 1.5 | .94 | .95 | .92 | .93 | .68 | .84 | .75 |
| AC-FT | 97 | 98 | 53 | 62 | 109 | 86 | 67 | 64 | 251 | 80 | 76 | 62 |
| CAL YR 1987 | TOTAL 654.03 | | MEAN 1.79 | MAX 5.2 | MIN .67 | AC-FT 1300 | | | | | | |
| WTR YR 1988 | TOTAL 557.58 | | MEAN 1.52 | MAX 53 | MIN .67 | AC-FT 1110 | | | | | | |

ARKANSAS RIVER BASIN

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO

LOCATION.--Lat 38°37'50", long 104°40'50", in SW¼NW¼ sec.28, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, approximately 1 mi upstream from mouth of Little Fountain Creek below Fountain.

PERIOD OF RECORD.--April 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|--|---|
| OCT 21... | 1115 | 76 | 1060 | 8.1 | 11.0 | 8.4 | 14 | K95 | K120 | 44 |
| NOV 18... | 1200 | 87 | 1060 | 8.2 | 7.5 | 9.0 | 20 | K76 | K95 | 58 |
| DEC 16... | 1215 | 87 | 1140 | 8.2 | 1.0 | -- | 28 | K51 | 180 | 80 |
| JAN 20... | 1300 | 94 | 1130 | 8.1 | 1.0 | 10.0 | 35 | 160 | 340 | 129 |
| FEB 24... | 1400 | 75 | 1110 | 7.9 | 9.0 | 9.1 | 17 | <10 | 260 | 79 |
| MAR 23... | 1430 | 130 | 985 | 7.8 | 16.5 | 6.4 | E20 | <33 | 80 | 141 |
| APR 20... | 1330 | 72 | 845 | 7.6 | 17.5 | 6.6 | 8.7 | K10 | 100 | 113 |
| MAY 18... | 1715 | 40 | 1210 | 7.8 | 21.0 | 8.0 | E9.6 | K65 | K120 | 12 |
| JUN 15... | 1345 | 149 | 578 | 7.9 | 19.0 | 6.1 | 7.5 | 30 | 9100 | 1130 |
| JUL 27... | 1415 | 32 | 1220 | 7.9 | 25.0 | 4.9 | E5.1 | 88 | 120 | 1 |
| AUG 24... | 1430 | 69 | 939 | 7.8 | 26.0 | 5.4 | E7.2 | 1000 | 1800 | 230 |
| SEP 28... | 1300 | 40 | -- | 7.7 | 15.0 | 7.0 | E11 | K57 | 190 | 45 |

| DATE | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) | IRON, TOTAL RECOV- ERABLE (UG/L AS FE) | LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|--------------|--|--|--|---|---|---|---|---|---|
| OCT 21... | 2.20 | 3.7 | 4.60 | -- | -- | -- | -- | -- | -- |
| NOV 18... | 2.80 | 4.1 | 4.60 | -- | -- | -- | -- | -- | -- |
| DEC 16... | 3.50 | 5.0 | 4.60 | -- | -- | -- | -- | -- | -- |
| JAN 20... | 6.00 | 8.5 | 3.60 | -- | 2 | 16 | 5700 | 6 | 90 |
| FEB 24... | 1.50 | 4.7 | 4.00 | 1 | 1 | 11 | 1700 | <5 | 50 |
| MAR 23... | 2.80 | 2.9 | 4.70 | 1 | 2 | 10 | 4200 | <5 | 60 |
| APR 20... | 0.66 | 1.2 | 4.30 | 1 | <1 | 13 | 3600 | 23 | 40 |
| MAY 18... | 0.31 | 0.90 | 4.80 | 1 | <1 | 5 | 680 | <5 | 40 |
| JUN 15... | 0.06 | 2.6 | 2.60 | <1 | <1 | 150 | 22000 | 40 | 650 |
| JUL 27... | 0.36 | 0.70 | 4.50 | <1 | <1 | 5 | 640 | 7 | 20 |
| AUG 24... | 0.08 | 2.0 | 3.70 | 2 | <1 | 11 | 7300 | <5 | 60 |
| SEP 28... | 1.20 | 2.1 | 4.60 | <1 | 1 | 10 | 1400 | <5 | 50 |

E ESTIMATED
K BASED ON NON IDEAL COLONY COUNT

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'54", long 104°51'29", in NE¼SW¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 100 ft above Keaton Reservoir, 0.7 mi upstream from State Highway 115, and 4.8 mi southwest of Fort Carson.

DRAINAGE AREA.--11.0 mi².

PERIOD OF RECORD.--May 1978 to September 1987. October 1987 to September 1988, seasonal record only (discontinued). Water-quality data available, May 1978 to September 1982.

REVISED RECORDS.--WDR CO-80-1: 1979.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,430 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 9-15, and Nov. 2-15. Records good except for estimated daily discharges, which are poor. No diversions upstream from station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years (water years 1979-87), 6.00 ft³/s; 4,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 513 ft³/s, June 3, 1981, gage height, 3.72 ft, from floodmark, from rating curve extended above 70 ft³/s, on basis of slope-area measurement of peak flow; no flow, Aug. 22-28, Sept. 8-24, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| Aug. 5 | 0215 | *14 | *1.07 | No other peak greater than base discharge. | | | |

Minimum daily discharge, 0.20 ft³/s, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| 1 | 1.4 | 1.1 | --- | --- | --- | --- | --- | --- | 2.0 | 1.6 | .29 | .77 |
| 2 | 1.3 | 1.0 | --- | --- | --- | --- | --- | --- | 1.8 | 1.4 | .26 | 1.2 |
| 3 | 1.2 | 1.0 | --- | --- | --- | --- | --- | --- | 1.7 | 1.3 | .31 | .69 |
| 4 | 1.2 | 1.0 | --- | --- | --- | --- | --- | --- | 1.6 | 1.1 | 1.7 | .53 |
| 5 | 1.1 | 1.0 | --- | --- | --- | --- | --- | --- | 1.5 | 1.2 | 6.7 | .46 |
| 6 | 1.1 | 1.0 | --- | --- | --- | --- | --- | --- | 1.5 | .93 | 2.7 | .39 |
| 7 | 1.1 | .98 | --- | --- | --- | --- | --- | --- | 1.3 | .73 | 2.0 | .36 |
| 8 | 1.1 | .96 | --- | --- | --- | --- | --- | --- | 1.2 | .73 | 2.4 | .29 |
| 9 | 1.2 | .93 | --- | --- | --- | --- | --- | --- | 1.2 | .72 | 1.9 | .28 |
| 10 | 1.3 | .93 | --- | --- | --- | --- | --- | --- | 1.7 | .74 | 1.6 | .24 |
| 11 | 1.4 | .92 | --- | --- | --- | --- | --- | --- | 2.0 | .74 | 1.4 | .20 |
| 12 | 1.4 | .92 | --- | --- | --- | --- | --- | --- | 1.5 | .62 | 1.2 | .51 |
| 13 | 1.4 | .90 | --- | --- | --- | --- | --- | --- | 1.3 | .52 | 1.0 | .75 |
| 14 | 2.8 | .90 | --- | --- | --- | --- | --- | --- | 1.2 | .47 | .90 | .85 |
| 15 | 2.4 | 1.4 | --- | --- | --- | --- | --- | --- | 1.3 | .45 | .76 | .85 |
| 16 | 1.9 | 1.1 | --- | --- | --- | --- | --- | --- | 1.2 | .45 | .68 | .74 |
| 17 | 1.5 | 1.1 | --- | --- | --- | --- | --- | --- | 1.0 | .53 | .96 | .55 |
| 18 | 1.4 | 1.2 | --- | --- | --- | --- | --- | --- | .96 | .66 | 1.5 | .44 |
| 19 | 1.3 | 1.2 | --- | --- | --- | --- | --- | --- | .96 | .66 | 1.1 | .38 |
| 20 | 1.3 | 1.3 | --- | --- | --- | --- | --- | --- | .96 | .82 | .91 | .38 |
| 21 | 1.2 | 1.1 | --- | --- | --- | --- | --- | --- | 1.2 | .66 | .77 | .36 |
| 22 | 1.1 | 1.2 | --- | --- | --- | --- | --- | --- | 1.6 | .49 | .69 | .35 |
| 23 | 1.2 | 1.1 | --- | --- | --- | --- | --- | --- | 1.3 | .44 | 1.0 | .45 |
| 24 | 1.2 | --- | --- | --- | --- | --- | --- | --- | 1.9 | .41 | 1.1 | .46 |
| 25 | 1.1 | --- | --- | --- | --- | --- | --- | --- | 1.2 | .41 | .81 | .41 |
| 26 | 1.1 | --- | --- | --- | --- | --- | --- | --- | 1.0 | .36 | .70 | .34 |
| 27 | 1.1 | --- | --- | --- | --- | --- | --- | --- | 2.6 | 1.6 | .61 | .33 |
| 28 | 1.1 | --- | --- | --- | --- | --- | --- | --- | 2.6 | 1.7 | .33 | .66 |
| 29 | 1.1 | --- | --- | --- | --- | --- | --- | --- | 2.4 | 2.5 | .33 | .67 |
| 30 | 1.1 | --- | --- | --- | --- | --- | --- | --- | 2.1 | 2.2 | .37 | .64 |
| 31 | 1.1 | --- | --- | --- | --- | --- | --- | --- | 2.1 | --- | .25 | .56 |
| TOTAL | 41.2 | --- | --- | --- | --- | --- | --- | --- | 44.08 | 20.78 | 38.48 | 14.53 |
| MEAN | 1.33 | --- | --- | --- | --- | --- | --- | --- | 1.47 | .67 | 1.24 | .48 |
| MAX | 2.8 | --- | --- | --- | --- | --- | --- | --- | 2.5 | 1.6 | 6.7 | 1.2 |
| MIN | 1.1 | --- | --- | --- | --- | --- | --- | --- | .96 | .25 | .26 | .20 |
| AC-FT | 82 | --- | --- | --- | --- | --- | --- | --- | 87 | 41 | 76 | 29 |

ARKANSAS RIVER BASIN

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07105928 LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'49", long 104°51'08", in SW¼SE¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.3 mi downstream from Keaton Reservoir, 0.4 mi upstream from State Highway 115, 1.2 mi upstream from Deadman Canyon and 4.8 mi southwest of Fort Carson.

DRAINAGE AREA.--11.8 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to current year. Water-quality data available, May to September 1978.

REVISED RECORDS.--WDR CO-80-1: 1979.

GAGE.--Water-stage recorder. Elevation of gage is 6,360 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 14-16, 24-28, and Jan 27 to Feb.3. Records good except for estimated daily discharges, which are poor. Womack Ditch diverts about 5.0 ft³/s from Keaton Reservoir upstream. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 4.49 ft³/s; 3,250 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 224 ft³/s, Oct. 4, 1984, gage height, 5.04 ft, from rating curve extended above 80 ft³/s; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8.5 ft³/s at 0300 Aug. 5, gage height, 2.61 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|-------|-------|------|-------|------|------|-------|------|
| 1 | .00 | .25 | .12 | .05 | .45 | .71 | 1.3 | 1.2 | .98 | .89 | .11 | .03 |
| 2 | .03 | .20 | .14 | .03 | .50 | .73 | 1.4 | 1.2 | .32 | .65 | .08 | .70 |
| 3 | .28 | .19 | .18 | .03 | .50 | .65 | 1.3 | 1.2 | .08 | .58 | .04 | .42 |
| 4 | .28 | .18 | .20 | .02 | .51 | .62 | 1.6 | 1.0 | .03 | .42 | .77 | .24 |
| 5 | .26 | .17 | .30 | .02 | .52 | .57 | 2.0 | .85 | .00 | .35 | 5.2 | .14 |
| 6 | .31 | .17 | .31 | .01 | .49 | .69 | 2.0 | .70 | .00 | .38 | 2.2 | .08 |
| 7 | .32 | .16 | .25 | .01 | .53 | .73 | 2.4 | .53 | .00 | .25 | 1.7 | .03 |
| 8 | .32 | .14 | .27 | .01 | .51 | .46 | 2.6 | .32 | .00 | .21 | 1.9 | .0 |
| 9 | .35 | .12 | .08 | .02 | .49 | .73 | 2.1 | .08 | .00 | .17 | 1.6 | .00 |
| 10 | .39 | .12 | .26 | .01 | .49 | .80 | 1.8 | .05 | .00 | .17 | 1.5 | .00 |
| 11 | .45 | .12 | .31 | .0 | .49 | .65 | 1.9 | .04 | .52 | .19 | 1.3 | .00 |
| 12 | .46 | .12 | .13 | .00 | .49 | .52 | 1.9 | .03 | .55 | .14 | 1.1 | .00 |
| 13 | .46 | .11 | .04 | .00 | .51 | .74 | 1.8 | .08 | .38 | .07 | .82 | .01 |
| 14 | 1.4 | .12 | .03 | .01 | .51 | .71 | 1.6 | .07 | .27 | .06 | .69 | .27 |
| 15 | 1.1 | .44 | .02 | .01 | .49 | .69 | 1.5 | .03 | .22 | .04 | .57 | .37 |
| 16 | .83 | .20 | .10 | .00 | .51 | .67 | 1.6 | .03 | .23 | .02 | .45 | .08 |
| 17 | .74 | .11 | .17 | .00 | .49 | .67 | 2.0 | .01 | .15 | .02 | .40 | .01 |
| 18 | .67 | .11 | .18 | .00 | .47 | .66 | 2.1 | .01 | .10 | .02 | .81 | .0 |
| 19 | .64 | .28 | .16 | .00 | .49 | .65 | 2.5 | .01 | .01 | .19 | .63 | .00 |
| 20 | .65 | .29 | .17 | .00 | .49 | .80 | 2.5 | .37 | .01 | .55 | .45 | .00 |
| 21 | .64 | .31 | .15 | .00 | .48 | 1.1 | 2.5 | .65 | .00 | .57 | .25 | .00 |
| 22 | .61 | .31 | .15 | .00 | .49 | 1.3 | 2.6 | .62 | .29 | .45 | .13 | .00 |
| 23 | .60 | .21 | .17 | .00 | .48 | 1.3 | 2.5 | .69 | .29 | .27 | .25 | .00 |
| 24 | .56 | .18 | .14 | .00 | .50 | 1.4 | 2.3 | 1.4 | .54 | .18 | .54 | .00 |
| 25 | .48 | .05 | .10 | .00 | .53 | 1.1 | 2.0 | 1.5 | .44 | .15 | .31 | .00 |
| 26 | .40 | .17 | .10 | .00 | .55 | 1.3 | 1.8 | 1.5 | .24 | .14 | .12 | .00 |
| 27 | .34 | .25 | .12 | .03 | .63 | 1.5 | 1.7 | 1.5 | .42 | .13 | .05 | .00 |
| 28 | .29 | .20 | .14 | .10 | .71 | 1.7 | 1.5 | 1.5 | .63 | .12 | .02 | .00 |
| 29 | .28 | .18 | .17 | .20 | .69 | 1.3 | 1.4 | 1.4 | 1.2 | .14 | .00 | .00 |
| 30 | .30 | .16 | .17 | .30 | --- | 1.5 | 1.6 | 1.2 | 1.3 | .20 | .00 | .00 |
| 31 | .32 | --- | .11 | .35 | --- | .95 | --- | 1.2 | --- | .16 | .00 | --- |
| TOTAL | 14.76 | 5.62 | 4.94 | 1.21 | 14.99 | 27.90 | 57.8 | 20.97 | 9.20 | 7.88 | 23.99 | 2.38 |
| MEAN | .48 | .19 | .16 | .039 | .52 | .90 | 1.93 | .68 | .31 | .25 | .77 | .079 |
| MAX | 1.4 | .44 | .31 | .35 | .71 | 1.7 | 2.6 | 1.5 | 1.3 | .89 | 5.2 | .70 |
| MIN | .00 | .05 | .02 | .00 | .45 | .46 | 1.3 | .01 | .00 | .02 | .00 | .00 |
| AC-FT | 29 | 11 | 9.8 | 2.4 | 30 | 55 | 115 | 42 | 18 | 16 | 48 | 4.7 |

CAL YR 1987 TOTAL 2220.22 MEAN 6.08 MAX 48 MIN .00 AC-FT 4400
WTR YR 1988 TOTAL 191.64 MEAN .52 MAX 5.2 MIN .00 AC-FT 380

ARKANSAS RIVER BASIN

07105940 LITTLE FOUNTAIN CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°38'33", long 104°44'49", in NE¼SW¼ sec.23, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation, on right bank 300 ft downstream from Military Road No. 1, 0.4 mi upstream from mouth of Rock Creek, 3.8 mi southwest of Fountain.

DRAINAGE AREA.--26.9 mi².

PERIOD OF RECORD.--May 1978 to September 1987. October to September 1988, seasonal record only (discontinued).

REVISED RECORDS.--WDR CO-85-1: 1984 (M).

GAGE.--Water-stage recorder. Elevation of gage is 5,560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: June 18-27. Records good except for estimated daily discharges, which are fair. Diversions upstream from station for irrigation, recreation, and municipal use, amount unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years (water years 1979-87), 5.46 ft³/s; 3,960 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft³/s, Aug. 23, 1986, gage height, 8.47 ft, from rating curve extended above 100 ft³/s, on basis of computation of peak flow through a culvert at a gage height of 8.22 ft; no flow many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 79 ft³/s at 1930 June 9, gage height, 4.99 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-----|-----|-----|-----|-----|-------|-------|------|------|------|
| 1 | .27 | .44 | 1.4 | --- | --- | --- | --- | .63 | 1.4 | .10 | .00 | .00 |
| 2 | .23 | .38 | 1.3 | --- | --- | --- | --- | .54 | 1.2 | .08 | .00 | .00 |
| 3 | .27 | .37 | 1.0 | --- | --- | --- | --- | .57 | 1.2 | .08 | .00 | .00 |
| 4 | .27 | .37 | .88 | --- | --- | --- | --- | .65 | 1.0 | .03 | .00 | .00 |
| 5 | .27 | .40 | .75 | --- | --- | --- | --- | .67 | 1.0 | .02 | 2.9 | .00 |
| 6 | .31 | .43 | .72 | --- | --- | --- | --- | .78 | .90 | .00 | .01 | .00 |
| 7 | .33 | .43 | .71 | --- | --- | --- | --- | .88 | .67 | .05 | .00 | .00 |
| 8 | .32 | .43 | --- | --- | --- | --- | --- | .89 | .60 | .03 | .00 | .00 |
| 9 | .36 | .47 | --- | --- | --- | --- | --- | .95 | 8.4 | .01 | .00 | .00 |
| 10 | .43 | .54 | --- | --- | --- | --- | --- | .95 | 1.1 | .19 | .00 | .00 |
| 11 | .46 | .60 | --- | --- | --- | --- | --- | 1.0 | .81 | .20 | .00 | .00 |
| 12 | .43 | .60 | --- | --- | --- | --- | --- | 1.0 | .41 | .02 | .00 | .00 |
| 13 | .41 | .60 | --- | --- | --- | --- | --- | 1.1 | .30 | .00 | .00 | .00 |
| 14 | .86 | .60 | --- | --- | --- | --- | .37 | 1.1 | .28 | .00 | .00 | .00 |
| 15 | .74 | .96 | --- | --- | --- | --- | .37 | .94 | .34 | .00 | .00 | .00 |
| 16 | .72 | .96 | --- | --- | --- | --- | .37 | 1.0 | .23 | .00 | .00 | .00 |
| 17 | .62 | .94 | --- | --- | --- | --- | .36 | .99 | .20 | .00 | .00 | .00 |
| 18 | .60 | .88 | --- | --- | --- | --- | .37 | .99 | .18 | .00 | .00 | .00 |
| 19 | .51 | .91 | --- | --- | --- | --- | .40 | 1.1 | .15 | .00 | .00 | .00 |
| 20 | .59 | 1.0 | --- | --- | --- | --- | .37 | 1.1 | .14 | .01 | .00 | .00 |
| 21 | .67 | 1.0 | --- | --- | --- | --- | .37 | 1.1 | .25 | .00 | .00 | .00 |
| 22 | .61 | 1.0 | --- | --- | --- | --- | .37 | 1.1 | .22 | .00 | .00 | .00 |
| 23 | .51 | .96 | --- | --- | --- | --- | .37 | 1.1 | .20 | .00 | .00 | .00 |
| 24 | .55 | .99 | --- | --- | --- | --- | .39 | 1.2 | .20 | .00 | .00 | .00 |
| 25 | .55 | 1.0 | --- | --- | --- | --- | .43 | 1.3 | .21 | .00 | .00 | .00 |
| 26 | .73 | .95 | --- | --- | --- | --- | .38 | 1.3 | .21 | .00 | .00 | .00 |
| 27 | .72 | 1.1 | --- | --- | --- | --- | .41 | 1.3 | .20 | .00 | .00 | .00 |
| 28 | .61 | 1.1 | --- | --- | --- | --- | .54 | 1.2 | .14 | .00 | .00 | .00 |
| 29 | .51 | 1.1 | --- | --- | --- | --- | .56 | 1.2 | .11 | .01 | .00 | .00 |
| 30 | .51 | 1.2 | --- | --- | --- | --- | .55 | 1.3 | .12 | .03 | .00 | .00 |
| 31 | .50 | --- | --- | --- | --- | --- | --- | 1.4 | --- | .00 | .00 | --- |
| TOTAL | 15.47 | 22.71 | --- | --- | --- | --- | --- | 31.33 | 22.37 | 0.86 | 2.91 | 0.00 |
| MEAN | .50 | .76 | --- | --- | --- | --- | --- | 1.01 | .75 | .028 | .094 | .00 |
| MAX | .86 | 1.2 | --- | --- | --- | --- | --- | 1.4 | 8.4 | .20 | 2.9 | .00 |
| MIN | .23 | .37 | --- | --- | --- | --- | --- | .54 | .11 | .00 | .00 | .00 |
| AC-FT | 31 | 45 | --- | --- | --- | --- | --- | 62 | 44 | 1.7 | 5.8 | .0 |

ARKANSAS RIVER BASIN

239

07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO

LOCATION.--Lat 38°42'27", long 104°50'46", in NW¼NW¼ sec. 36, T. 15 S., R. 67 W., El Paso County, Hydrologic Unit 11020003, on right bank 20 ft 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.--WRD 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: Dec. 14-15, 24-26, Jan. 1-14, 19-21, and Jan. 29 to Feb. 4. Records good except those for periods of estimated daily discharges and those above 60 ft³/s, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 2.84 ft³/s; 2,060 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 276 ft³/s, July 28 1982, gage height, 4.73 ft, from rating curve extended above 60 ft³/s; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------------------|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| Aug. 5 | 0245 | *14 | *2.20 | No other peak greater than base discharge. | | | |
| No flow many days. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|
| 1 | .40 | .37 | .45 | .37 | .45 | .52 | .79 | 1.2 | .61 | .28 | .00 | .19 |
| 2 | .39 | .36 | .48 | .35 | .48 | .56 | .89 | 1.2 | .53 | .20 | .00 | .76 |
| 3 | .39 | .34 | .44 | .35 | .48 | .55 | 1.1 | 1.1 | .47 | .16 | .00 | .25 |
| 4 | .36 | .34 | .45 | .35 | .45 | .54 | 1.4 | 1.1 | .43 | .10 | .03 | .12 |
| 5 | .38 | .34 | .49 | .35 | .52 | .54 | 1.4 | 1.0 | .39 | .14 | 5.6 | .08 |
| 6 | .42 | .34 | .52 | .35 | .46 | .55 | 1.6 | .91 | .35 | .10 | 1.9 | .04 |
| 7 | .46 | .34 | .50 | .38 | .46 | .56 | 1.8 | .86 | .28 | .08 | 1.3 | .02 |
| 8 | .47 | .36 | .48 | .40 | .47 | .54 | 1.8 | .87 | .25 | .09 | 1.2 | .01 |
| 9 | .54 | .36 | .45 | .45 | .49 | .56 | 1.6 | .85 | .28 | .08 | .91 | .00 |
| 10 | .59 | .34 | .48 | .50 | .48 | .57 | 1.5 | .81 | .44 | .08 | .75 | .00 |
| 11 | .63 | .36 | .48 | .52 | .50 | .53 | 1.6 | .79 | .53 | .08 | .62 | .00 |
| 12 | .57 | .34 | .42 | .50 | .46 | .51 | 1.6 | .74 | .38 | .04 | .50 | .04 |
| 13 | .59 | .34 | .43 | .47 | .48 | .57 | 1.5 | .68 | .30 | .02 | .41 | .14 |
| 14 | .90 | .34 | .42 | .45 | .48 | .57 | 1.7 | .64 | .28 | .00 | .30 | .33 |
| 15 | .68 | .42 | .43 | .44 | .53 | .55 | 1.6 | .61 | .28 | .00 | .22 | .40 |
| 16 | .66 | .45 | .44 | .49 | .49 | .51 | 1.6 | .58 | .25 | .00 | .16 | .20 |
| 17 | .61 | .46 | .46 | .52 | .48 | .52 | 1.8 | .55 | .17 | .01 | .31 | .11 |
| 18 | .58 | .46 | .46 | .48 | .51 | .52 | 2.0 | .51 | .14 | .10 | .65 | .07 |
| 19 | .57 | .48 | .44 | .42 | .51 | .62 | 2.2 | .82 | .14 | .05 | .33 | .05 |
| 20 | .53 | .49 | .43 | .40 | .49 | .66 | 2.0 | 1.2 | .12 | .08 | .21 | .04 |
| 21 | .52 | .53 | .45 | .42 | .46 | .71 | 2.1 | .92 | .12 | .04 | .15 | .03 |
| 22 | .50 | .54 | .47 | .45 | .48 | .77 | 2.1 | .81 | .28 | .01 | .12 | .03 |
| 23 | .45 | .52 | .46 | .44 | .46 | .83 | 2.0 | .73 | .27 | .00 | .13 | .06 |
| 24 | .46 | .48 | .41 | .44 | .52 | .77 | 2.0 | .69 | .49 | .00 | .17 | .06 |
| 25 | .45 | .47 | .43 | .45 | .54 | .77 | 1.7 | .66 | .30 | .00 | .08 | .04 |
| 26 | .40 | .50 | .43 | .42 | .49 | .90 | 1.6 | .66 | .25 | .00 | .05 | .02 |
| 27 | .40 | .51 | .41 | .44 | .50 | .99 | 1.5 | .61 | .33 | .00 | .04 | .01 |
| 28 | .39 | .48 | .40 | .46 | .52 | .90 | 1.3 | .59 | .27 | .00 | .06 | .01 |
| 29 | .37 | .47 | .40 | .50 | .52 | .90 | 1.2 | .55 | .33 | .00 | .04 | .02 |
| 30 | .39 | .45 | .42 | .52 | --- | .69 | 1.2 | .55 | .36 | .00 | .03 | .02 |
| 31 | .39 | --- | .40 | .47 | --- | .82 | --- | .64 | --- | .00 | .01 | --- |
| TOTAL | 15.44 | 12.58 | 13.83 | 13.55 | 14.16 | 20.10 | 48.18 | 24.43 | 9.62 | 1.74 | 16.28 | 3.15 |
| MEAN | .50 | .42 | .45 | .44 | .49 | .65 | 1.61 | .79 | .32 | .056 | .53 | .10 |
| MAX | .90 | .54 | .52 | .52 | .54 | .99 | 2.2 | 1.2 | .61 | .28 | 5.6 | .76 |
| MIN | .36 | .34 | .40 | .35 | .45 | .51 | .79 | .51 | .12 | .00 | .00 | .00 |
| AC-FT | 31 | 25 | 27 | 27 | 28 | 40 | 96 | 48 | 19 | 3.5 | 32 | 6.2 |

CAL YR 1987 TOTAL 1174.81 MEAN 3.22 MAX 28 MIN .25 AC-FT 2330
WTR YR 1988 TOTAL 193.06 MEAN .53 MAX 5.6 MIN .00 AC-FT 383

ARKANSAS RIVER BASIN

07105950 ROCK CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°41'49", long 104°49'39", in SW¼SW¼ 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.--No estimated daily discharges: Records fair. Some diversions upstream from station for irrigation and other uses, amounts unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 2.12 ft³/s; 1,540 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 353 ft³/s, July 28, 1982, gage height, 6.09 ft, from floodmark, from rating curve extended above 50 ft³/s; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.22 ft³/s at 1045 May 7, gage height, 3.28 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .09 | .07 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .11 | .06 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 | .05 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .15 | .05 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .18 | .04 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .19 | .04 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .21 | .03 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .22 | .02 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .21 | .02 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .19 | .05 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .19 | .05 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .19 | .04 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .19 | .02 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .16 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .16 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .15 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .15 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .12 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .11 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .11 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .10 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .09 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .08 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | .00 | .00 | .06 | .07 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .06 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 4.39 | 0.54 | 0.00 | 0.00 | 0.00 |
| MEAN | .00 | .00 | .00 | .00 | .00 | .00 | .006 | .14 | .018 | .00 | .00 | .00 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .06 | .22 | .07 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .06 | .00 | .00 | .00 | .00 |
| AC-FT | .0 | .0 | .0 | .0 | .0 | .0 | .3 | 8.7 | 1.1 | .0 | .0 | .0 |

CAL YR 1987 TOTAL 856.24 MEAN 2.35 MAX 32 MIN .00 AC-FT 1700
WTR YR 1988 TOTAL 5.10 MEAN .01 MAX .22 MIN .00 AC-FT 10

ARKANSAS RIVER BASIN

07105960 ROCK CREEK NEAR FOUNTAIN, CO

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LOCATION.--Lat 38°39'16", long 104°44'48", in NE¼SW¼ sec.14, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank at edge of Military Road No. 1 on Fort Carson Military Reservation, 1.1 mi upstream from mouth at Little Fountain Creek and 3.2 mi southwest of Fountain.

DRAINAGE AREA.--16.9 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to September 1987. October to September 1988, seasonal record only (discontinued). Water-quality data available, May 1978 to September 1979.

GAGE.--Water-stage recorder. Elevation of gage is 5,600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Diversions upstream from station for irrigation, and recreation, amounts unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years (water years 1979-87), 3.39 ft³/s; 2,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176 ft³/s, Aug. 2, 1986, gage height, 4.81 ft, from rating curve extended above 50 ft³/s; minimum daily, 0.01 ft³/s, Aug. 31 to Sept. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.2 ft³/s at 1245 Nov. 25, gage height, 2.68 ft; minimum daily, 0.12 ft³/s, Sept. 2, 3, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-----|-----|-----|-----|-----|-------|-------|------|------|------|
| 1 | 1.2 | 1.2 | 1.5 | --- | --- | --- | --- | .62 | .55 | .31 | .18 | .17 |
| 2 | 1.1 | 1.4 | 1.5 | --- | --- | --- | --- | .62 | .55 | .31 | .18 | .12 |
| 3 | 1.1 | 1.3 | 1.5 | --- | --- | --- | --- | .62 | .55 | .28 | .17 | .12 |
| 4 | 1.1 | 1.5 | 1.5 | --- | --- | --- | --- | .62 | .51 | .27 | .19 | .13 |
| 5 | 1.0 | 1.6 | 1.5 | --- | --- | --- | --- | .62 | .52 | .26 | .19 | .12 |
| 6 | 1.0 | 1.6 | 1.6 | --- | --- | --- | --- | .62 | .50 | .26 | .18 | .13 |
| 7 | .98 | 1.6 | 1.5 | --- | --- | --- | --- | .64 | .48 | .27 | .18 | .13 |
| 8 | 1.1 | 1.6 | --- | --- | --- | --- | --- | .64 | .47 | .27 | .18 | .13 |
| 9 | 1.1 | 1.8 | --- | --- | --- | --- | --- | .63 | .60 | .27 | .18 | .13 |
| 10 | 1.2 | 1.6 | --- | --- | --- | --- | --- | .62 | .51 | .26 | .18 | .13 |
| 11 | 1.2 | 1.5 | --- | --- | --- | --- | --- | .62 | .51 | .24 | .17 | .13 |
| 12 | 1.2 | 1.5 | --- | --- | --- | --- | --- | .62 | .49 | .23 | .17 | .17 |
| 13 | 1.2 | 1.5 | --- | --- | --- | --- | --- | .62 | .49 | .22 | .17 | .17 |
| 14 | 1.6 | 1.5 | --- | --- | --- | --- | --- | .62 | .48 | .22 | .17 | .17 |
| 15 | 1.6 | 1.5 | --- | --- | --- | --- | --- | .62 | .51 | .23 | .17 | .17 |
| 16 | 1.5 | 1.5 | --- | --- | --- | --- | --- | .62 | .46 | .24 | .18 | .16 |
| 17 | 1.6 | 1.5 | --- | --- | --- | --- | --- | .62 | .44 | .24 | .18 | .15 |
| 18 | 1.6 | 1.5 | --- | --- | --- | --- | --- | .64 | .42 | .22 | .18 | .14 |
| 19 | 1.6 | 1.5 | --- | --- | --- | --- | --- | .62 | .41 | .26 | .17 | .16 |
| 20 | 1.3 | 1.6 | --- | --- | --- | --- | --- | .62 | .40 | .24 | .18 | .16 |
| 21 | 1.4 | 1.5 | --- | --- | --- | --- | --- | .62 | .36 | .23 | .17 | .17 |
| 22 | 1.3 | 1.5 | --- | --- | --- | --- | --- | .67 | .62 | .36 | .22 | .17 |
| 23 | 1.3 | 1.5 | --- | --- | --- | --- | --- | .67 | .61 | .36 | .21 | .18 |
| 24 | 1.1 | 1.5 | --- | --- | --- | --- | --- | .67 | .59 | .34 | .21 | .17 |
| 25 | 1.2 | 1.5 | --- | --- | --- | --- | --- | .66 | .59 | .33 | .20 | .17 |
| 26 | 1.2 | 1.5 | --- | --- | --- | --- | .66 | .59 | .34 | .19 | .17 | .17 |
| 27 | 1.3 | 1.5 | --- | --- | --- | --- | .66 | .59 | .34 | .19 | .18 | .18 |
| 28 | 1.4 | 1.5 | --- | --- | --- | --- | .66 | .58 | .32 | .18 | .18 | .18 |
| 29 | 1.4 | 1.5 | --- | --- | --- | --- | .64 | .54 | .32 | .18 | .19 | .19 |
| 30 | 1.3 | 1.5 | --- | --- | --- | --- | .63 | .54 | .31 | .19 | .18 | .20 |
| 31 | 1.1 | --- | --- | --- | --- | --- | --- | .55 | --- | .18 | .17 | --- |
| TOTAL | 39.28 | 45.3 | --- | --- | --- | --- | --- | 18.89 | 13.23 | 7.28 | 5.48 | 4.66 |
| MEAN | 1.27 | 1.51 | --- | --- | --- | --- | --- | .61 | .44 | .23 | .18 | .16 |
| MAX | 1.6 | 1.8 | --- | --- | --- | --- | --- | .64 | .60 | .31 | .19 | .20 |
| MIN | .98 | 1.2 | --- | --- | --- | --- | --- | .54 | .31 | .18 | .17 | .12 |
| AC-FT | 78 | 90 | --- | --- | --- | --- | --- | 37 | 26 | 14 | 11 | 9.2 |

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO

LOCATION (REVISED).--Lat 38°36'14", long 104°40'20", in SW¼NE¼ Sec.4, T.17 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on right bank, 900 ft upstream from Denver & Rio Grande Railroad bridge, 0.70 mi downstream from Little Fountain Creek and 5.5 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. 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.

REMARKS.--Estimated daily discharges: Dec. 25-27, Jan. 3-8, 20, 21, July 10-11, Aug. 5-7, and Aug. 10. Records good except those above about 500 ft³/s, which are fair, 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. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--19 years (water years 1938-54, 1985-88) 65.6 ft³/s, 47,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft³/s, May 28, 1940, gage height, 9.19 ft, at different datum, from rating curve extended above 3,000 ft³/s, on basis of slope-area measurement of peak flow; no flow Sept. 24, 30, 1939.

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,550 ft³/s at 1815, Aug. 9, gage height, 8.41 ft, from rating curve extended above 1,100 ft³/s, on the basis of two slope-area measurements of peak flow; minimum daily, 12 ft³/s, July 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|----------|----------|--------|--------------|------|------|------|------|------|-------|------|
| 1 | 73 | 72 | 82 | 93 | 130 | 147 | 124 | 53 | 71 | 39 | 50 | 41 |
| 2 | 74 | 82 | 93 | 90 | 128 | 178 | 128 | 90 | 50 | 24 | 39 | 73 |
| 3 | 68 | 87 | 93 | 85 | 133 | 169 | 134 | 93 | 47 | 18 | 35 | 54 |
| 4 | 64 | 85 | 100 | 80 | 129 | 144 | 143 | 64 | 47 | 12 | 965 | 50 |
| 5 | 74 | 82 | 87 | 75 | 121 | 145 | 146 | 38 | 51 | 22 | 600 | 39 |
| 6 | 72 | 85 | 91 | 75 | 118 | 146 | 138 | 62 | 50 | 36 | 180 | 44 |
| 7 | 66 | 88 | 94 | 80 | 131 | 142 | 132 | 124 | 38 | 249 | 200 | 38 |
| 8 | 61 | 88 | 94 | 90 | 136 | 127 | 122 | 97 | 33 | 214 | 188 | 43 |
| 9 | 68 | 95 | 83 | 106 | 137 | 126 | 122 | 68 | 206 | 697 | 745 | 36 |
| 10 | 64 | 96 | 91 | 120 | 151 | 130 | 152 | 37 | 594 | 200 | 350 | 38 |
| 11 | 73 | 98 | 86 | 161 | 149 | 126 | 133 | 68 | 148 | 100 | 168 | 46 |
| 12 | 73 | 93 | 88 | 145 | 166 | 120 | 130 | 57 | 80 | 70 | 149 | 137 |
| 13 | 70 | 100 | 84 | 120 | 159 | 133 | 126 | 38 | 78 | 54 | 151 | 94 |
| 14 | 310 | 99 | 96 | 121 | 138 | 141 | 132 | 72 | 82 | 45 | 152 | 120 |
| 15 | 90 | 108 | 75 | 132 | 134 | 137 | 133 | 78 | 265 | 37 | 143 | 122 |
| 16 | 80 | 126 | 94 | 134 | 141 | 124 | 106 | 72 | 78 | 40 | 123 | 69 |
| 17 | 82 | 116 | 93 | 130 | 142 | 126 | 94 | 68 | 55 | 46 | 119 | 64 |
| 18 | 90 | 109 | 83 | 140 | 149 | 124 | 101 | 68 | 65 | 38 | 162 | 58 |
| 19 | 93 | 105 | 94 | 111 | 148 | 128 | 96 | 209 | 77 | 103 | 96 | 62 |
| 20 | 89 | 108 | 99 | 115 | 142 | 133 | 85 | 267 | 105 | 75 | 67 | 62 |
| 21 | 83 | 106 | 93 | 125 | 148 | 134 | 79 | 136 | 104 | 44 | 57 | 60 |
| 22 | 73 | 111 | 100 | 132 | 150 | 125 | 74 | 98 | 112 | 44 | 45 | 60 |
| 23 | 74 | 110 | 93 | 125 | 135 | 124 | 67 | 111 | 280 | 39 | 42 | 60 |
| 24 | 66 | 101 | 98 | 123 | 128 | 120 | 84 | 94 | 260 | 42 | 75 | 57 |
| 25 | 68 | 99 | 88 | 120 | 137 | 123 | 61 | 96 | 67 | 41 | 48 | 50 |
| 26 | 69 | 103 | 80 | 125 | 139 | 122 | 53 | 110 | 123 | 41 | 35 | 49 |
| 27 | 66 | 103 | 82 | 128 | 136 | 122 | 48 | 90 | 309 | 34 | 32 | 53 |
| 28 | 60 | 96 | 85 | 128 | 141 | 130 | 43 | 80 | 103 | 33 | 32 | 48 |
| 29 | 64 | 88 | 99 | 140 | 148 | 128 | 47 | 74 | 74 | 475 | 34 | 53 |
| 30 | 75 | 93 | 98 | 133 | --- | 120 | 50 | 59 | 88 | 228 | 27 | 55 |
| 31 | 92 | --- | 93 | 138 | --- | 121 | --- | 69 | --- | 50 | 27 | --- |
| TOTAL | 2524 | 2932 | 2809 | 3620 | 4044 | 4115 | 3083 | 2740 | 3740 | 3190 | 5136 | 1835 |
| MEAN | 81.4 | 97.7 | 90.6 | 117 | 139 | 133 | 103 | 88.4 | 125 | 103 | 166 | 61.2 |
| MAX | 310 | 126 | 100 | 161 | 166 | 178 | 152 | 267 | 594 | 697 | 965 | 137 |
| MIN | 60 | 72 | 75 | 75 | 118 | 120 | 43 | 37 | 33 | 12 | 27 | 36 |
| AC-FT | 5010 | 5820 | 5570 | 7180 | 8020 | 8160 | 6120 | 5430 | 7420 | 6330 | 10190 | 3640 |
| CAL YR 1987 | TOTAL 58209 | MEAN 159 | MAX 1170 | MIN 15 | AC-FT 115500 | | | | | | | |
| WTR YR 1988 | TOTAL 39768 | MEAN 109 | MAX 965 | MIN 12 | AC-FT 78880 | | | | | | | |

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1987 to current year.

WATER TEMPERATURE: November 1987 to current year.

pH: November 1987 to current year.

DISSOLVED OXYGEN: November 1987 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance data available in the district office. Temperature and pH data are considered good, specific conductance are considered fair and dissolved oxygen data are considered poor

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,560 microsiemens Mar. 13, minimum, 290 microsiemens Aug. 4.

pH: Maximum, 8.3 units on many days; minimum, 7.4 units May 19, June 10.

WATER TEMPERATURE: Maximum, 31.0°C June 24; minimum, 0.0°C, on many days during winter months.

DISSOLVED OXYGEN: Maximum, 12.6 mg/L, Dec. 20; minimum, 4.0 mg/L, Apr. 13 and July 27.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1 | --- | --- | 1120 | --- | 1080 | 943 | 1000 | 1080 | 827 | 976 | 1030 | --- |
| 2 | --- | --- | 1120 | 1130 | 1090 | 870 | 943 | 918 | 888 | --- | 1040 | --- |
| 3 | --- | --- | 1120 | 1170 | 1110 | 850 | 942 | 885 | 1020 | --- | 992 | --- |
| 4 | --- | --- | 1130 | 1130 | 1120 | 828 | 902 | 973 | 1050 | --- | 474 | --- |
| 5 | --- | --- | 1180 | 1160 | 1070 | 821 | 851 | 1050 | 1030 | --- | --- | --- |
| 6 | --- | --- | 1160 | 1180 | 1100 | 824 | 841 | 1010 | 963 | 1150 | --- | --- |
| 7 | --- | --- | 1150 | 1170 | 1070 | 860 | 850 | 817 | 1030 | 849 | --- | --- |
| 8 | --- | --- | 1130 | 1140 | 1100 | 912 | 883 | 873 | 1110 | --- | --- | --- |
| 9 | --- | --- | 1100 | 1110 | 1100 | 985 | 889 | 1000 | 1000 | --- | --- | 1220 |
| 10 | --- | --- | 1050 | 1050 | 1070 | 1010 | 885 | 1130 | 722 | --- | --- | 1150 |
| 11 | --- | --- | 1050 | 997 | 1080 | 1030 | 862 | 1030 | --- | --- | --- | 1120 |
| 12 | --- | --- | 998 | 1050 | 1090 | 1030 | 818 | 1070 | 985 | 1030 | --- | 919 |
| 13 | --- | 1120 | 1010 | 1050 | 1070 | 1060 | 841 | 1190 | 999 | 1050 | --- | 938 |
| 14 | --- | --- | --- | 1050 | 1080 | 1070 | 830 | 1020 | 1040 | 1090 | --- | 889 |
| 15 | --- | --- | 1030 | 1060 | 1070 | 998 | 843 | 1000 | 743 | 1130 | --- | 885 |
| 16 | --- | 1060 | 1050 | 1060 | 1070 | 1020 | 876 | 1010 | 904 | 1100 | --- | 1010 |
| 17 | --- | --- | 1010 | 1070 | 1080 | 1070 | 930 | 1040 | 966 | 1040 | --- | 1060 |
| 18 | --- | --- | 1070 | 1110 | --- | 1010 | 888 | 1090 | 937 | 1070 | --- | 1080 |
| 19 | --- | --- | 1150 | 1020 | --- | 1000 | 849 | 875 | 891 | 910 | --- | 1090 |
| 20 | --- | 1120 | 1130 | 1070 | --- | 943 | 817 | 625 | --- | 960 | --- | 1090 |
| 21 | --- | 1090 | 1140 | 1080 | --- | 936 | 878 | 761 | --- | 1060 | --- | 1100 |
| 22 | --- | 1070 | --- | 1070 | 1050 | --- | 882 | 858 | --- | 1110 | --- | 1120 |
| 23 | --- | 1060 | 1110 | 1060 | --- | --- | 908 | 829 | --- | 1130 | --- | 1130 |
| 24 | --- | 1060 | 1120 | 1090 | --- | --- | 851 | 861 | 748 | 1130 | --- | 1130 |
| 25 | --- | 1040 | 1120 | 1080 | 1050 | --- | 950 | 854 | 924 | 1140 | --- | 1160 |
| 26 | --- | 1030 | 1170 | 1090 | 1060 | --- | 964 | 801 | 842 | 1130 | --- | 1160 |
| 27 | --- | 1110 | 1160 | 1080 | 1000 | --- | 994 | 785 | 600 | 1140 | --- | 1130 |
| 28 | --- | 1110 | 1150 | 1080 | --- | 924 | 1060 | 808 | 765 | 1190 | --- | 1140 |
| 29 | --- | 1120 | 1150 | 1070 | 876 | 949 | 1120 | 813 | 859 | 853 | --- | 1130 |
| 30 | --- | 1100 | --- | 1080 | --- | 931 | 1130 | 850 | 816 | 754 | --- | 1130 |
| 31 | --- | --- | --- | 1090 | --- | 964 | --- | 850 | --- | 1000 | --- | --- |
| MEAN | --- | --- | --- | --- | --- | --- | 909 | 928 | --- | --- | --- | --- |
| MAX | --- | --- | --- | --- | --- | --- | 1130 | 1190 | --- | --- | --- | --- |
| MIN | --- | --- | --- | --- | --- | --- | 817 | 625 | --- | --- | --- | --- |

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | 8.0 | 7.8 | 8.3 | 8.1 | 8.1 | 8.0 | 8.0 | 7.9 |
| 2 | --- | --- | --- | --- | 8.0 | 7.8 | 8.3 | 8.0 | 8.2 | 8.0 | 8.0 | 7.8 |
| 3 | --- | --- | --- | --- | 7.9 | 7.7 | 8.3 | 7.9 | 8.1 | 7.9 | 8.0 | 7.9 |
| 4 | --- | --- | --- | --- | --- | --- | 8.2 | 8.0 | 8.1 | 7.9 | 8.1 | 7.8 |
| 5 | --- | --- | --- | --- | --- | --- | 8.2 | 7.8 | 8.0 | 7.9 | 8.1 | 7.9 |
| 6 | --- | --- | --- | --- | --- | --- | 8.2 | 8.2 | 8.0 | 7.9 | 8.0 | 7.8 |
| 7 | --- | --- | --- | --- | --- | --- | 8.3 | 8.0 | 8.0 | 7.7 | 8.0 | 7.8 |
| 8 | --- | --- | --- | --- | --- | --- | 8.3 | 8.1 | 8.1 | 7.7 | 8.1 | 7.8 |
| 9 | --- | --- | --- | --- | --- | --- | 8.3 | 8.0 | 8.1 | 7.8 | 8.1 | 7.8 |
| 10 | --- | --- | --- | --- | --- | --- | 8.3 | 8.0 | 8.1 | 7.8 | 8.0 | 7.7 |
| 11 | --- | --- | --- | --- | 8.1 | 7.9 | 8.2 | 7.9 | 8.1 | 7.8 | 8.1 | 7.8 |
| 12 | --- | --- | --- | --- | 8.2 | 8.0 | 8.2 | 8.1 | 8.0 | 7.8 | 8.1 | 7.9 |
| 13 | --- | --- | --- | --- | 8.2 | 7.9 | 8.2 | 8.1 | 8.0 | 7.8 | 8.1 | 7.9 |
| 14 | --- | --- | 8.1 | 8.0 | 8.2 | 8.0 | 8.2 | 8.0 | 8.1 | 7.9 | 8.0 | 7.8 |
| 15 | --- | --- | 8.1 | 8.0 | 8.2 | 8.0 | 8.2 | 8.2 | 8.1 | 7.8 | 8.0 | 7.8 |
| 16 | --- | --- | 8.1 | 7.8 | 8.2 | 8.0 | 8.2 | 8.0 | 8.1 | 7.8 | 8.1 | 7.9 |
| 17 | --- | --- | 8.0 | 7.9 | 8.2 | 7.9 | 8.2 | 8.1 | 8.0 | 7.9 | 8.1 | 7.9 |
| 18 | --- | --- | 8.0 | 7.7 | 8.2 | 7.9 | 8.2 | 7.9 | 8.0 | 7.8 | --- | --- |
| 19 | --- | --- | 8.0 | 7.8 | 8.2 | 8.0 | 8.1 | 7.8 | 8.1 | 7.8 | --- | --- |
| 20 | --- | --- | 8.0 | 7.7 | 8.2 | 8.0 | 8.2 | 7.8 | 8.1 | 7.8 | --- | --- |
| 21 | --- | --- | 8.0 | 7.7 | 8.2 | 8.0 | 8.2 | 7.8 | 8.1 | 7.7 | --- | --- |
| 22 | --- | --- | 8.0 | 7.7 | 8.2 | 8.1 | 8.2 | 7.8 | 8.0 | 7.9 | 7.9 | 7.7 |
| 23 | --- | --- | 8.0 | 7.7 | 8.2 | 7.9 | 8.2 | 8.0 | 8.0 | 7.8 | 7.9 | 7.6 |
| 24 | --- | --- | 8.0 | 7.7 | 8.2 | 7.9 | 8.2 | 8.0 | 8.0 | 7.8 | 7.9 | 7.6 |
| 25 | --- | --- | 8.0 | 7.8 | 8.2 | 8.2 | 8.2 | 8.0 | 8.1 | 7.9 | 8.0 | 7.6 |
| 26 | --- | --- | 8.0 | 7.8 | 8.2 | 8.2 | 8.2 | 7.9 | 8.1 | 7.9 | 8.0 | 7.7 |
| 27 | --- | --- | 8.0 | 7.9 | 8.3 | 8.2 | 8.2 | 8.0 | 8.1 | 7.8 | 8.0 | 7.6 |
| 28 | --- | --- | 8.0 | 7.8 | 8.3 | 7.8 | 8.2 | 7.8 | 8.0 | 7.8 | 8.0 | 8.0 |
| 29 | --- | --- | 8.0 | 7.8 | 8.3 | 8.0 | 8.1 | 7.8 | 8.1 | 7.9 | 8.0 | 7.9 |
| 30 | --- | --- | 8.0 | 7.8 | 8.2 | 8.0 | 8.1 | 7.8 | --- | --- | 8.0 | 7.9 |
| 31 | --- | --- | --- | --- | 8.3 | 8.0 | 8.1 | 8.0 | --- | --- | --- | --- |
| MONTH | --- | --- | --- | --- | --- | --- | 8.3 | 7.8 | 8.2 | 7.7 | --- | --- |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | 8.10 | 7.80 | 8.00 | 7.70 | --- | --- | 8.10 | 8.00 | --- | --- |
| 2 | 8.10 | 7.90 | 8.00 | 7.50 | 8.10 | 7.70 | --- | --- | 8.10 | 8.00 | --- | --- |
| 3 | 8.00 | 7.80 | 7.90 | 7.60 | 8.10 | 7.80 | --- | --- | 8.20 | 8.00 | --- | --- |
| 4 | 8.00 | 7.80 | 8.00 | 7.80 | 8.10 | 7.80 | --- | --- | 8.00 | 7.60 | --- | --- |
| 5 | 7.90 | 7.80 | 8.00 | 7.80 | 8.10 | 7.90 | --- | --- | --- | --- | --- | --- |
| 6 | 7.90 | 7.70 | 8.20 | 7.60 | 8.10 | 7.80 | --- | --- | --- | --- | --- | --- |
| 7 | 7.90 | 7.50 | 7.90 | 7.60 | 8.20 | 7.60 | --- | --- | --- | --- | --- | --- |
| 8 | 7.90 | 7.60 | 7.80 | 7.60 | 8.30 | 7.80 | --- | --- | --- | --- | --- | --- |
| 9 | 8.00 | 7.70 | 7.90 | 7.60 | 8.20 | 7.50 | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | 8.20 | 7.70 | 7.80 | 7.40 | --- | --- | --- | --- | 8.20 | 7.90 |
| 11 | 7.90 | 7.70 | 8.10 | 7.80 | 7.90 | 7.50 | --- | --- | --- | --- | 8.10 | 7.90 |
| 12 | 7.90 | 7.50 | 8.00 | 7.70 | 7.80 | 7.60 | --- | --- | --- | --- | 8.00 | 7.80 |
| 13 | 7.80 | 7.50 | 8.10 | 7.80 | 7.90 | 7.70 | 8.10 | 8.00 | --- | --- | 7.90 | 7.90 |
| 14 | 7.90 | 7.60 | 8.10 | 7.60 | 7.90 | 7.80 | 8.10 | 8.00 | --- | --- | 7.90 | 7.80 |
| 15 | 7.90 | 7.70 | 7.90 | 7.60 | 7.90 | 7.50 | 8.10 | 8.00 | --- | --- | 7.90 | 7.80 |
| 16 | 7.90 | 7.80 | 7.90 | 7.60 | 8.00 | 7.80 | 8.10 | 7.90 | --- | --- | 7.90 | 7.80 |
| 17 | 7.90 | 7.80 | 7.90 | 7.60 | 8.10 | 7.80 | 8.10 | 7.80 | --- | --- | 7.90 | 7.80 |
| 18 | 7.90 | 7.70 | 8.10 | 7.80 | 8.00 | 7.80 | 8.10 | 7.90 | --- | --- | 7.90 | 7.80 |
| 19 | 8.00 | 7.80 | 7.90 | 7.40 | 8.00 | 7.60 | 8.00 | 7.60 | --- | --- | 7.90 | 7.80 |
| 20 | 8.00 | 7.70 | 7.80 | 7.50 | --- | --- | 8.10 | 7.90 | --- | --- | 7.90 | 7.80 |
| 21 | 8.20 | 7.70 | 7.80 | 7.50 | --- | --- | 8.00 | 7.90 | --- | --- | 7.90 | 7.80 |
| 22 | 8.10 | 7.80 | 7.90 | 7.70 | --- | --- | 8.00 | 7.90 | --- | --- | 7.90 | 7.80 |
| 23 | 8.00 | 7.80 | 7.80 | 7.70 | --- | --- | 8.10 | 7.90 | --- | --- | 7.90 | 7.80 |
| 24 | 8.00 | 7.70 | 8.00 | 7.80 | --- | --- | 8.20 | 8.00 | --- | --- | 8.00 | 7.80 |
| 25 | 8.10 | 7.80 | 8.10 | 8.00 | 8.10 | 8.00 | 8.10 | 8.00 | --- | --- | 8.00 | 7.80 |
| 26 | 8.10 | 7.80 | 8.00 | 7.80 | 8.10 | 7.70 | 8.10 | 7.90 | --- | --- | 8.00 | 7.80 |
| 27 | 8.10 | 7.80 | 8.00 | 7.80 | 8.00 | 7.60 | 8.10 | 8.00 | --- | --- | 8.00 | 7.80 |
| 28 | 8.10 | 7.80 | 8.00 | 7.80 | 8.10 | 7.90 | 8.30 | 7.80 | --- | --- | 8.00 | 7.80 |
| 29 | 8.10 | 7.80 | 7.90 | 7.70 | 8.10 | 8.00 | 8.10 | 7.70 | --- | --- | 7.90 | 7.80 |
| 30 | 8.10 | 7.70 | 8.00 | 7.70 | 8.10 | 7.90 | 8.00 | 7.80 | --- | --- | 7.90 | 7.80 |
| 31 | --- | --- | 8.10 | 7.80 | --- | --- | 8.10 | 8.00 | --- | --- | --- | --- |
| MONTH | --- | --- | 8.20 | 7.40 | --- | --- | --- | --- | --- | --- | --- | --- |

245

245

245

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | 7.0 | .0 | 1.1 | .0 | 2.1 | .1 | 14.4 | 4.2 |
| 2 | --- | --- | --- | --- | 7.2 | 1.1 | 1.5 | .0 | 4.3 | .1 | 7.5 | 4.3 |
| 3 | --- | --- | --- | --- | 9.8 | 2.5 | .9 | .0 | 6.3 | .9 | 9.4 | 2.9 |
| 4 | --- | --- | --- | --- | 10.0 | 3.3 | .4 | .0 | 6.1 | .1 | 9.3 | 1.4 |
| 5 | --- | --- | --- | --- | 9.2 | 5.1 | .2 | .0 | 1.6 | .0 | 12.7 | .7 |
| 6 | --- | --- | --- | --- | 10.8 | 4.7 | .1 | .0 | 6.3 | .0 | 13.7 | 2.9 |
| 7 | --- | --- | --- | --- | 10.5 | 2.6 | .9 | .0 | 6.9 | .1 | 6.8 | 2.6 |
| 8 | --- | --- | --- | --- | 8.5 | 2.5 | 1.1 | .0 | 7.5 | .1 | 13.1 | .2 |
| 9 | --- | --- | --- | --- | 7.5 | .4 | 1.4 | .0 | 8.9 | .1 | 14.8 | 1.5 |
| 10 | --- | --- | --- | --- | 8.9 | 1.3 | 3.0 | .0 | 4.3 | .3 | 12.9 | 3.3 |
| 11 | --- | --- | --- | --- | 8.3 | 2.8 | 5.0 | .0 | 8.8 | .1 | 7.8 | 1.9 |
| 12 | --- | --- | --- | --- | 3.9 | .8 | 4.0 | .0 | 10.6 | .8 | 9.4 | .3 |
| 13 | --- | --- | --- | --- | 4.6 | .0 | 3.7 | .0 | 10.2 | .8 | 8.1 | .3 |
| 14 | --- | --- | 11.0 | 5.0 | 3.9 | .0 | 6.0 | .0 | 9.0 | .4 | 11.9 | .1 |
| 15 | --- | --- | 6.6 | 1.1 | 2.2 | .0 | 5.7 | .4 | 10.9 | .2 | 12.1 | .8 |
| 16 | --- | --- | 7.7 | 1.3 | 2.3 | .0 | 2.7 | .9 | 10.1 | 1.5 | 5.5 | 1.0 |
| 17 | --- | --- | 7.8 | .1 | 4.3 | .0 | 6.9 | .5 | 9.0 | .1 | 8.8 | .0 |
| 18 | --- | --- | 8.1 | 1.0 | 7.2 | .9 | 2.1 | .0 | 9.3 | .1 | 13.0 | .0 |
| 19 | --- | --- | 9.2 | 1.1 | 7.2 | .1 | .0 | .0 | 9.5 | .0 | 15.8 | 1.5 |
| 20 | --- | --- | 10.9 | 2.8 | 6.8 | 1.1 | 1.1 | .0 | 9.9 | .3 | 17.4 | 3.8 |
| 21 | --- | --- | 10.1 | 2.4 | 4.6 | .0 | 1.6 | .0 | 11.7 | 1.2 | 17.3 | --- |
| 22 | --- | --- | 10.4 | 2.5 | 6.3 | .0 | 3.7 | .0 | 9.5 | 1.9 | 16.1 | 6.3 |
| 23 | --- | --- | 8.6 | 2.1 | 4.8 | .0 | 4.1 | .0 | 8.0 | 1.7 | 17.0 | 6.1 |
| 24 | --- | --- | 9.0 | 1.8 | .8 | .0 | 4.6 | .0 | 10.4 | .0 | 14.5 | 6.2 |
| 25 | --- | --- | 8.2 | .4 | .4 | .0 | 4.8 | .0 | 12.1 | .6 | 13.5 | 2.8 |
| 26 | --- | --- | 5.1 | .6 | .5 | .0 | 7.1 | .0 | 13.5 | 1.5 | 17.5 | 3.7 |
| 27 | --- | --- | 7.0 | .6 | .7 | .1 | 5.8 | .1 | 13.5 | 2.1 | 18.0 | 5.4 |
| 28 | --- | --- | 6.8 | .0 | 2.1 | .0 | 9.6 | .7 | 11.4 | 4.7 | 7.5 | 2.7 |
| 29 | --- | --- | 6.7 | .0 | 2.8 | .0 | 6.6 | 2.3 | 13.7 | 2.6 | 13.0 | .0 |
| 30 | --- | --- | 6.8 | .0 | 3.8 | .0 | 9.9 | 2.2 | --- | --- | 11.3 | 2.6 |
| 31 | --- | --- | --- | --- | 2.5 | .0 | 4.9 | .6 | --- | --- | 4.8 | 1.2 |
| MONTH | --- | --- | --- | --- | 10.8 | .0 | 9.9 | .0 | 13.7 | .0 | 18.0 | --- |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 5.4 | 1.2 | 20.0 | 8.8 | 25.1 | 9.8 | 29.6 | 16.1 | 29.4 | 16.1 | --- | --- |
| 2 | 10.5 | 2.2 | 10.6 | 5.3 | 23.5 | 10.9 | --- | --- | 28.4 | 17.1 | --- | --- |
| 3 | 18.0 | 3.4 | 20.1 | 5.2 | 26.5 | 12.0 | --- | --- | 29.2 | 18.7 | --- | --- |
| 4 | 17.4 | 7.3 | 21.5 | 7.3 | 26.1 | 12.0 | --- | --- | 22.8 | 19.7 | --- | --- |
| 5 | 17.8 | 7.8 | 22.9 | 7.8 | 27.1 | 13.9 | --- | --- | --- | --- | --- | --- |
| 6 | 18.9 | 5.9 | 18.7 | 8.9 | 27.1 | 13.2 | --- | --- | --- | --- | --- | --- |
| 7 | 20.7 | 7.4 | 19.4 | 5.7 | 28.4 | 13.3 | 25.0 | --- | --- | --- | --- | --- |
| 8 | 14.3 | 5.7 | 19.4 | 7.8 | 28.8 | 14.1 | --- | 16.4 | --- | --- | --- | --- |
| 9 | 8.6 | 4.1 | 21.9 | 7.4 | 27.5 | 11.8 | --- | --- | --- | --- | --- | --- |
| 10 | 16.3 | 3.5 | 20.3 | 9.0 | 26.8 | 13.2 | --- | --- | --- | --- | 24.7 | 13.0 |
| 11 | 18.5 | 4.6 | 24.8 | 8.5 | 23.9 | 14.5 | --- | --- | --- | --- | 22.1 | 14.0 |
| 12 | 19.8 | 6.3 | 26.3 | 10.0 | 27.2 | 14.8 | 29.4 | --- | --- | --- | 13.8 | 12.3 |
| 13 | 21.0 | 8.0 | 25.0 | 10.7 | 23.2 | 14.6 | 30.2 | 16.7 | --- | --- | 14.6 | 11.6 |
| 14 | 16.7 | 7.4 | 22.6 | 11.3 | 26.8 | 13.0 | 28.5 | 17.8 | --- | --- | 20.7 | 12.7 |
| 15 | 20.1 | 6.2 | 26.2 | 10.9 | 22.4 | 15.3 | 25.6 | 17.4 | --- | --- | 20.7 | 12.7 |
| 16 | 18.4 | 7.2 | 26.0 | 11.5 | 25.5 | 13.1 | 30.6 | 16.7 | --- | --- | 23.7 | 11.1 |
| 17 | 18.0 | 9.3 | 26.0 | 12.8 | 29.4 | 13.8 | 30.2 | 17.2 | --- | --- | 23.0 | 11.5 |
| 18 | 20.3 | 7.2 | 24.4 | 13.8 | 26.2 | 12.9 | 29.8 | 16.6 | --- | --- | 22.7 | 12.3 |
| 19 | 19.3 | 8.2 | 14.9 | 9.5 | 27.3 | 14.1 | 21.5 | 17.1 | --- | --- | 20.6 | 8.9 |
| 20 | 19.7 | 7.9 | 10.6 | 7.8 | --- | 15.8 | 27.5 | 16.2 | --- | --- | 22.1 | 9.3 |
| 21 | 21.7 | 8.4 | 17.7 | 8.4 | --- | --- | 29.7 | 15.0 | --- | --- | 16.5 | 12.7 |
| 22 | 20.6 | 6.6 | 14.1 | 9.0 | --- | --- | 29.0 | 15.4 | --- | --- | 21.0 | 11.2 |
| 23 | 18.1 | 7.0 | 20.4 | 9.9 | --- | --- | 27.9 | 16.1 | --- | --- | 21.8 | 12.6 |
| 24 | 16.6 | 5.8 | 22.7 | 11.8 | 31.0 | --- | 27.2 | 16.2 | --- | --- | 22.8 | 10.3 |
| 25 | 19.1 | 5.6 | 24.6 | 11.6 | 29.4 | 17.6 | 29.1 | 15.7 | --- | --- | 22.3 | 11.2 |
| 26 | 19.3 | 4.8 | 24.3 | 11.6 | 27.1 | 17.1 | 27.8 | 16.4 | --- | --- | 21.9 | 10.7 |
| 27 | 19.9 | 5.2 | 23.1 | 12.0 | 27.9 | 18.0 | 28.3 | 15.0 | --- | --- | 23.3 | 11.0 |
| 28 | 20.3 | 6.2 | 23.3 | 11.9 | 29.7 | 17.5 | 28.8 | 16.0 | --- | --- | 16.2 | 9.6 |
| 29 | 22.1 | 10.6 | 25.3 | 12.5 | 28.3 | 18.5 | 27.1 | 17.7 | --- | --- | 14.7 | 7.4 |
| 30 | 22.9 | 8.9 | 23.4 | 13.4 | 26.0 | 17.6 | 27.5 | 17.3 | --- | --- | 20.0 | 8.9 |
| 31 | --- | --- | 19.8 | 11.7 | --- | --- | 29.6 | 16.9 | --- | --- | --- | --- |
| MONTH | 22.9 | 1.2 | 26.3 | 5.2 | --- | --- | --- | --- | --- | --- | --- | --- |

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|------|---------|------|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | 9.9 | 8.2 | 10.4 | 9.6 | 10.5 | 9.1 | 9.4 | 6.8 |
| 2 | --- | --- | --- | --- | 9.6 | 7.2 | 10.2 | 7.8 | 10.2 | 9.1 | 9.2 | 8.2 |
| 3 | --- | --- | --- | --- | 9.2 | 6.8 | 10.4 | 7.6 | 10.0 | 9.0 | 9.7 | 7.8 |
| 4 | --- | --- | --- | --- | 8.8 | 7.1 | 10.3 | 9.6 | 10.6 | 8.9 | 10.2 | 7.9 |
| 5 | --- | --- | --- | --- | 8.8 | 7.8 | 10.3 | 8.2 | 10.9 | 8.6 | 10.5 | 7.1 |
| 6 | --- | --- | --- | --- | 8.4 | 6.6 | 10.1 | 7.9 | 10.2 | 8.4 | 9.7 | 6.8 |
| 7 | --- | --- | --- | --- | 8.7 | 6.3 | 10.2 | 9.3 | 10.5 | 8.8 | 9.5 | 8.0 |
| 8 | --- | --- | --- | --- | 9.3 | 8.1 | 10.4 | 8.4 | 10.6 | 8.5 | 10.5 | 6.8 |
| 9 | --- | --- | --- | --- | 10.7 | 7.6 | 10.6 | 9.1 | 10.8 | 8.2 | 9.8 | 6.5 |
| 10 | --- | --- | --- | --- | 10.5 | 8.6 | 10.6 | 8.8 | 10.7 | 9.1 | 9.2 | 7.0 |
| 11 | --- | --- | --- | --- | 10.0 | 8.7 | 10.9 | 8.9 | 10.8 | 8.2 | 10.0 | 8.4 |
| 12 | --- | --- | --- | --- | 10.5 | 9.6 | 11.0 | 9.5 | 9.6 | 5.8 | 10.8 | 7.9 |
| 13 | --- | --- | --- | --- | 10.8 | 9.2 | 11.0 | 9.6 | 9.2 | 5.8 | 10.8 | 8.4 |
| 14 | --- | --- | 8.2 | 7.0 | 10.7 | 9.6 | 11.2 | 9.2 | 10.9 | 7.8 | 10.4 | 6.8 |
| 15 | --- | --- | 9.7 | 7.0 | 11.0 | 9.9 | 10.8 | 8.9 | 11.2 | 8.2 | 10.2 | 6.9 |
| 16 | --- | --- | 9.3 | 8.0 | 11.0 | 10.2 | 10.9 | 9.8 | 10.7 | 8.3 | 10.6 | 9.1 |
| 17 | --- | --- | 10.1 | 7.4 | 11.1 | 9.9 | 10.9 | 8.9 | 11.2 | 9.2 | 11.1 | 8.4 |
| 18 | --- | --- | 10.2 | 7.2 | 10.7 | 8.1 | 10.6 | 10.1 | 11.8 | 8.9 | 11.1 | --- |
| 19 | --- | --- | 10.7 | 6.9 | 10.5 | 9.0 | 10.7 | 10.0 | 11.4 | 8.4 | --- | --- |
| 20 | --- | --- | 10.6 | 7.6 | 12.6 | 7.7 | 10.6 | 9.8 | 11.2 | 7.9 | --- | --- |
| 21 | --- | --- | 10.0 | 7.8 | 12.3 | 8.7 | 10.7 | 9.5 | 11.0 | 7.5 | --- | --- |
| 22 | --- | --- | 9.6 | 7.2 | 10.0 | 7.7 | 10.6 | 9.5 | 10.5 | 8.5 | --- | --- |
| 23 | --- | --- | 9.2 | 7.0 | 10.2 | 8.1 | 10.8 | 9.4 | 10.8 | 9.0 | --- | --- |
| 24 | --- | --- | 9.5 | 7.9 | 10.2 | 9.1 | 10.6 | 9.3 | 11.6 | 8.3 | --- | --- |
| 25 | --- | --- | 10.0 | 7.9 | 10.1 | 9.2 | 10.4 | 9.1 | 11.2 | 7.7 | --- | --- |
| 26 | --- | --- | 10.1 | 7.5 | 10.2 | 9.2 | 10.5 | 8.5 | 10.6 | 6.9 | --- | --- |
| 27 | --- | --- | 9.9 | 8.2 | 9.9 | 9.2 | 10.5 | 8.8 | 10.8 | 7.7 | --- | --- |
| 28 | --- | --- | 9.8 | 8.4 | 10.8 | 9.5 | 10.1 | 7.7 | 8.9 | 6.8 | --- | --- |
| 29 | --- | --- | 10.2 | 8.3 | 10.6 | 8.9 | 9.5 | 8.5 | 10.4 | 7.2 | --- | --- |
| 30 | --- | --- | 10.1 | 8.1 | 10.3 | 9.1 | 9.5 | 7.6 | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | 10.7 | 9.4 | 10.1 | 8.9 | --- | --- | --- | --- |
| MONTH | --- | --- | --- | --- | 12.6 | 6.3 | 11.2 | 7.6 | 11.8 | 5.8 | --- | --- |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | 8.3 | 7.2 | 6.7 | 5.4 | 6.8 | 5.5 | 6.8 | 5.2 | --- | --- |
| 2 | 9.2 | 6.4 | 9.3 | 5.7 | 7.4 | 5.7 | --- | --- | 6.6 | 4.5 | --- | --- |
| 3 | 8.7 | 4.8 | 7.8 | 4.8 | 7.0 | 6.1 | --- | --- | 6.5 | 5.8 | --- | --- |
| 4 | 7.0 | 4.9 | 7.4 | 4.8 | 7.6 | 6.0 | --- | --- | 7.0 | 5.3 | --- | --- |
| 5 | 7.1 | 5.0 | 7.5 | 5.4 | 7.0 | 6.3 | --- | --- | --- | --- | --- | --- |
| 6 | 7.8 | 4.9 | 7.0 | 5.2 | 7.5 | 6.5 | --- | --- | --- | --- | --- | --- |
| 7 | 7.3 | 4.9 | 7.7 | 5.0 | 8.1 | 5.1 | --- | --- | --- | --- | --- | --- |
| 8 | 7.9 | 6.0 | 7.4 | 5.4 | 7.1 | 5.3 | --- | --- | --- | --- | --- | --- |

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LOCATION.--Lat 38°26'50", long 104°35'28", in NE¼NE¼ sec.31, T.18 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, 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.

REVISED RECORDS.--WDR CO-80-1: Drainage area.

GAGE---Water-stage recorder. 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.--Estimated daily discharges: Dec. 15-17, 25-31, Jan. 1-13, 19-22, and Feb. 1-6. Records good except for estimated daily discharges, and discharges above about 2,500 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 99.1 ft³/s; 71,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s, May 8, 1980, gage height, 7.05 ft, from rating curve extended above 7,300 ft³/s; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,560 ft³/s at 2400 Aug. 9, gage height, 4.26 ft; minimum daily, 0.85 ft³/s, July 5.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|----------------|------|-----------|------|----------|---------|-------------|--------|--------|---------|--------|------|
| 1 | 29 | 73 | 85 | 68 | 96 | 104 | 105 | 30 | 65 | 44 | 26 | 34 |
| 2 | 30 | 68 | 87 | 64 | 90 | 118 | 87 | 43 | 36 | 18 | 12 | 44 |
| 3 | 27 | 72 | 96 | 60 | 86 | 121 | 110 | 71 | 25 | 7.5 | 7.8 | 31 |
| 4 | 21 | 69 | 99 | 56 | 84 | 104 | 107 | 56 | 12 | 2.9 | 424 | 24 |
| 5 | 37 | 70 | 85 | 55 | 80 | 102 | 117 | 25 | 11 | .85 | 950 | 24 |
| 6 | 42 | 69 | 85 | 55 | 80 | 104 | 108 | 18 | 20 | 1.2 | 122 | 21 |
| 7 | 38 | 65 | 83 | 55 | 92 | 92 | 95 | 69 | 14 | 34 | 76 | 20 |
| 8 | 31 | 70 | 81 | 58 | 105 | 89 | 94 | 62 | 11 | 140 | 127 | 14 |
| 9 | 32 | 80 | 67 | 68 | 99 | 86 | 98 | 47 | 9.3 | 217 | 375 | 13 |
| 10 | 29 | 82 | 68 | 78 | 113 | 89 | 133 | 22 | 373 | 229 | 583 | 12 |
| 11 | 30 | 86 | 70 | 90 | 100 | 88 | 121 | 23 | 133 | 89 | 121 | 14 |
| 12 | 30 | 68 | 74 | 90 | 123 | 82 | 110 | 17 | 58 | 62 | 87 | 48 |
| 13 | 23 | 71 | 66 | 88 | 114 | 85 | 100 | 9.7 | 63 | 31 | 80 | 57 |
| 14 | 159 | 69 | 73 | 99 | 103 | 96 | 94 | 5.5 | 59 | 23 | 66 | 79 |
| 15 | 58 | 79 | 64 | 94 | 88 | 98 | 95 | 16 | 153 | 16 | 53 | 71 |
| 16 | 41 | 97 | 68 | 82 | 93 | 83 | 78 | 19 | 78 | 13 | 41 | 36 |
| 17 | 34 | 92 | 72 | 72 | 88 | 85 | 61 | 22 | 54 | 15 | 29 | 31 |
| 18 | 35 | 84 | 76 | 77 | 102 | 84 | 82 | 15 | 37 | 14 | 80 | 29 |
| 19 | 34 | 75 | 80 | 70 | 96 | 92 | 70 | 40 | 36 | 34 | 37 | 30 |
| 20 | 39 | 78 | 76 | 70 | 88 | 98 | 61 | 248 | 85 | 43 | 24 | 27 |
| 21 | 49 | 78 | 76 | 70 | 95 | 103 | 53 | 106 | 33 | 19 | 15 | 24 |
| 22 | 35 | 87 | 72 | 74 | 101 | 98 | 46 | 70 | 97 | 16 | 11 | 24 |
| 23 | 33 | 93 | 68 | 78 | 88 | 94 | 38 | 73 | 173 | 13 | 6.0 | 26 |
| 24 | 27 | 92 | 68 | 84 | 85 | 89 | 51 | 62 | 219 | 11 | 36 | 23 |
| 25 | 26 | 95 | 65 | 81 | 97 | 91 | 43 | 55 | 64 | 12 | 25 | 20 |
| 26 | 32 | 94 | 65 | 87 | 99 | 93 | 28 | 59 | 69 | 14 | 16 | 17 |
| 27 | 35 | 106 | 65 | 96 | 96 | 92 | 33 | 72 | 251 | 16 | 16 | 21 |
| 28 | 27 | 98 | 66 | 102 | 99 | 95 | 27 | 58 | 115 | 12 | 17 | 20 |
| 29 | 43 | 86 | 68 | 111 | 106 | 103 | 26 | 54 | 74 | 69 | 18 | 22 |
| 30 | 53 | 90 | 70 | 98 | --- | 100 | 22 | 36 | 83 | 164 | 15 | 23 |
| 31 | 78 | --- | 70 | 98 | --- | 103 | --- | 33 | --- | 39 | 11 | --- |
| TOTAL | 1237 | 2436 | 2308 | 2428 | 2786 | 2961 | 2293 | 1536.2 | 2510.3 | 1419.45 | 3506.8 | 879 |
| MEAN | 39.9 | 81.2 | 74.5 | 78.3 | 96.1 | 95.5 | 76.4 | 49.6 | 83.7 | 45.8 | 113 | 29.3 |
| MAX | 159 | 106 | 99 | 111 | 123 | 121 | 133 | 248 | 373 | 229 | 950 | 79 |
| MIN | 21 | 65 | 64 | 55 | 80 | 82 | 22 | 5.5 | 9.3 | .85 | 6.0 | 12 |
| AC-FT | 2450 | 4830 | 4580 | 4820 | 5530 | 5870 | 4550 | 3050 | 4980 | 2820 | 6960 | 1740 |
| CAL YR 1987 | TOTAL 44180.88 | | MEAN 121 | 1110 | MAX 1110 | MIN .24 | AC-FT 87630 | | | | | |
| WTR YR 1988 | TOTAL 26300.75 | | MEAN 71.9 | 950 | MAX 950 | MIN .85 | AC-FT 52170 | | | | | |

LOCATION.--Lat 38°17'16", long 104°36'02", in SE¼SW¼ 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.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WDR CO-79-1: Drainage area.

REMARKS.--Estimated daily discharges: Dec. 14-19, 26-30, Jan.3 to Feb.9. Records good except for 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 FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s, June 17, 1965, gage height, 19.0 ft, from floodmarks, site and datum then in use, from rating curve extended above 400 ft³/s, on basis of contracted-opening measurement of peak flow; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,980 ft³/s at 1115 Aug. 5, gage height, 5.75 ft; maximum gage height, 6.72 ft at 0415 Jan. 10 (backwater from ice); minimum daily discharge, 2.9 ft³/s, July 6.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|--------|--------|--------|--------|
| 1 | 49 | 85 | 101 | 80 | 145 | 119 | 130 | 27 | 48 | 43 | 51 | 9.0 |
| 2 | 43 | 91 | 103 | 74 | 135 | 125 | 113 | 30 | 43 | 31 | 28 | 43 |
| 3 | 38 | 79 | 96 | 70 | 125 | 141 | 128 | 55 | 31 | 28 | 11 | 30 |
| 4 | 41 | 73 | 99 | 65 | 115 | 119 | 130 | 79 | 24 | 16 | 217 | 16 |
| 5 | 55 | 74 | 95 | 60 | 105 | 123 | 146 | 56 | 16 | 7.6 | 901 | 15 |
| 6 | 44 | 74 | 85 | 60 | 100 | 127 | 144 | 38 | 12 | 2.9 | 174 | 15 |
| 7 | 42 | 75 | 83 | 60 | 110 | 121 | 132 | 50 | 12 | 4.8 | 114 | 14 |
| 8 | 34 | 84 | 79 | 60 | 125 | 123 | 120 | 75 | 9.1 | 110 | 162 | 11 |
| 9 | 29 | 81 | 76 | 65 | 130 | 120 | 120 | 81 | 24 | 64 | 128 | 8.7 |
| 10 | 28 | 81 | 75 | 70 | 126 | 121 | 155 | 60 | 259 | 452 | 651 | 9.7 |
| 11 | 27 | 78 | 74 | 76 | 115 | 117 | 150 | 35 | 161 | 111 | 129 | 11 |
| 12 | 34 | 70 | 80 | 74 | 136 | 113 | 133 | 32 | 77 | 68 | 101 | 21 |
| 13 | 40 | 74 | 79 | 70 | 106 | 117 | 126 | 25 | 67 | 40 | 96 | 76 |
| 14 | 174 | 78 | 84 | 76 | 104 | 130 | 110 | 18 | 59 | 22 | 86 | 87 |
| 15 | 148 | 90 | 90 | 80 | 101 | 124 | 123 | 17 | 85 | 16 | 82 | 96 |
| 16 | 81 | 130 | 100 | 76 | 105 | 110 | 105 | 20 | 90 | 13 | 68 | 74 |
| 17 | 71 | 168 | 110 | 74 | 102 | 116 | 88 | 22 | 57 | 9.2 | 48 | 58 |
| 18 | 66 | 152 | 110 | 72 | 108 | 117 | 97 | 19 | 40 | 11 | 56 | 53 |
| 19 | 67 | 152 | 110 | 70 | 101 | 115 | 89 | 27 | 32 | 13 | 65 | 46 |
| 20 | 64 | 143 | 115 | 70 | 100 | 117 | 83 | 211 | 42 | 35 | 39 | 41 |
| 21 | 63 | 141 | 136 | 70 | 106 | 121 | 69 | 137 | 39 | 29 | 23 | 39 |
| 22 | 56 | 127 | 121 | 90 | 104 | 117 | 56 | 101 | 66 | 21 | 12 | 36 |
| 23 | 52 | 129 | 120 | 110 | 97 | 111 | 49 | 105 | 157 | 15 | 10 | 32 |
| 24 | 46 | 118 | 96 | 105 | 92 | 116 | 47 | 89 | 197 | 9.8 | 15 | 32 |
| 25 | 41 | 118 | 85 | 100 | 93 | 115 | 45 | 70 | 91 | 6.6 | 26 | 29 |
| 26 | 38 | 127 | 82 | 120 | 93 | 117 | 37 | 59 | 84 | 9.5 | 20 | 27 |
| 27 | 44 | 142 | 80 | 130 | 93 | 110 | 27 | 65 | 238 | 16 | 16 | 26 |
| 28 | 45 | 143 | 84 | 145 | 97 | 113 | 30 | 45 | 136 | 15 | 13 | 24 |
| 29 | 49 | 123 | 86 | 155 | 110 | 128 | 26 | 50 | 66 | 24 | 11 | 23 |
| 30 | 48 | 121 | 86 | 170 | --- | 119 | 27 | 47 | 53 | 185 | 10 | 28 |
| 31 | 76 | --- | 89 | 160 | --- | 130 | --- | 32 | --- | 76 | 7.5 | --- |
| TOTAL | 1733 | 3211 | 2909 | 2757 | 3179 | 3712 | 2835 | 1777 | 2315.1 | 1504.4 | 3370.5 | 1030.4 |
| MEAN | 55.9 | 107 | 93.8 | 88.9 | 110 | 120 | 94.5 | 57.3 | 77.2 | 48.5 | 109 | 34.3 |
| MAX | 174 | 168 | 136 | 170 | 145 | 141 | 155 | 211 | 259 | 452 | 901 | 96 |
| MIN | 27 | 70 | 74 | 60 | 92 | 110 | 26 | 17 | 9.1 | 2.9 | 7.5 | 8.7 |
| AC=FT | 3440 | 6370 | 5770 | 5470 | 6310 | 7360 | 5620 | 3520 | 4590 | 2980 | 6690 | 2040 |

| | | | | | | | | | | | | |
|-----|----|------|-------|---------|------|------|-----|------|-----|-----|-------|-------|
| CAL | YR | 1987 | TOTAL | 50393.2 | MEAN | 138 | MAX | 1110 | MIN | 1.0 | AC-FT | 99950 |
| WTR | YR | 1988 | TOTAL | 30333.4 | MEAN | 82.9 | MAX | 901 | MIN | 2.9 | AC-FT | 60170 |

ARKANSAS RIVER BASIN

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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.--Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance available in district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,120 microsiemens June 18, 1986; minimum, 440 microsiemens June 5 and Sept. 22, 1986.

WATER TEMPERATURE: Maximum, 33.0°C Aug. 5, 1986 and July 30, 1987; minimum, 0.0°C many days during the winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,050 microsiemens, July 7; minimum, 530 microsiemens Aug. 5.

WATER TEMPERATURE: Maximum, 32.4°C July 13, 17, minimum, 0.0°C many days during winter.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) |
|-------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|
| OCT | | | | | | | |
| 21... | 0900 | 60 | 1370 | 8.3 | 4.0 | 13.7 | 3.3 |
| NOV | | | | | | | |
| 18... | 0950 | 138 | 1250 | 8.5 | 1.0 | 11.8 | 11 |
| DEC | | | | | | | |
| 16... | 1000 | 100 | 1500 | 8.3 | 0.0 | 11.0 | 7.0 |
| JAN | | | | | | | |
| 20... | 1545 | 70 | 1670 | 8.1 | 0.0 | 11.2 | 6.3 |
| FEB | | | | | | | |
| 24... | 1700 | 87 | 1280 | 8.2 | 9.0 | 9.1 | 13 |
| MAR | | | | | | | |
| 23... | 1700 | 120 | 1200 | 8.2 | 16.5 | 8.1 | E11 |
| APR | | | | | | | |
| 20... | 1500 | 83 | 1190 | 8.1 | 21.0 | 8.3 | 2.8 |
| MAY | | | | | | | |
| 18... | 1715 | 20 | 1580 | 8.5 | 21.0 | 7.9 | E1.2 |
| JUN | | | | | | | |
| 15... | 1545 | 130 | 1410 | 8.1 | 24.5 | 6.2 | 21 |
| JUL | | | | | | | |
| 27... | 1600 | 15 | 1710 | 8.7 | 31.0 | 8.1 | E2.0 |
| AUG | | | | | | | |
| 24... | 1700 | 8.5 | 1780 | 8.2 | 28.0 | 6.3 | E1.6 |
| SEP | | | | | | | |
| 28... | 1500 | 23 | 1500 | 8.4 | 15.0 | 9.0 | E2.2 |

| DATE | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) |
|-------|--|---|---|--|--|--|
| OCT | | | | | | |
| 21... | K240 | 320 | 254 | 0.06 | 2.0 | 5.50 |
| NOV | | | | | | |
| 18... | K110 | 220 | 108 | 0.39 | 2.3 | 5.20 |
| DEC | | | | | | |
| 16... | <4 | 96 | 74 | 0.41 | <2.1 | 6.30 |
| JAN | | | | | | |
| 20... | K16 | >2000 | 29 | 2.40 | 3.4 | 8.10 |
| FEB | | | | | | |
| 24... | <20 | 500 | 110 | 0.97 | 3.3 | 5.90 |
| MAR | | | | | | |
| 23... | <5 | <44 | 121 | 0.08 | 1.1 | 6.60 |
| APR | | | | | | |
| 20... | K7 | K70 | 178 | 0.06 | 0.70 | 5.10 |
| MAY | | | | | | |
| 18... | K72 | 230 | 10 | 0.04 | 0.90 | 5.00 |
| JUN | | | | | | |
| 15... | K13000 | K15000 | 5520 | 0.06 | 0.60 | 3.10 |
| JUL | | | | | | |
| 27... | 490 | 920 | 16 | 0.05 | 0.50 | 5.40 |
| AUG | | | | | | |
| 24... | 160 | 900 | 12 | 0.05 | 0.60 | 4.20 |
| SEP | | | | | | |
| 28... | 240 | 410 | 13 | 0.03 | 0.50 | 4.20 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 1320 | 1370 | --- | --- | 1190 | 1170 | 1190 | --- | 1260 | 1290 | 1480 | 1690 |
| 2 | 1330 | 1400 | --- | --- | 1200 | 1160 | 1240 | 1490 | 1320 | 1430 | 1600 | 1340 |
| 3 | 1340 | 1370 | 1310 | --- | 1220 | 1110 | 1220 | 1390 | 1390 | 1520 | 1660 | 1480 |
| 4 | 1360 | 1370 | 1290 | --- | --- | 1130 | 1210 | 1330 | 1450 | 1570 | 1270 | 1560 |
| 5 | 1370 | 1350 | 1310 | --- | --- | 1160 | 1150 | 1410 | 1560 | 1640 | 635 | 1580 |
| 6 | 1360 | 1360 | 1300 | --- | --- | 1170 | 1140 | 1480 | 1550 | 1780 | 975 | 1600 |
| 7 | 1360 | 1360 | 1300 | --- | --- | 1170 | 1150 | 1390 | 1560 | 1940 | 1210 | 1620 |
| 8 | 1410 | 1330 | 1300 | --- | --- | 1180 | 1160 | 1230 | 1620 | 1150 | 1200 | 1670 |
| 9 | 1400 | 1340 | 1300 | --- | --- | 1220 | 1150 | 1220 | 1610 | 1290 | 1250 | 1710 |
| 10 | 1400 | 1330 | 1310 | --- | --- | 1210 | 1110 | 1270 | 895 | 719 | 762 | 1720 |
| 11 | 1420 | 1350 | 1320 | --- | --- | 1210 | 1120 | 1480 | 985 | 1130 | 1110 | 1730 |
| 12 | 1410 | 1360 | 1300 | --- | --- | 1240 | 1120 | 1460 | 1190 | 1320 | 1250 | 1710 |
| 13 | 1410 | 1350 | 1290 | 1380 | --- | 1220 | 1130 | 1550 | 1260 | 1440 | 1300 | 1220 |
| 14 | 1190 | 1340 | 1310 | --- | --- | 1280 | 1140 | --- | 1330 | 1510 | 1350 | 1260 |
| 15 | 1120 | 1320 | 1400 | --- | 1220 | 1240 | 1130 | 1770 | 1250 | 1560 | 1420 | 1210 |
| 16 | 1350 | 1250 | 1370 | --- | 1180 | --- | 1160 | 1720 | 1060 | 1680 | 1460 | 1330 |
| 17 | 1360 | 1250 | 1360 | --- | 1160 | --- | 1230 | 1740 | 1300 | 1740 | 1510 | 1410 |
| 18 | 1390 | 1260 | 1320 | --- | 1240 | 1280 | 1230 | 1560 | 1390 | 1750 | 1300 | 1440 |
| 19 | 1370 | 1250 | 1310 | --- | 1230 | 1290 | 1250 | 1510 | 1450 | 1760 | 1340 | 1460 |
| 20 | 1370 | 1320 | 1330 | --- | 1210 | 1270 | 1270 | 983 | 1360 | 1450 | 1490 | 1510 |
| 21 | 1350 | 1320 | 1350 | --- | --- | 1230 | 1320 | 1030 | 1390 | 1610 | --- | 1540 |
| 22 | 1340 | 1340 | --- | --- | --- | 1220 | 1360 | 1150 | 1240 | 1710 | --- | --- |
| 23 | 1380 | 1320 | --- | --- | --- | 1220 | 1400 | 1190 | 1020 | 1790 | 1730 | --- |
| 24 | 1390 | 1330 | --- | --- | --- | 1230 | 1400 | 1220 | 859 | 1870 | 1680 | --- |
| 25 | 1400 | 1340 | --- | --- | 1260 | 1230 | 1370 | 1280 | 1100 | 1860 | 1470 | --- |
| 26 | 1400 | --- | --- | 1400 | 1220 | 1230 | 1430 | 1260 | 1270 | 1780 | 1590 | --- |
| 27 | 1410 | --- | --- | --- | 1200 | 1220 | 1460 | 1220 | 964 | 1710 | 1640 | --- |
| 28 | 1420 | --- | --- | --- | 1190 | 1210 | 1440 | 1260 | 955 | 1670 | 1660 | 1550 |
| 29 | 1450 | --- | --- | 1260 | 1180 | 1190 | --- | 1270 | 1130 | 1750 | 1660 | 1520 |
| 30 | 1430 | --- | --- | 1250 | --- | 1200 | --- | 1330 | 1190 | 1400 | 1700 | 1500 |
| 31 | 1380 | --- | --- | 1190 | --- | 1150 | --- | 1370 | --- | 1330 | 1760 | --- |
| MEAN | 1370 | --- | --- | --- | --- | --- | --- | --- | 1260 | 1550 | --- | --- |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 24.6 | 10.0 | 16.6 | 9.5 | 4.9 | .9 | --- | --- | .0 | .0 | 14.7 | 3.4 |
| 2 | 24.8 | 11.9 | 16.7 | 9.1 | 6.2 | 1.4 | --- | --- | .0 | .0 | 7.0 | 3.2 |
| 3 | 26.2 | 12.1 | 13.7 | 6.7 | 9.5 | 3.8 | --- | --- | .8 | .0 | 9.3 | 1.8 |
| 4 | 25.0 | 12.0 | 15.9 | 5.5 | 8.9 | 2.0 | --- | --- | 1.1 | .0 | 10.6 | .2 |
| 5 | 22.1 | 11.7 | 15.5 | 5.8 | 9.4 | 4.7 | --- | --- | .8 | .0 | 11.3 | .0 |
| 6 | 20.6 | 9.9 | 15.2 | 7.6 | 10.6 | 3.6 | --- | --- | .3 | .0 | 13.2 | 1.5 |
| 7 | --- | --- | 15.0 | 6.3 | 10.1 | 2.2 | --- | --- | .5 | .0 | 5.8 | 1.8 |
| 8 | --- | --- | 12.1 | 5.4 | 8.2 | 2.4 | --- | --- | .3 | .0 | 11.4 | .0 |
| 9 | --- | --- | 11.8 | 2.4 | 7.5 | .0 | --- | --- | .4 | .1 | 14.3 | .2 |
| 10 | --- | --- | 11.4 | 1.9 | 9.2 | .7 | --- | --- | .4 | .2 | 11.6 | 2.4 |
| 11 | --- | --- | 12.4 | 5.4 | 8.8 | 2.5 | --- | --- | .8 | .2 | 6.9 | .4 |
| 12 | --- | --- | 12.7 | 2.8 | 3.3 | .7 | --- | --- | 8.6 | .5 | 10.1 | .0 |
| 13 | --- | --- | 12.0 | 3.6 | 2.0 | .0 | --- | --- | 9.1 | .4 | 9.2 | .1 |
| 14 | --- | --- | 11.8 | 3.7 | 2.2 | .0 | --- | --- | 8.8 | .0 | 9.8 | .0 |
| 15 | --- | --- | 6.3 | 1.3 | .0 | .0 | --- | --- | 9.8 | .0 | 10.7 | .0 |
| 16 | 16.9 | 5.5 | 7.9 | 1.5 | .1 | .0 | --- | --- | 9.1 | .7 | --- | --- |
| 17 | 18.0 | 5.2 | 6.5 | .0 | 1.2 | .0 | --- | --- | 7.5 | .3 | --- | --- |
| 18 | 16.8 | 5.9 | 7.2 | .2 | 4.6 | .0 | --- | --- | 7.4 | .0 | --- | --- |
| 19 | 15.2 | 5.6 | 8.2 | .4 | 5.0 | .0 | --- | --- | 9.4 | .0 | 15.3 | .2 |
| 20 | 15.5 | 5.0 | 9.6 | 1.4 | 6.3 | .0 | --- | --- | 10.3 | .0 | 16.5 | 2.5 |
| 21 | 19.7 | 3.6 | 9.3 | .8 | 3.1 | .0 | --- | --- | 11.8 | .5 | 17.3 | 3.8 |
| 22 | 14.4 | 4.6 | 9.6 | 2.0 | 5.2 | .0 | --- | --- | 9.8 | 2.0 | 15.9 | 5.3 |
| 23 | 16.0 | 4.5 | 7.4 | .6 | 4.3 | .0 | --- | --- | 10.1 | 1.8 | 18.2 | 5.2 |
| 24 | 14.1 | 5.7 | 7.8 | 1.3 | .4 | .0 | --- | --- | 10.2 | .0 | 14.1 | 5.5 |
| 25 | 16.0 | 8.0 | 6.6 | .6 | .3 | .0 | --- | --- | 11.8 | .0 | 13.0 | 2.5 |
| 26 | 16.9 | 7.9 | 4.7 | .5 | .2 | .0 | .2 | .0 | 13.3 | .8 | 17.7 | 3.4 |
| 27 | 15.5 | 6.1 | 6.3 | .2 | .2 | .0 | .0 | .0 | 13.6 | 1.5 | 17.9 | 4.6 |
| 28 | 16.1 | 5.6 | 4.4 | .0 | .5 | .0 | .4 | .0 | 12.9 | 4.5 | 7.3 | 2.1 |
| 29 | 16.8 | 6.1 | 3.8 | .0 | .2 | .0 | .0 | .0 | 13.1 | 2.2 | 13.5 | .0 |
| 30 | 14.6 | 9.7 | 4.7 | .5 | .1 | .0 | .2 | .0 | --- | --- | 11.9 | 2.2 |
| 31 | 18.4 | 8.5 | --- | --- | .0 | .0 | .0 | .0 | --- | --- | 3.2 | .2 |
| MONTH | --- | --- | 16.7 | .0 | 10.6 | .0 | --- | --- | 13.6 | .0 | --- | --- |

ARKANSAS RIVER BASIN

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07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 5.4 | 1.1 | --- | --- | 24.7 | 9.0 | 25.8 | 17.4 | 32.2 | 16.4 | 26.0 | 15.7 |
| 2 | 11.1 | 2.2 | --- | --- | 26.0 | 10.8 | --- | 19.1 | 31.8 | 17.1 | 24.2 | 14.3 |
| 3 | 16.7 | 2.2 | 20.1 | 3.1 | 27.8 | 13.0 | --- | --- | 30.8 | 18.5 | 25.9 | 13.7 |
| 4 | 15.8 | 6.2 | 22.0 | 6.5 | 27.8 | 12.7 | --- | --- | 24.9 | 19.1 | 27.0 | 12.2 |
| 5 | 17.4 | 7.3 | 21.5 | 7.8 | 26.4 | 14.3 | --- | --- | 24.0 | 19.2 | 26.9 | 11.9 |
| 6 | 19.1 | 5.3 | 17.6 | 9.5 | 29.2 | 12.8 | --- | --- | 28.6 | 18.4 | 26.2 | 11.7 |
| 7 | 21.0 | 6.6 | 19.9 | 7.6 | 30.0 | 13.6 | 27.7 | 18.4 | 27.5 | 18.8 | 25.9 | 13.1 |
| 8 | 17.0 | 5.7 | 17.4 | 7.0 | 30.1 | 14.2 | 28.2 | 16.1 | 27.9 | 17.1 | 26.0 | 12.9 |
| 9 | 10.5 | 4.0 | 22.7 | 6.6 | 28.9 | 14.7 | 28.2 | 15.9 | 28.1 | 17.3 | 26.3 | 12.7 |
| 10 | 15.9 | 2.9 | 21.5 | 8.7 | 25.3 | 14.3 | 26.1 | 14.9 | 25.0 | 14.6 | 27.8 | 12.9 |
| 11 | 18.0 | 4.0 | 24.8 | 9.2 | 25.4 | 15.9 | 29.2 | 15.3 | 27.1 | 17.5 | 26.5 | 14.4 |
| 12 | 20.3 | 5.5 | 25.7 | 9.9 | 28.5 | 15.6 | 31.0 | 16.5 | 28.4 | 16.8 | 14.6 | 12.5 |
| 13 | 21.8 | 7.2 | --- | --- | 24.2 | 15.2 | 32.4 | 17.0 | 29.2 | 15.9 | 15.1 | 11.6 |
| 14 | 16.6 | 7.3 | --- | --- | 28.0 | 13.4 | 31.4 | 18.2 | 30.3 | 15.5 | 21.1 | 12.7 |
| 15 | 19.7 | 5.9 | --- | --- | 27.5 | 16.3 | 28.7 | 17.7 | 29.0 | 16.8 | 21.6 | 13.3 |
| 16 | 17.6 | 7.4 | --- | --- | 27.9 | 14.1 | 29.9 | 17.5 | 30.5 | 16.7 | 23.7 | 11.2 |
| 17 | 17.9 | 8.9 | --- | --- | 30.6 | 14.5 | 32.4 | 17.1 | 27.9 | 17.4 | 25.9 | 11.3 |
| 18 | 20.8 | 7.1 | --- | --- | 30.6 | 15.8 | 32.0 | 16.7 | 29.3 | 18.1 | 24.9 | 12.4 |
| 19 | 21.3 | 8.7 | 15.2 | 8.6 | 31.3 | 16.1 | 21.7 | 16.8 | 28.9 | 16.8 | 21.5 | 9.0 |
| 20 | 20.6 | 8.3 | 10.3 | 7.8 | 31.0 | 16.2 | 29.2 | 16.5 | 30.4 | 17.3 | 23.5 | 9.0 |
| 21 | 21.4 | 8.6 | 16.7 | 8.2 | 29.3 | 16.5 | 30.9 | 15.3 | 30.5 | 17.4 | 19.6 | 13.3 |
| 22 | 18.3 | 6.1 | 14.0 | 8.6 | 29.2 | 16.5 | 28.6 | 14.8 | 29.3 | 20.8 | 21.2 | 12.1 |
| 23 | 21.7 | 6.4 | 21.8 | 9.5 | 28.6 | 17.7 | --- | --- | 28.9 | 20.6 | 20.8 | 13.8 |
| 24 | 16.5 | 5.6 | 25.8 | 11.7 | 29.0 | 17.9 | --- | --- | 30.3 | 17.5 | 23.7 | 10.3 |
| 25 | 20.7 | 5.0 | 25.8 | 12.0 | 30.4 | 17.9 | --- | --- | 27.8 | 18.3 | 23.5 | 11.4 |
| 26 | 19.8 | 4.9 | 27.0 | 11.6 | 30.1 | 17.7 | --- | --- | 30.2 | 16.9 | 22.4 | 11.4 |
| 27 | 21.5 | 4.8 | 25.0 | 12.2 | 26.3 | 17.4 | --- | --- | 23.5 | 16.3 | 21.3 | 11.9 |
| 28 | 20.4 | 6.4 | 25.6 | 11.8 | 30.1 | 18.4 | --- | --- | 27.6 | 14.9 | 19.8 | 10.2 |
| 29 | --- | --- | 26.2 | 12.1 | 30.6 | 18.9 | --- | --- | 28.7 | 13.8 | 19.3 | 7.0 |
| 30 | --- | --- | 24.7 | 13.0 | 26.6 | 17.3 | 29.4 | 17.3 | 29.0 | 14.5 | 21.5 | 8.4 |
| 31 | --- | --- | 21.5 | 10.4 | --- | --- | 30.5 | 17.2 | 29.4 | 14.5 | --- | --- |
| MONTH | --- | --- | --- | --- | 31.3 | 9.0 | --- | --- | 32.2 | 13.8 | 27.8 | 7.0 |

ARKANSAS RIVER BASIN

07108900 ST. CHARLES RIVER AT VINELAND, CO

LOCATION.--Lat 38°14'44", long 104°29'09", in NE¼SW¼ sec.6, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank at right downstream end of downstream bridge on U.S. Highway 50C, 1.6 mi west of Vineland, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--474 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 4,581.58 ft above National Geodetic Vertical Datum of 1929, (Colorado Division of Highways benchmark).

REMARKS.--Estimated daily discharges: Nov. 4-11, Dec. 15-16, 28 to Jan. 4, Jan. 13-14, 17-21, 25, 30-31, Feb. 1-2, 6, Aug. 16 to Sept. 2, and Sept. 12-30. Records good except those for periods of estimated daily discharges and those above 2,000 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 46.2 ft³/s; 33,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,560 ft³/s, Aug. 11, 1982, gage height, 12.70 ft, from rating curve extended above 1,800 ft³/s; minimum daily, 0.25 ft³/s, Apr. 25, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1901, 56,000 ft³/s, at a site 5.0 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,760 ft³/s, at 2230 July 7, gage height, 8.98 ft, from rating curve extended above 1,800 ft³/s; minimum daily, 8.2 ft³/s, July 26, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|-------|------|------|------|------|------|--------|-------|-------|
| 1 | 11 | 15 | 14 | 11 | 17 | 20 | 22 | 10 | 18 | 60 | 10 | 12 |
| 2 | 11 | 15 | 16 | 10 | 16 | 20 | 26 | 16 | 15 | 46 | 10 | 50 |
| 3 | 12 | 15 | 18 | 9.0 | 16 | 20 | 25 | 25 | 15 | 30 | 10 | 38 |
| 4 | 12 | 14 | 17 | 9.0 | 15 | 19 | 28 | 19 | 14 | 27 | 9.7 | 16 |
| 5 | 12 | 13 | 17 | 9.0 | 13 | 20 | 31 | 14 | 13 | 23 | 64 | 11 |
| 6 | 11 | 13 | 16 | 13 | 20 | 20 | 32 | 11 | 13 | 21 | 92 | 9.4 |
| 7 | 11 | 13 | 16 | 13 | 19 | 20 | 29 | 13 | 14 | 288 | 28 | 9.9 |
| 8 | 12 | 13 | 15 | 14 | 17 | 20 | 29 | 13 | 16 | 164 | 19 | 9.7 |
| 9 | 12 | 14 | 15 | 13 | 20 | 20 | 36 | 13 | 14 | 81 | 19 | 10 |
| 10 | 11 | 15 | 15 | 16 | 22 | 19 | 35 | 12 | 85 | 90 | 16 | 10 |
| 11 | 13 | 16 | 15 | 13 | 23 | 19 | 28 | 12 | 33 | 22 | 14 | 8.2 |
| 12 | 13 | 15 | 15 | 12 | 22 | 18 | 25 | 12 | 24 | 18 | 12 | 20 |
| 13 | 13 | 15 | 15 | 12 | 26 | 17 | 23 | 12 | 20 | 15 | 11 | 30 |
| 14 | 14 | 15 | 13 | 14 | 27 | 18 | 23 | 11 | 19 | 14 | 11 | 35 |
| 15 | 15 | 15 | 13 | 12 | 24 | 20 | 24 | 11 | 126 | 13 | 11 | 40 |
| 16 | 15 | 16 | 15 | 11 | 24 | 20 | 25 | 13 | 72 | 12 | 11 | 25 |
| 17 | 15 | 15 | 13 | 11 | 24 | 19 | 24 | 12 | 51 | 11 | 10 | 17 |
| 18 | 15 | 14 | 13 | 11 | 21 | 24 | 31 | 11 | 31 | 10 | 10 | 15 |
| 19 | 15 | 14 | 15 | 11 | 20 | 24 | 38 | 15 | 20 | 10 | 14 | 14 |
| 20 | 15 | 16 | 16 | 11 | 21 | 23 | 47 | 54 | 18 | 10 | 12 | 13 |
| 21 | 14 | 16 | 14 | 12 | 22 | 23 | 44 | 76 | 18 | 9.6 | 11 | 12 |
| 22 | 14 | 16 | 14 | 11 | 22 | 23 | 43 | 61 | 17 | 10 | 10 | 12 |
| 23 | 14 | 15 | 15 | 14 | 20 | 22 | 39 | 56 | 16 | 9.4 | 10 | 17 |
| 24 | 15 | 15 | 13 | 12 | 21 | 21 | 30 | 48 | 15 | 9.5 | 9.5 | 14 |
| 25 | 15 | 14 | 12 | 16 | 22 | 21 | 24 | 50 | 14 | 8.8 | 9.5 | 12 |
| 26 | 16 | 16 | 13 | 14 | 20 | 19 | 20 | 51 | 17 | 8.2 | 9.5 | 11 |
| 27 | 16 | 15 | 9.4 | 13 | 20 | 19 | 16 | 54 | 21 | 8.7 | 9.5 | 10 |
| 28 | 16 | 14 | 9.4 | 13 | 20 | 19 | 15 | 53 | 24 | 8.8 | 9.0 | 10 |
| 29 | 16 | 14 | 11 | 14 | 20 | 20 | 15 | 46 | 24 | 8.9 | 8.5 | 10 |
| 30 | 17 | 16 | 12 | 15 | --- | 21 | 15 | 33 | 25 | 16 | 8.5 | 10 |
| 31 | 17 | --- | 11 | 16 | --- | 22 | --- | 23 | --- | 11 | 8.5 | --- |
| TOTAL | 428 | 442 | 435.8 | 385.0 | 594 | 630 | 842 | 860 | 822 | 1073.9 | 497.2 | 511.2 |
| MEAN | 13.8 | 14.7 | 14.1 | 12.4 | 20.5 | 20.3 | 28.1 | 27.7 | 27.4 | 34.6 | 16.0 | 17.0 |
| MAX | 17 | 16 | 18 | 16 | 27 | 24 | 47 | 76 | 126 | 288 | 92 | 50 |
| MIN | 11 | 13 | 9.4 | 9.0 | 13 | 17 | 15 | 10 | 13 | 8.2 | 8.5 | 8.2 |
| AC-FT | 849 | 877 | 864 | 764 | 1180 | 1250 | 1670 | 1710 | 1630 | 2130 | 986 | 1010 |

CAL YR 1987 TOTAL 31814.8 MEAN 87.2 MAX 735 MIN 9.4 AC-FT 63100
WTR YR 1988 TOTAL 7521.1 MEAN 20.5 MAX 288 MIN 8.2 AC-FT 14920

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LOCATION.--Lat 38°14'53", long 104°23'55", in NE¼SW¼ sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank 15 ft downstream from bridge on Sixmile Rd., 0.3 mi upstream from Sixmile Creek, and 2.6 mi west of Avondale.

DRAINAGE AREA.--6,327 mi².

PERIOD OF RECORD.--May 1939 to September 1951, February 1965 to current year.

REVISED RECORDS.--WSP 1087: 1942. WSP 1311: Drainage area.

GAGE---Water-stage recorder. Datum of gage is 4,509.53 ft above National Geodetic Vertical Datum of 1929.
Prior to February 1965, at site 550 ft downstream at datum 1.37 ft. lower.

REMARKS.--Estimated daily discharges: Dec. 16-17. Records good except for period of estimated daily discharge, which is fair. 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.

AVERAGE DISCHARGE.--20 years (water years 1940-51, 1966-73), 867 ft³/s; 628,100 acre-ft/yr, prior to completion of Pueblo Dam; 14 years (water years 1975-88), 991 ft³/s; 718,000 acre-ft/yr, subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 50,000 ft³/s, June 18, 1965, gage height, 9.77 ft, from rating curve extended above 6,700 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; minimum daily, 50 ft³/s, Apr. 2, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,270 ft³/s at 1500 Aug. 5, gage height, 3.60 ft; minimum daily, 276 ft³/s. Dec. 15.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-----------|----------|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 479 | 588 | 289 | 567 | 777 | 357 | 598 | 525 | 1280 | 2400 | 1880 | 507 |
| 2 | 430 | 585 | 293 | 564 | 734 | 356 | 568 | 662 | 885 | 1890 | 2020 | 612 |
| 3 | 417 | 580 | 303 | 565 | 649 | 378 | 542 | 735 | 771 | 1520 | 2110 | 547 |
| 4 | 381 | 590 | 300 | 575 | 620 | 369 | 540 | 687 | 866 | 1050 | 2000 | 456 |
| 5 | 372 | 597 | 301 | 562 | 543 | 362 | 613 | 675 | 940 | 994 | 2530 | 389 |
| 6 | 374 | 599 | 291 | 544 | 500 | 356 | 735 | 625 | 1650 | 1880 | 1460 | 314 |
| 7 | 378 | 603 | 297 | 544 | 521 | 362 | 820 | 626 | 2270 | 1860 | 712 | 324 |
| 8 | 376 | 600 | 301 | 542 | 571 | 465 | 783 | 649 | 2190 | 1910 | 775 | 372 |
| 9 | 372 | 606 | 299 | 524 | 623 | 515 | 603 | 773 | 1930 | 1390 | 1110 | 372 |
| 10 | 398 | 617 | 288 | 522 | 675 | 511 | 634 | 729 | 2140 | 2200 | 1420 | 343 |
| 11 | 401 | 607 | 289 | 556 | 696 | 498 | 663 | 726 | 2210 | 1840 | 948 | 354 |
| 12 | 397 | 601 | 286 | 630 | 703 | 493 | 644 | 704 | 2110 | 1650 | 828 | 349 |
| 13 | 395 | 586 | 294 | 613 | 694 | 491 | 639 | 612 | 1980 | 1510 | 825 | 459 |
| 14 | 410 | 586 | 289 | 609 | 674 | 517 | 627 | 409 | 1920 | 1400 | 774 | 755 |
| 15 | 518 | 405 | 276 | 639 | 657 | 721 | 646 | 496 | 1840 | 1190 | 821 | 592 |
| 16 | 461 | 340 | 278 | 642 | 654 | 664 | 591 | 685 | 1680 | 683 | 846 | 557 |
| 17 | 497 | 338 | 280 | 622 | 629 | 625 | 572 | 909 | 1260 | 811 | 771 | 500 |
| 18 | 488 | 313 | 282 | 610 | 564 | 577 | 610 | 1010 | 1220 | 728 | 914 | 484 |
| 19 | 498 | 312 | 283 | 576 | 507 | 517 | 677 | 1180 | 1190 | 886 | 978 | 495 |
| 20 | 522 | 301 | 287 | 640 | 395 | 516 | 678 | 1440 | 1180 | 1020 | 947 | 434 |
| 21 | 526 | 280 | 312 | 669 | 376 | 526 | 619 | 1640 | 1200 | 1030 | 886 | 440 |
| 22 | 521 | 278 | 548 | 676 | 374 | 537 | 555 | 1500 | 1490 | 968 | 904 | 475 |
| 23 | 525 | 289 | 573 | 662 | 376 | 533 | 569 | 1170 | 1680 | 821 | 1100 | 455 |
| 24 | 505 | 289 | 602 | 657 | 356 | 526 | 695 | 1020 | 1850 | 692 | 1070 | 404 |
| 25 | 495 | 291 | 626 | 653 | 355 | 582 | 685 | 800 | 1650 | 763 | 1070 | 374 |
| 26 | 498 | 312 | 629 | 645 | 362 | 562 | 456 | 617 | 1490 | 1390 | 899 | 369 |
| 27 | 515 | 313 | 629 | 687 | 352 | 531 | 409 | 712 | 1610 | 1690 | 928 | 358 |
| 28 | 533 | 306 | 620 | 741 | 349 | 537 | 497 | 841 | 1440 | 1590 | 987 | 340 |
| 29 | 547 | 295 | 575 | 784 | 351 | 565 | 500 | 996 | 1640 | 1570 | 918 | 355 |
| 30 | 557 | 294 | 577 | 797 | --- | 561 | 487 | 1210 | 2060 | 1780 | 745 | 352 |
| 31 | 581 | --- | 584 | 796 | --- | 555 | --- | 1310 | --- | 1830 | 553 | --- |
| TOTAL | 14367 | 13301 | 12081 | 19413 | 15637 | 15665 | 18255 | 26673 | 47622 | 42936 | 34729 | 13137 |
| MEAN | 463 | 443 | 390 | 626 | 539 | 505 | 608 | 860 | 1587 | 1385 | 1120 | 438 |
| MAX | 581 | 617 | 629 | 797 | 777 | 721 | 820 | 1640 | 2270 | 2400 | 2530 | 755 |
| MIN | 372 | 278 | 276 | 522 | 349 | 356 | 409 | 409 | 771 | 683 | 553 | 314 |
| AC-FT | 28500 | 26380 | 23960 | 38510 | 31020 | 31070 | 36210 | 52910 | 94460 | 85160 | 68880 | 26060 |
| CAL YR 1987 | TOTAL 454010 | MEAN 1244 | MAX 5910 | MIN 276 | AC | | | | | | | |

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April to October 1976, April 1979 to September 1980, December 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1979 to September 1980, December 1985 to current year.

WATER TEMPERATURE: July 1979 to September 1980, December 1985 to current year.

pH: July 1979 to September 1980.

DISSOLVED OXYGEN: July 1979 to September 1980.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Water-quality data prior to December 1985 published in other reports. Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance data available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,380 microsiemens Jan. 24-25, 1980; minimum, 246 microsiemens June 16, 1980.

WATER TEMPERATURE: Maximum, 31.5°C Aug. 6, 1980; minimum, 0.0°C many days during severe winters.

pH: Maximum, 8.6 units July 20-21, 1980; minimum, 7.4 units May 13, 1980.

DISSOLVED OXYGEN: Not determined.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,180 microsiemens Nov. 22, minimum, 500 microsiemens Aug. 4.

WATER TEMPERATURE: Maximum, 26.1°C Aug. 21, 24; minimum, 0.0°C, on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | OXYGEN, DIS- SOLVED (MG/L) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-------|------|---|---|--------------------------------|-------------------------------------|--|--|
| OCT | | | | | | | |
| 13... | 1300 | 399 | 806 | 8.2 | 8.9 | 1.40 | 0.04 |
| NOV | | | | | | | |
| 12... | 1400 | 574 | 813 | 8.3 | 9.5 | 1.40 | 0.04 |
| DEC | | | | | | | |
| 09... | 1100 | 282 | 1140 | 8.2 | 10.2 | 3.30 | 0.25 |
| JAN | | | | | | | |
| 14... | 1000 | 602 | 812 | 8.2 | 11.3 | 1.60 | 0.40 |
| FEB | | | | | | | |
| 18... | 1230 | 556 | 886 | 8.2 | 10.8 | 2.00 | 0.33 |
| MAR | | | | | | | |
| 14... | 1000 | 484 | 910 | 7.9 | 10.6 | 2.30 | 0.25 |
| APR | | | | | | | |
| 18... | 1300 | 578 | 838 | 8.3 | 9.4 | 1.60 | 0.05 |
| MAY | | | | | | | |
| 16... | 1200 | 664 | 734 | 8.0 | 9.5 | 0.800 | 0.03 |
| JUN | | | | | | | |
| 15... | 1300 | 2010 | 743 | 8.1 | 7.2 | 0.600 | 0.06 |
| JUL | | | | | | | |
| 15... | 1200 | 1390 | 581 | 8.1 | 7.2 | 0.500 | 0.06 |
| AUG | | | | | | | |
| 16... | 1400 | 854 | 604 | 8.2 | 6.9 | 0.700 | <0.01 |
| SEP | | | | | | | |
| 16... | 1100 | 548 | 788 | 8.1 | 7.1 | 1.40 | <0.01 |

ARKANSAS RIVER BASIN

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07109500 ARKANSAS RIVER NEAR AVONDALE, CO---Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|------|------|-----|------|------|-----|-----|-----|-----|-----|-----|
| 1 | 768 | 793 | 1120 | 788 | 791 | 1060 | 849 | 776 | 673 | 624 | --- | 767 |
| 2 | 798 | 796 | 1130 | 785 | 791 | 1060 | 868 | 750 | 723 | 633 | --- | 779 |
| 3 | 782 | 814 | 1130 | 768 | 840 | 1050 | 880 | 749 | 768 | 640 | --- | 758 |
| 4 | 786 | 808 | 1140 | 789 | 849 | 1040 | 886 | 767 | 771 | 668 | --- | 792 |
| 5 | 805 | 795 | 1140 | 804 | 898 | 1050 | 863 | 756 | 768 | 673 | 543 | 831 |
| 6 | 815 | 821 | 1130 | 799 | 912 | 1050 | 784 | 624 | 624 | 590 | 608 | 884 |
| 7 | 841 | 828 | 1120 | 774 | 903 | 1050 | 752 | 758 | 611 | 594 | 719 | 857 |
| 8 | 824 | 827 | 1110 | 788 | 909 | 942 | 762 | 790 | 625 | 668 | 705 | 802 |
| 9 | 821 | 803 | 1110 | 786 | 866 | 885 | 754 | 745 | 624 | 660 | 662 | 800 |
| 10 | 798 | 815 | 1130 | 772 | 837 | 896 | 767 | 747 | 712 | 626 | --- | 820 |
| 11 | 795 | 803 | 1130 | 774 | 810 | 905 | 806 | 731 | 668 | 616 | --- | 789 |
| 12 | 795 | 804 | 1130 | 788 | 804 | 901 | 793 | 730 | 651 | 615 | --- | 809 |
| 13 | 811 | 817 | 1100 | 816 | 818 | 900 | 786 | 759 | 658 | 602 | --- | 812 |
| 14 | 846 | 827 | 1120 | 819 | 827 | 899 | 810 | 846 | 658 | 598 | --- | 736 |
| 15 | 806 | 988 | 1120 | 833 | 833 | 795 | 808 | 765 | 675 | 622 | --- | 797 |
| 16 | 830 | 1100 | 1120 | 836 | 847 | 808 | 839 | 714 | 672 | 705 | 618 | 813 |
| 17 | 791 | 1100 | 1130 | 833 | 865 | 824 | 845 | 684 | 703 | 656 | 630 | 820 |
| 18 | 804 | 1120 | 1120 | 835 | 894 | 845 | 840 | 682 | 676 | 653 | 615 | 812 |
| 19 | 804 | 1120 | 1120 | 798 | 956 | 865 | 781 | 667 | 673 | --- | 615 | 878 |
| 20 | 788 | 1120 | 1130 | 768 | 1060 | 866 | 782 | 695 | 676 | --- | 595 | 931 |
| 21 | 786 | 1130 | 1110 | 820 | 1070 | 873 | 795 | 678 | 697 | --- | 587 | 848 |
| 22 | 806 | 1150 | 821 | 815 | 1070 | 879 | 759 | 688 | 667 | --- | 590 | 819 |
| 23 | 787 | 1130 | 812 | 841 | 1060 | 871 | 777 | 713 | 660 | --- | 552 | 817 |
| 24 | 818 | 1120 | 785 | 840 | 1070 | 870 | 744 | 733 | 636 | --- | 562 | 869 |
| 25 | 804 | 1120 | 779 | 831 | 1080 | 844 | 759 | --- | 648 | --- | 589 | 891 |
| 26 | 810 | 1100 | 764 | 819 | 1070 | 840 | 859 | 793 | 642 | --- | 598 | 893 |
| 27 | 798 | 1110 | 768 | 824 | 1080 | 859 | 895 | 770 | 688 | --- | 585 | 886 |
| 28 | 792 | 1130 | 774 | 805 | 1070 | 868 | 809 | 726 | 680 | --- | 583 | 881 |
| 29 | 770 | 1120 | 797 | 790 | 1060 | 851 | 795 | 700 | 643 | --- | 593 | 856 |
| 30 | 787 | 1130 | 800 | 794 | --- | 856 | 801 | 664 | 624 | --- | 610 | 842 |
| 31 | 783 | --- | 809 | 796 | --- | 866 | --- | 656 | --- | --- | 714 | --- |
| MEAN | 802 | 971 | 1020 | 804 | 929 | 909 | 808 | --- | 673 | --- | --- | 830 |
| MAX | 846 | 1150 | 1140 | 841 | 1080 | 1060 | 895 | --- | 771 | --- | --- | 931 |
| MIN | 768 | 793 | 764 | 768 | 791 | 795 | 744 | --- | 611 | --- | --- | 736 |

CAL YR 1987 MEAN 702 MAX 1150 MIN 406

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 20.7 | 14.7 | 14.5 | 12.0 | 4.7 | .4 | .9 | .0 | 1.3 | .4 | 11.8 | 5.7 |
| 2 | 19.9 | 14.6 | 15.2 | 11.7 | 5.5 | 1.7 | 1.3 | .0 | 1.6 | .0 | 8.7 | 4.9 |
| 3 | 20.4 | 14.2 | 13.7 | 10.4 | 7.5 | 3.5 | .6 | .0 | 4.9 | .6 | 7.4 | 3.6 |
| 4 | 20.3 | 14.3 | 14.1 | 9.8 | 7.4 | 4.2 | .6 | .0 | 3.0 | .0 | 8.2 | 3.1 |
| 5 | 19.4 | 14.3 | 14.2 | 9.8 | 8.3 | 6.1 | .4 | .0 | 1.7 | .0 | 9.2 | 2.1 |
| 6 | 18.7 | 12.8 | 14.1 | 10.8 | 9.2 | 5.8 | .0 | .0 | 3.4 | .0 | 10.8 | 4.2 |
| 7 | 17.8 | 12.7 | 13.5 | 10.2 | 8.6 | 4.6 | .7 | .0 | 4.7 | .0 | 8.2 | 4.2 |
| 8 | 17.6 | 13.0 | 12.8 | 10.0 | 7.3 | 4.9 | 1.4 | .0 | 4.7 | .3 | 8.2 | 2.0 |
| 9 | 17.9 | 13.4 | 11.6 | 7.7 | 6.3 | 2.8 | 2.1 | .0 | 5.2 | .4 | 10.0 | 3.0 |
| 10 | 15.7 | 11.1 | 11.2 | 7.3 | 7.6 | 3.3 | 2.7 | .0 | 3.3 | .2 | 9.1 | 5.1 |
| 11 | 16.5 | 10.3 | 12.0 | 9.2 | 7.5 | 4.5 | 4.5 | .4 | 4.1 | .0 | 6.3 | 3.1 |
| 12 | 16.8 | 11.0 | 11.9 | 7.7 | 4.8 | 3.0 | 3.2 | .2 | 6.0 | .9 | 7.4 | 2.4 |
| 13 | 16.5 | 13.7 | 11.5 | 8.2 | 3.3 | 2.1 | 3.1 | .0 | 6.0 | 1.2 | 7.7 | 2.4 |
| 14 | 15.0 | 12.2 | 11.2 | 7.9 | 3.8 | .4 | 3.7 | .0 | 5.2 | 1.3 | 7.6 | 1.9 |
| 15 | 16.0 | 11.1 | 9.9 | 4.7 | .5 | .0 | 3.9 | .6 | 6.3 | 1.0 | 7.3 | 2.2 |
| 16 | 15.4 | 11.2 | 8.0 | 4.0 | .3 | .0 | 2.2 | .9 | 5.7 | 2.2 | 4.8 | 2.2 |
| 17 | 16.0 | 10.4 | 6.8 | 2.9 | 3.6 | .0 | 3.0 | .5 | 5.9 | 2.0 | 5.3 | 1.5 |
| 18 | 15.4 | 10.9 | 7.1 | 3.1 | 5.6 | 1.4 | 1.6 | .0 | 5.1 | .8 | 8.0 | 1.3 |
| 19 | 14.5 | 10.5 | 7.7 | 2.6 | 5.1 | 1.3 | 1.7 | .0 | 6.3 | 2.1 | 10.6 | 3.2 |
| 20 | 14.5 | 10.0 | 8.6 | 3.7 | 5.8 | 3.1 | 2.1 | .0 | 8.1 | 2.3 | 12.1 | 4.9 |
| 21 | 14.8 | 9.3 | 8.3 | 3.9 | 3.8 | 1.0 | 2.3 | .0 | 9.1 | 3.2 | 12.9 | 5.8 |
| 22 | 13.9 | 10.0 | 8.9 | 4.6 | 5.1 | 2.0 | 3.2 | .0 | 7.4 | 3.9 | 11.2 | 6.7 |
| 23 | 14.4 | 9.4 | 7.2 | 3.7 | 4.6 | 2.5 | 3.6 | .1 | 8.0 | 3.2 | 13.5 | 7.0 |
| 24 | 13.3 | 10.1 | 7.4 | 3.6 | 2.5 | 1.0 | 3.4 | .0 | 8.0 | 2.2 | 11.3 | 7.1 |
| 25 | 15.8 | 11.4 | 6.4 | 2.5 | 2.0 | 1.1 | 2.8 | .0 | 9.1 | 2.7 | 10.6 | 5.0 |
| 26 | 15.5 | 10.6 | 4.7 | 2.3 | 2.2 | .5 | 4.0 | .0 | 10.1 | 3.6 | 12.9 | 5.7 |
| 27 | 14.5 | 10.4 | 6.0 | 2.7 | 2.4 | .8 | 3.5 | .2 | 10.6 | 4.2 | 13.2 | 6.9 |
| 28 | 14.7 | 9.7 | 5.0 | .9 | 2.7 | .0 | 4.8 | .3 | 10.4 | 6.2 | 10.1 | 4.3 |
| 29 | 14.8 | 10.3 | 4.7 | .7 | 2.4 | .0 | 3.3 | 1.3 | 10.7 | 4.8 | 10.3 | 2.7 |
| 30 | 14.3 | 12.1 | 4.8 | .7 | 3.0 | .0 | 5.3 | 1.1 | --- | --- | 8.8 | 4.9 |
| 31 | 15.5 | 11.5 | --- | --- | 2.2 | .2 | 2.5 | .8 | --- | --- | 6.0 | 2.5 |
| MONTH | 20.7 | 9.3 | 15.2 | .7 | 9.2 | .0 | 5.3 | .0 | 10.7 | .0 | 13.5 | 1.3 |

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 5.4 | 3.1 | 15.4 | 11.2 | 17.7 | 10.3 | 20.4 | 14.7 | --- | --- | 23.1 | 19.7 |
| 2 | 9.4 | 3.3 | 11.4 | 7.1 | 18.7 | 11.7 | 20.8 | 14.7 | --- | --- | 22.8 | 18.4 |
| 3 | 12.8 | 4.9 | 15.6 | 6.6 | 20.4 | 12.9 | 22.0 | 14.7 | --- | --- | 24.2 | 18.0 |
| 4 | 11.5 | 7.6 | 16.6 | 8.8 | 20.2 | 12.5 | 21.6 | 15.3 | --- | --- | 24.2 | 17.1 |
| 5 | 13.8 | 7.8 | 16.4 | 9.8 | 17.7 | 13.1 | 23.0 | 15.6 | 22.7 | 19.3 | 24.5 | 17.1 |
| 6 | 13.9 | 6.5 | 16.3 | 10.9 | 18.4 | 11.5 | 21.7 | 15.5 | 25.4 | 19.1 | 24.4 | 16.7 |
| 7 | 14.5 | 6.9 | 16.3 | 8.3 | 17.6 | 11.5 | 20.2 | 16.0 | 23.8 | 20.0 | 24.3 | 17.4 |
| 8 | 11.6 | 7.5 | 15.1 | 9.7 | 18.5 | 11.8 | 20.8 | 15.2 | 25.2 | 18.8 | 23.9 | 17.8 |
| 9 | 9.3 | 6.1 | 16.5 | 9.3 | 18.2 | 12.4 | 20.5 | 15.6 | 24.3 | 18.8 | 23.8 | 17.3 |
| 10 | 12.6 | 5.3 | 16.5 | 10.4 | 19.0 | 12.7 | 21.1 | 15.4 | 21.5 | 16.9 | 24.9 | 17.6 |
| 11 | 13.4 | 6.2 | 18.8 | 10.3 | 17.8 | 13.0 | 22.1 | 15.4 | 23.9 | 19.6 | 23.4 | 18.5 |
| 12 | 15.0 | 7.1 | 19.4 | 11.0 | 18.2 | 12.5 | 22.3 | 16.1 | 25.1 | 19.5 | 18.3 | 15.8 |
| 13 | 15.2 | 8.4 | 19.9 | 11.7 | 16.1 | 12.5 | 23.3 | 16.2 | 25.0 | 19.5 | 16.4 | 15.3 |
| 14 | 12.6 | 8.3 | 20.6 | 13.7 | 18.8 | 12.0 | 22.7 | 16.9 | 25.3 | 19.7 | 20.7 | 15.7 |
| 15 | 14.5 | 7.4 | 20.1 | 12.8 | 17.9 | 13.3 | 21.3 | 16.7 | 24.8 | 20.6 | 21.5 | 16.5 |
| 16 | 12.9 | 8.9 | 19.9 | 11.7 | 19.8 | 12.8 | 24.2 | 17.5 | 26.0 | 20.8 | 22.1 | 15.8 |
| 17 | 13.4 | 9.5 | 18.3 | 11.9 | 21.2 | 13.6 | 24.4 | 16.9 | 24.2 | 19.5 | 22.9 | 15.9 |
| 18 | 15.8 | 8.6 | 16.7 | 12.4 | 20.8 | 13.9 | 22.2 | 17.0 | 25.2 | 19.9 | 22.8 | 17.0 |
| 19 | 16.4 | 9.2 | 13.5 | 10.4 | 20.2 | 13.7 | --- | --- | 25.4 | 19.3 | 20.2 | 14.0 |
| 20 | 15.4 | 9.4 | 10.5 | 9.6 | 20.9 | 13.9 | --- | --- | 25.3 | 19.4 | 21.1 | 13.9 |
| 21 | 16.0 | 9.7 | 13.9 | 9.8 | 20.1 | 14.4 | --- | --- | 26.1 | 19.5 | 19.6 | 16.9 |
| 22 | 13.5 | 7.6 | 12.5 | 9.8 | 20.0 | 14.0 | --- | --- | 26.0 | 20.2 | 21.7 | 15.7 |
| 23 | 15.5 | 5.2 | 15.2 | 10.2 | 21.1 | 14.4 | --- | --- | 26.0 | 20.1 | 21.0 | 16.2 |
| 24 | 12.1 | 7.6 | 18.8 | 11.7 | 21.1 | 14.6 | --- | --- | 26.1 | 20.5 | 21.9 | 14.6 |
| 25 | 15.1 | 7.3 | 19.0 | 12.1 | 21.0 | 14.7 | --- | --- | 25.5 | 20.5 | 22.3 | 15.2 |
| 26 | 16.1 | 6.8 | 19.6 | 12.2 | 19.4 | 14.7 | --- | --- | 26.0 | 20.0 | 22.2 | 15.3 |
| 27 | 17.4 | 8.4 | 19.8 | 12.8 | 21.2 | 15.2 | --- | --- | 22.5 | 19.5 | 22.3 | 15.2 |
| 28 | 16.2 | 9.1 | 18.9 | 12.2 | 21.5 | 15.3 | --- | --- | 24.2 | 18.7 | 17.6 | 14.7 |
| 29 | 17.2 | 10.9 | 19.2 | 12.2 | 20.3 | 15.2 | --- | --- | 24.8 | 18.7 | 17.0 | 12.4 |
| 30 | 18.6 | 10.6 | 17.4 | 12.3 | 19.4 | 14.9 | --- | --- | 24.7 | 18.7 | 19.5 | 13.1 |
| 31 | --- | --- | 14.6 | 10.9 | --- | --- | --- | --- | 25.8 | 18.7 | --- | --- |
| MONTH | 18.6 | 3.1 | 20.6 | 6.6 | 21.5 | 10.3 | --- | --- | --- | --- | 24.9 | 12.4 |

07116500 HUERFANO RIVER NEAR BOONE, CO

LOCATION.--Lat 38°13'30", long 104°15'37", in NE¼NE¼ sec.18, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020006, at right upstream end of bridge on U.S. Highway 50, 0.8 mi upstream from mouth, and 1.6 mi south of Boone.

DRAINAGE AREA.--1,875 mi².

PERIOD OF RECORD.--January 1922 to September 1925 (monthly and annual discharge only, published in WSP 1311 as near Nepesta), October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,443.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 15 to Feb. 18, and parts of the period July 20 to Sept. 30, which was mostly no flow. Records good except for estimated daily discharges, and those for extremely low flows during the summer, which are poor. Natural flow of stream affected by diversions for irrigation of about 48,000 acres, and return flow from irrigated areas. Several observations of water temperature and specific conductance were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years (water years 1923-25, 1980-88), 47.8 ft³/s; 34,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft³/s, Aug. 1, 1923, gage height, 9.4 ft, datum then in use, from rating curve extended above 1,200 ft³/s, on the basis of slope-area measurement of peak flow; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft³/s at 2400 July 7, gage height, 9.85 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|------|------|------|------|--------|--------|--------|--------|-------|------|
| 1 | 1.3 | 5.8 | 30 | 25 | 55 | 43 | 67 | 4.3 | .89 | 1.8 | .00 | .10 |
| 2 | .39 | 7.2 | 32 | 22 | 50 | 42 | 78 | 5.2 | .55 | 2.1 | .00 | 2.0 |
| 3 | .40 | 7.4 | 34 | 20 | 45 | 36 | 71 | 5.8 | .51 | .68 | .00 | .80 |
| 4 | .50 | 6.5 | 38 | 17 | 40 | 36 | 68 | 4.8 | .49 | .51 | .00 | .20 |
| 5 | .81 | 6.2 | 34 | 15 | 40 | 31 | 96 | 4.5 | .41 | .00 | 10 | .02 |
| 6 | .93 | 6.2 | 39 | 15 | 45 | 27 | 82 | 3.7 | .39 | .00 | 1.0 | .00 |
| 7 | 1.0 | 6.3 | 34 | 15 | 50 | 37 | 67 | 3.5 | 1.5 | 25 | .20 | .00 |
| 8 | 1.3 | 6.6 | 31 | 18 | 60 | 41 | 69 | 3.9 | 7.1 | 115 | .08 | .00 |
| 9 | 1.3 | 9.7 | 30 | 21 | 65 | 32 | 85 | 3.9 | 7.2 | 1.3 | .02 | .00 |
| 10 | .98 | 11 | 28 | 23 | 70 | 37 | 217 | 3.7 | 9.8 | 9.4 | .00 | .00 |
| 11 | 1.2 | 11 | 24 | 23 | 70 | 30 | 255 | 4.0 | 12 | .15 | .00 | .00 |
| 12 | 2.1 | 8.1 | 28 | 21 | 70 | 28 | 255 | 3.2 | 12 | .02 | .00 | 1.0 |
| 13 | 2.5 | 8.1 | 22 | 20 | 70 | 27 | 217 | 2.6 | 9.6 | .00 | .00 | .70 |
| 14 | 5.6 | 9.8 | 20 | 23 | 65 | 27 | 193 | 2.4 | 10 | .00 | .00 | .50 |
| 15 | 6.0 | 17 | 19 | 25 | 60 | 33 | 184 | 2.3 | 30 | .00 | .00 | .30 |
| 16 | 5.6 | 15 | 25 | 28 | 55 | 28 | 177 | 2.2 | 9.8 | .00 | .00 | .10 |
| 17 | 7.7 | 17 | 31 | 30 | 55 | 27 | 164 | 2.1 | 6.5 | .00 | .00 | .03 |
| 18 | 8.5 | 20 | 33 | 26 | 60 | 27 | 205 | 2.1 | 5.2 | .00 | .00 | .00 |
| 19 | 5.9 | 25 | 35 | 22 | 65 | 48 | 168 | 3.1 | 5.3 | .00 | .00 | .00 |
| 20 | 4.5 | 28 | 34 | 20 | 74 | 49 | 58 | 5.9 | 4.5 | .00 | .00 | .00 |
| 21 | 3.9 | 25 | 32 | 24 | 89 | 39 | 8.6 | 6.1 | 3.0 | .00 | .00 | .00 |
| 22 | 2.5 | 24 | 30 | 30 | 62 | 34 | 5.8 | 4.0 | 1.7 | .00 | .00 | .00 |
| 23 | 2.5 | 23 | 30 | 35 | 36 | 28 | 5.2 | 4.3 | 2.2 | .00 | .00 | .00 |
| 24 | 2.2 | 24 | 25 | 40 | 44 | 36 | 5.1 | 3.2 | 1.8 | .00 | .00 | .00 |
| 25 | 3.0 | 24 | 20 | 35 | 42 | 31 | 5.0 | 3.1 | 1.8 | .00 | .00 | .00 |
| 26 | 2.5 | 35 | 20 | 35 | 41 | 26 | 4.8 | 1.5 | 1.8 | .00 | .00 | .00 |
| 27 | 2.6 | 33 | 23 | 40 | 38 | 20 | 4.9 | 1.4 | 1.9 | .00 | .00 | .00 |
| 28 | 2.9 | 33 | 25 | 45 | 45 | 20 | 4.5 | 1.3 | 1.6 | .00 | .00 | .00 |
| 29 | 3.8 | 35 | 28 | 55 | 49 | 11 | 5.0 | 1.2 | 1.5 | .00 | .00 | .00 |
| 30 | 5.7 | 29 | 30 | 60 | --- | 15 | 5.0 | .66 | 1.2 | .00 | .00 | .00 |
| 31 | 5.9 | --- | 30 | 60 | --- | 37 | --- | .69 | --- | .00 | .00 | --- |
| TOTAL | 96.01 | 516.9 | 894 | 888 | 1610 | 983 | 2829.9 | 100.65 | 152.24 | 155.96 | 11.30 | 5.75 |
| MEAN | 3.10 | 17.2 | 28.8 | 28.6 | 55.5 | 31.7 | 94.3 | 3.25 | 5.07 | 5.03 | .36 | .19 |
| MAX | 8.5 | 35 | 39 | 60 | 89 | 49 | 255 | 6.1 | 30 | 115 | 10 | 2.0 |
| MIN | .39 | 5.8 | 19 | 15 | 36 | 11 | 4.5 | .66 | .39 | .00 | .00 | .00 |
| AC-FT | 190 | 1030 | 1770 | 1760 | 3190 | 1950 | 5610 | 200 | 302 | 309 | 22 | 11 |
| CAL YR 1987 | TOTAL | 54589.77 | MEAN | 150 | MAX | 1790 | MIN | .00 | AC-FT | 108300 | | |
| WTR YR 1988 | TOTAL | 8243.71 | MEAN | 22.5 | MAX | 255 | MIN | .00 | AC-FT | 16350 | | |

ARKANSAS RIVER BASIN

07117000 ARKANSAS RIVER NEAR NEPESTA, CO

LOCATION.--Lat 38°11'03", long 104°10'22", in SW¼SW¼ 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 noncontributing.

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. 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 (gauge 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. 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: Water year 1987, Nov. 20-25, May 26, 27, June 5-10, July 8, 9, 11-13, 16, and Sept. 2, 3. 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 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.

AVERAGE DISCHARGE.--60 Years (water years 1914-73), 684 ft³/s, 495,600 acre-ft/yr, prior to completion of Pueblo Dam; 13 years (water years 1975-87), 857 ft³/s, 620,900 acre-ft/yr, subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s, June 4, 1921, gage height not determined, by slope-area measurement of peak flow at a point 8 mi upstream; no flow at times in 1902, 1910, 1931, and 1934.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 5,600 ft³/s at 0515 May 18, gage height, 8.43 ft; minimum daily, 135 ft³/s, Nov. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|
| 1 | 477 | 666 | 755 | 696 | 758 | 762 | 810 | 2100 | 2440 | 2220 | 645 | 467 |
| 2 | 468 | 762 | 831 | 666 | 749 | 872 | 814 | 2410 | 2320 | 2080 | 607 | 380 |
| 3 | 416 | 802 | 850 | 696 | 747 | 822 | 855 | 2640 | 2400 | 1600 | 640 | 500 |
| 4 | 400 | 776 | 851 | 716 | 765 | 588 | 862 | 3270 | 2840 | 1510 | 558 | 544 |
| 5 | 436 | 750 | 871 | 755 | 775 | 469 | 828 | 2930 | 3500 | 996 | 722 | 529 |
| 6 | 455 | 775 | 873 | 748 | 818 | 486 | 835 | 2920 | 3300 | 828 | 630 | 548 |
| 7 | 428 | 783 | 870 | 690 | 803 | 495 | 833 | 3160 | 3100 | 875 | 599 | 583 |
| 8 | 404 | 783 | 871 | 654 | 776 | 558 | 995 | 3140 | 3100 | 680 | 552 | 807 |
| 9 | 400 | 783 | 843 | 623 | 783 | 615 | 1030 | 2720 | 4200 | 660 | 641 | 295 |
| 10 | 406 | 736 | 804 | 582 | 783 | 812 | 1100 | 2960 | 5200 | 771 | 1210 | 400 |
| 11 | 546 | 466 | 740 | 562 | 782 | 768 | 1210 | 3220 | 5090 | 690 | 624 | 531 |
| 12 | 455 | 450 | 650 | 564 | 695 | 563 | 1260 | 3310 | 4970 | 720 | 390 | 478 |
| 13 | 471 | 459 | 672 | 592 | 751 | 542 | 1330 | 3450 | 4760 | 630 | 488 | 517 |
| 14 | 546 | 558 | 672 | 599 | 776 | 538 | 1810 | 3940 | 3760 | 901 | 804 | 475 |
| 15 | 558 | 461 | 691 | 582 | 854 | 587 | 1740 | 4730 | 3350 | 844 | 794 | 414 |
| 16 | 600 | 260 | 726 | 554 | 797 | 906 | 1080 | 5200 | 3300 | 460 | 693 | 452 |
| 17 | 614 | 239 | 708 | 516 | 741 | 1010 | 1360 | 5250 | 3300 | 425 | 635 | 482 |
| 18 | 648 | 236 | 685 | 539 | 727 | 931 | 2810 | 5300 | 3240 | 589 | 512 | 479 |
| 19 | 654 | 222 | 707 | 539 | 753 | 917 | 3590 | 5090 | 2750 | 606 | 479 | 420 |
| 20 | 654 | 155 | 736 | 487 | 776 | 912 | 3220 | 4940 | 2200 | 611 | 483 | 384 |
| 21 | 660 | 150 | 743 | 421 | 775 | 911 | 2600 | 4920 | 1700 | 534 | 406 | 202 |
| 22 | 701 | 135 | 722 | 439 | 744 | 861 | 1880 | 4970 | 1600 | 463 | 429 | 192 |
| 23 | 642 | 165 | 821 | 451 | 760 | 818 | 1610 | 4700 | 1550 | 491 | 690 | 193 |
| 24 | 642 | 150 | 828 | 488 | 750 | 763 | 1530 | 4330 | 1650 | 634 | 920 | 177 |
| 25 | 690 | 215 | 811 | 494 | 742 | 748 | 1780 | 4090 | 1590 | 661 | 787 | 250 |
| 26 | 690 | 428 | 788 | 560 | 779 | 756 | 1830 | 3450 | 1330 | 612 | 829 | 381 |
| 27 | 696 | 666 | 768 | 629 | 811 | 779 | 1820 | 3300 | 1270 | 529 | 1820 | 344 |
| 28 | 692 | 749 | 788 | 710 | 736 | 827 | 1730 | 3020 | 1080 | 540 | 954 | 341 |
| 29 | 678 | 762 | 787 | 762 | --- | 887 | 1800 | 2850 | 929 | 564 | 616 | 378 |
| 30 | 618 | 742 | 728 | 710 | --- | 797 | 2080 | 2660 | 2270 | 642 | 654 | 358 |
| 31 | 603 | --- | 729 | 730 | --- | 765 | --- | 2540 | --- | 685 | 619 | --- |
| TOTAL | 17348 | 15284 | 23919 | 18754 | 21506 | 23065 | 47032 | 113510 | 84089 | 25051 | 21430 | 12501 |
| MEAN | 560 | 509 | 772 | 605 | 768 | 744 | 1568 | 3662 | 2803 | 808 | 691 | 417 |
| MAX | 701 | 802 | 873 | 762 | 854 | 1010 | 3590 | 5300 | 5200 | 2220 | 1820 | 807 |
| MIN | 400 | 135 | 650 | 421 | 695 | 469 | 810 | 2100 | 929 | 425 | 390 | 177 |
| AC-FT | 34410 | 30320 | 47440 | 37200 | 42660 | 45750 | 93290 | 225100 | 166800 | 49690 | 42510 | 24800 |

CAL YR 1986 TOTAL 348858 MEAN 956 MAX 6260 MIN 135 AC-FT 692000
WTR YR 1987 TOTAL 423489 MEAN 1160 MAX 5300 MIN 135 AC-FT 840000

ARKANSAS RIVER BASIN

259

07119500 APISHAPA RIVER NEAR FOWLER, CO

LOCATION.--Lat 38°05'28", long 103°58'52", in SE¼NW¼ sec.35, T.22 S., R.59 W., Otero County, 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. 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: Dec. 15, Dec. 20 to Jan. 11, Jan. 20, and Feb. 28. Records good 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--52 years, 29.1 ft³/s; 21,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,000 ft³/s, Aug. 22, 1923, by slope-area measurement 2 mi upstream from present site, caused by failure of Apishapa Dam 31 mi upstream; no flow Feb. 5, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| July 10 | 1715 | *108 | *3.25 | | | | |

Minimum daily, 2.9 ft³/s, Feb. 4-6, 22-25, Apr. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 20 | 20 | 6.2 | 6.0 | 3.1 | 3.1 | 40 | 3.6 | 23 | 8.1 | 6.9 | 5.8 |
| 2 | 20 | 22 | 6.2 | 6.0 | 3.1 | 3.2 | 16 | 15 | 24 | 11 | 5.2 | 4.7 |
| 3 | 21 | 21 | 6.2 | 6.0 | 3.1 | 3.1 | 13 | 16 | 23 | 12 | 5.1 | 4.2 |
| 4 | 17 | 19 | 6.2 | 5.0 | 2.9 | 3.2 | 15 | 7.9 | 22 | 11 | 5.2 | 4.6 |
| 5 | 16 | 18 | 6.2 | 4.5 | 2.9 | 3.3 | 12 | 5.5 | 19 | 9.8 | 4.6 | 4.2 |
| 6 | 19 | 21 | 6.2 | 3.5 | 2.9 | 3.3 | 14 | 5.3 | 20 | 5.6 | 8.3 | 4.2 |
| 7 | 17 | 21 | 6.1 | 3.6 | 3.0 | 3.3 | 13 | 3.7 | 20 | 5.1 | 6.1 | 4.1 |
| 8 | 17 | 21 | 6.2 | 4.0 | 3.1 | 3.2 | 3.4 | 3.0 | 18 | 5.5 | 7.0 | 5.5 |
| 9 | 17 | 18 | 6.2 | 4.6 | 3.3 | 3.2 | 2.9 | 4.1 | 26 | 10 | 9.0 | 6.9 |
| 10 | 19 | 15 | 6.2 | 4.5 | 3.1 | 3.3 | 3.9 | 3.2 | 28 | 38 | 6.9 | 6.4 |
| 11 | 20 | 18 | 6.2 | 4.0 | 3.0 | 3.5 | 11 | 3.3 | 22 | 35 | 4.7 | 4.4 |
| 12 | 21 | 16 | 6.2 | 3.7 | 3.2 | 3.4 | 17 | 4.3 | 23 | 18 | 5.9 | 5.0 |
| 13 | 23 | 17 | 6.2 | 3.5 | 3.2 | 3.3 | 14 | 3.3 | 18 | 19 | 8.9 | 13 |
| 14 | 22 | 20 | 6.2 | 3.5 | 3.2 | 3.4 | 15 | 3.7 | 18 | 17 | 12 | 4.9 |
| 15 | 19 | 12 | 7.0 | 3.7 | 3.1 | 5.9 | 14 | 3.9 | 32 | 15 | 8.6 | 5.3 |
| 16 | 20 | 11 | 5.3 | 3.8 | 3.2 | 35 | 14 | 4.0 | 25 | 18 | 6.9 | 9.4 |
| 17 | 22 | 8.0 | 5.3 | 3.6 | 3.1 | 12 | 16 | 5.1 | 22 | 14 | 6.8 | 4.9 |
| 18 | 21 | 7.5 | 5.3 | 3.6 | 3.0 | 12 | 14 | 5.2 | 16 | 4.0 | 7.2 | 9.4 |
| 19 | 20 | 7.3 | 5.3 | 3.6 | 3.1 | 11 | 9.3 | 5.7 | 5.2 | 4.1 | 4.6 | 8.8 |
| 20 | 21 | 7.1 | 6.0 | 3.3 | 3.0 | 11 | 11 | 13 | 7.7 | 5.5 | 4.6 | 6.4 |
| 21 | 22 | 6.9 | 7.0 | 3.4 | 3.0 | 11 | 15 | 17 | 7.4 | 4.7 | 4.5 | 5.4 |
| 22 | 20 | 7.1 | 6.5 | 3.4 | 2.9 | 10 | 16 | 15 | 6.6 | 4.9 | 6.0 | 6.6 |
| 23 | 21 | 6.9 | 6.0 | 3.4 | 2.9 | 7.5 | 13 | 18 | 7.2 | 4.9 | 7.5 | 4.2 |
| 24 | 22 | 6.8 | 5.3 | 3.3 | 2.9 | 14 | 11 | 13 | 6.8 | 6.2 | 9.5 | 4.1 |
| 25 | 21 | 6.8 | 5.0 | 3.3 | 2.9 | 11 | 20 | 8.9 | 7.9 | 5.1 | 9.7 | 4.2 |
| 26 | 21 | 6.8 | 5.0 | 3.3 | 3.0 | 7.0 | 18 | 12 | 8.2 | 6.7 | 6.9 | 4.1 |
| 27 | 20 | 6.8 | 5.0 | 3.3 | 3.0 | 7.7 | 15 | 16 | 12 | 13 | 7.2 | 4.2 |
| 28 | 20 | 6.4 | 5.2 | 3.4 | 3.0 | 15 | 8.9 | 19 | 7.1 | 4.8 | 5.7 | 6.6 |
| 29 | 22 | 6.2 | 5.5 | 3.4 | 3.0 | 18 | 3.4 | 21 | 6.3 | 4.8 | 5.4 | 8.7 |
| 30 | 22 | 6.1 | 6.0 | 3.4 | --- | 15 | 3.0 | 20 | 7.7 | 5.0 | 7.3 | 8.5 |
| 31 | 21 | --- | 6.0 | 3.3 | --- | 38 | --- | 22 | --- | 6.3 | 8.7 | --- |
| TOTAL | 624 | 386.7 | 183.4 | 120.9 | 88.2 | 286.9 | 391.8 | 300.7 | 489.1 | 332.1 | 212.9 | 178.7 |
| MEAN | 20.1 | 12.9 | 5.92 | 3.90 | 3.04 | 9.25 | 13.1 | 9.70 | 16.3 | 10.7 | 6.87 | 5.96 |
| MAX | 23 | 22 | 7.0 | 6.0 | 3.3 | 38 | 40 | 22 | 32 | 38 | 12 | 13 |
| MIN | 16 | 6.1 | 5.0 | 3.3 | 2.9 | 3.1 | 2.9 | 3.0 | 5.2 | 4.0 | 4.5 | 4.1 |
| AC-FT | 1240 | 767 | 364 | 240 | 175 | 569 | 777 | 596 | 970 | 659 | 422 | 354 |

CAL YR 1987 TOTAL 11834.3 MEAN 32.4 MAX 473 MIN 3.3 AC-FT 23470
WTR YR 1988 TOTAL 3595.4 MEAN 9.82 MAX 40 MIN 2.9 AC-FT 7130

LOCATION.--Lat 38°07'33", long 103°54'41", in NW¼NW¼ 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.

PERIOD OF RECORD.--October 1964 to September 1984.

GAGE.--Water-stage recorders 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: Water year 1987, Oct. 1-23, Apr. 19-23, June 25-26, 30, and July 1. 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.

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

AVERAGE DISCHARGE.--9 years (water years 1965-73), 636 ft³/s, 460,800 acre-ft/yr, prior to completion of Pueblo Dam; 13 years (water years 1975-87), 808 ft³/s; 585,400 acre-ft/yr, subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft³/s, June 18, 1965, gage height, 7.95 ft, site and datum then in use, from rating curve extended above 13,000 ft³/s; on basis of flow-over-dam computation of peak flow; minimum daily, 30 ft³/s, Sept. 12, 1974, Aug. 14, 1977.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, 6,410 ft³/s at 0515 May 19, gage height, not determined; minimum daily, 163 ft³/s, Nov. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|
| 1 | 474 | 732 | 730 | 811 | 712 | 940 | 876 | 2000 | 2430 | 1940 | 497 | 448 |
| 2 | 462 | 798 | 770 | 810 | 736 | 1010 | 833 | 2140 | 2240 | 1850 | 480 | 361 |
| 3 | 427 | 861 | 821 | 754 | 730 | 1060 | 818 | 2510 | 2290 | 1700 | 509 | 448 |
| 4 | 419 | 857 | 816 | 783 | 712 | 983 | 830 | 3090 | 2710 | 1420 | 503 | 424 |
| 5 | 458 | 886 | 815 | 776 | 748 | 607 | 878 | 2940 | 3240 | 1130 | 494 | 446 |
| 6 | 481 | 873 | 833 | 776 | 790 | 538 | 853 | 2940 | 3100 | 736 | 574 | 502 |
| 7 | 459 | 900 | 841 | 733 | 755 | 522 | 791 | 3190 | 3040 | 664 | 471 | 545 |
| 8 | 443 | 846 | 833 | 707 | 641 | 521 | 887 | 3320 | 2770 | 596 | 433 | 1210 |
| 9 | 434 | 840 | 802 | 710 | 624 | 588 | 1040 | 2980 | 3690 | 466 | 492 | 461 |
| 10 | 447 | 828 | 784 | 688 | 767 | 702 | 993 | 2980 | 4810 | 574 | 1070 | 349 |
| 11 | 583 | 649 | 699 | 653 | 760 | 789 | 1080 | 3250 | 5340 | 551 | 657 | 451 |
| 12 | 513 | 485 | 706 | 647 | 731 | 653 | 1190 | 3320 | 5470 | 517 | 486 | 514 |
| 13 | 524 | 489 | 677 | 635 | 753 | 521 | 1240 | 3450 | 5350 | 523 | 311 | 515 |
| 14 | 602 | 478 | 724 | 631 | 804 | 510 | 1440 | 3750 | 4440 | 536 | 623 | 462 |
| 15 | 628 | 594 | 758 | 609 | 878 | 497 | 1600 | 4330 | 3740 | 585 | 675 | 385 |
| 16 | 652 | 357 | 768 | 517 | 968 | 655 | 1330 | 4900 | 3480 | 522 | 574 | 367 |
| 17 | 672 | 296 | 738 | 494 | 895 | 980 | 1210 | 5370 | 3380 | 449 | 511 | 420 |
| 18 | 711 | 276 | 695 | 433 | 773 | 1060 | 2160 | 5840 | 3300 | 420 | 447 | 464 |
| 19 | 729 | 291 | 673 | 514 | 771 | 923 | 4060 | 6100 | 2920 | 436 | 401 | 406 |
| 20 | 753 | 314 | 670 | 530 | 804 | 960 | 4410 | 5650 | 2340 | 426 | 389 | 373 |
| 21 | 721 | 284 | 689 | 470 | 800 | 909 | 2660 | 5750 | 1860 | 397 | 378 | 305 |
| 22 | 738 | 290 | 723 | 456 | 778 | 785 | 1610 | 5440 | 1570 | 397 | 360 | 227 |
| 23 | 698 | 273 | 789 | 485 | 768 | 783 | 1520 | 5400 | 1280 | 360 | 439 | 216 |
| 24 | 662 | 227 | 875 | 510 | 782 | 796 | 1380 | 5030 | 1370 | 451 | 824 | 203 |
| 25 | 649 | 163 | 885 | 685 | 749 | 767 | 1600 | 4760 | 1560 | 545 | 830 | 189 |
| 26 | 665 | 248 | 862 | 620 | 801 | 776 | 1710 | 4250 | 1180 | 540 | 756 | 285 |
| 27 | 667 | 429 | 831 | 681 | 839 | 727 | 1690 | 3860 | 1120 | 478 | 1370 | 316 |
| 28 | 672 | 619 | 822 | 872 | 874 | 766 | 1640 | 3360 | 993 | 431 | 1220 | 298 |
| 29 | 673 | 654 | 819 | 830 | --- | 882 | 1580 | 3140 | 834 | 436 | 615 | 310 |
| 30 | 698 | 718 | 779 | 668 | --- | 834 | 1870 | 2850 | 1070 | 463 | 468 | 334 |
| 31 | 684 | --- | 736 | 631 | --- | 835 | --- | 2650 | --- | 524 | 590 | --- |
| TOTAL | 18398 | 16555 | 23963 | 20119 | 21743 | 23879 | 45779 | 120540 | 82917 | 21063 | 18447 | 12234 |
| MEAN | 593 | 552 | 773 | 649 | 777 | 770 | 1526 | 3888 | 2764 | 679 | 595 | 408 |
| MAX | 753 | 900 | 885 | 872 | 968 | 1060 | 4410 | 6100 | 5470 | 1940 | 1370 | 1210 |
| MIN | 419 | 163 | 670 | 433 | 624 | 497 | 791 | 2000 | 834 | 360 | 311 | 189 |
| AC-FT | 36490 | 32840 | 47530 | 39910 | 43130 | 47360 | 90800 | 239100 | 164500 | 41780 | 36590 | 24270 |
| CAL YR 1986 | TOTAL 341620 | | | | | | | | | | | |
| WTR YR 1987 | TOTAL 425637 | | | | | | | | | | | |
| | MEAN 936 | | | | | | | | | | | |
| | MAX 5600 | | | | | | | | | | | |
| | MIN 163 | | | | | | | | | | | |
| AC-FT | 677600 | | | | | | | | | | | |
| | MAX 6100 | | | | | | | | | | | |
| | MIN 163 | | | | | | | | | | | |
| AC-FT | 844300 | | | | | | | | | | | |

ARKANSAS RIVER BASIN

261

07120620 BIG ARROYO NEAR THATCHER, CO

LOCATION.--Lat 37°33'17", long 104°01'15", in NW¼NW¼ sec.4, T.29 S., R.59 W., Las Animas County, Hydrologic Unit 11020005, on left bank 2.4 mi from U.S. Route 350, 4.8 mi east of Thatcher, and 3.2 mi upstream from mouth.

DRAINAGE AREA.--15.5 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 5,288 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--5 years, 0.07 ft³/s; 51 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,500 ft³/s, July 28, 1985, gage height, 4.86 ft, from rating curve extended above about 1,100 ft³/s; no flow most of the time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|----------|------|-----------------------------------|---------------------|----------|------|-----------------------------------|---------------------|
| June 29 | 2030 | *135 | *a3.54 | Sept. 23 | 1000 | 11 | a3.02 |
| Sept. 14 | 1545 | 51 | a3.31 | | | | |

No flow most of time.
a-From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
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 | .80 | .52 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .05 | .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 | 2.1 |
| 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 | 1.1 |
| 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 | .01 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 3.3 | .01 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | .10 | .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 | 3.40 | 0.89 | 0.57 | 3.20 |
| MEAN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .11 | .029 | .018 | .11 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 3.3 | .80 | .52 | 2.1 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 6.7 | 1.8 | 1.1 | 6.3 |
| CAL YR 1987 | TOTAL 8.45 | MEAN .023 | MAX 4.5 | MIN .00 | AC-FT 17 | | | | | | | |
| WTR YR 1988 | TOTAL 8.06 | MEAN .022 | MAX 3.3 | MIN .00 | AC-FT 16 | | | | | | | |

ARKANSAS RIVER BASIN

07120620 BIG ARROYO NEAR THATCHER, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1983 to current year.

WATER TEMPERATURE: October 1983 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1983 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1983. Pumping sediment sampler since July 1983.

REMARKS.-- Estimated daily load and concentrations: July 9, and July 28. Daily data not published are either missing, of poor quality, or during periods of no flow. Maximum and minimum specific conductance and water temperature are published only for periods of recorded flow.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,530 microsiemens June 25, 1984; minimum, 90 microsiemens July 28, 1988.

WATER TEMPERATURE: Maximum, 28.0°C Aug. 4, 1986; minimum, 0.7°C Sept 14, 1988.

SEDIMENT CONCENTRATIONS: Maximum daily, 3,930 mg/L July 8, 1988; no flow most of time.

SEDIMENT LOADS: Maximum daily, 3,760 tons Aug. 1, 1983; minimum daily, no flow most time.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,110 microsiemens June 29 and Sept 23; minimum, 90 microsiemens July 28.

WATER TEMPERATURE: Maximum, 20.7°C July 29 and Sept 23; minimum, 0.7°C Sept 14.

SEDIMENT CONCENTRATIONS: Maximum daily, 3930 mg/L, July 8; no flow most of time.

SEDIMENT LOADS: Maximum daily, 143 tons July 8; no flow most of time.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|--------------|------|--|---|---|---|---|--|--|--|
| JUN 29... | 2200 | 11 | 820 | 8.5 | 3.5 | 12.2 | 260 | 76 | 18 |
| 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) |
| JUN 29... | 65 | | 2 | 6.6 | 155 | 360 | 9.1 | 0.40 | 4.0 |
| DATE | | 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, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
| JUN 29... | | 565 | 635 | 0.77 | 16.8 | 0.580 | 0.110 | 19 | 6 |

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|--------------|------|---|---|---|---|
| JUN 29... | 2145 | 11 | 9960 | 296 | 99 |
| JUN 29... | 2220 | 5.3 | 7130 | 102 | 98 |
| SEP 14... | 1535 | 24 | 12200 | 791 | 94 |
| SEP 14... | 1635 | 14 | 7450 | 282 | -- |
| SEP 14... | 1810 | 3.1 | 5070 | 42 | 99 |

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SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

07120620 BIG ARROYO NEAR THATCHER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MAXIMUMS AND MINIMUMS ONLY FOR PERIOD OF FLOW DURING THE DAY

[illegible]

ARKANSAS RIVER BASIN

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07120620 BIG ARROYO NEAR THATCHER, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| OCTOBER | | | | NOVEMBER | | | DECEMBER | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |
| JANUARY | | | | FEBRUARY | | | MARCH | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |

ARKANSAS RIVER BASIN

07120620 BIG ARROYO NEAR THATCHER, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| APRIL | | | MAY | | | JUNE | | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | 3.3 | 1460 | 143 |
| 30 | .00 | --- | --- | .00 | --- | --- | .10 | 457 | .83 |
| 31 | --- | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 3.40 | --- | --- |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .80 | 3930 | 46 | .52 | 1230 | 15 | .00 | --- | --- |
| 9 | .07 | --- | .24 | .05 | 331 | .38 | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | 2.1 | 1720 | 61 |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | 1.1 | 1070 | 11 |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .01 | --- | .06 | .00 | --- | --- | .00 | --- | --- |
| 29 | .01 | 154 | .06 | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 0.89 | --- | --- | 0.57 | --- | --- | 3.20 | --- | --- |

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LOCATION.--Lat 38°00'11", long 103°39'20", in NW¼SW¼ 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.

REVISÉD RECORDS.--WDR CO 76-1: 1975.

REMARKS.--No estimated daily discharges: Records good. 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft³/s, July 10, 1978, gage height, 21.11 ft, from floodmark, from rating curve extended above 250 ft³/s, on basis of contracted-opening measurement of peak flow; minimum daily, 3.3 ft³/s, Aug. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 244 ft³/s at 2300 May 24, gage height, 3.96 ft; minimum daily, 11 ft³/s, Feb. 2-9, Mar. 3-7.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|---------|--------|-------------|------|------|------|------|------|------|------|------|
| 1 | 124 | 137 | 27 | 13 | 12 | 12 | 134 | 55 | 133 | 96 | 64 | 56 |
| 2 | 137 | 142 | 27 | 13 | 11 | 12 | 194 | 79 | 137 | 100 | 58 | 59 |
| 3 | 141 | 150 | 27 | 13 | 11 | 11 | 174 | 110 | 128 | 86 | 53 | 63 |
| 4 | 134 | 167 | 29 | 13 | 11 | 11 | 185 | 86 | 119 | 92 | 58 | 67 |
| 5 | 133 | 152 | 44 | 13 | 11 | 11 | 194 | 65 | 115 | 97 | 60 | 68 |
| 6 | 132 | 155 | 44 | 13 | 11 | 11 | 194 | 53 | 99 | 80 | 62 | 73 |
| 7 | 117 | 156 | 43 | 13 | 11 | 11 | 191 | 49 | 82 | 77 | 54 | 73 |
| 8 | 100 | 173 | 41 | 13 | 11 | 14 | 158 | 48 | 78 | 71 | 54 | 57 |
| 9 | 109 | 172 | 40 | 13 | 11 | 22 | 132 | 49 | 95 | 74 | 50 | 58 |
| 10 | 120 | 159 | 41 | 13 | 12 | 28 | 117 | 47 | 104 | 81 | 58 | 60 |
| 11 | 114 | 142 | 41 | 13 | 12 | 37 | 102 | 46 | 105 | 78 | 63 | 64 |
| 12 | 113 | 142 | 41 | 13 | 12 | 44 | 88 | 44 | 100 | 82 | 59 | 62 |
| 13 | 111 | 132 | 41 | 13 | 12 | 49 | 81 | 41 | 115 | 78 | 55 | 62 |
| 14 | 123 | 124 | 41 | 13 | 12 | 54 | 81 | 40 | 112 | 67 | 54 | 61 |
| 15 | 140 | 104 | 43 | 12 | 12 | 57 | 76 | 41 | 137 | 63 | 53 | 61 |
| 16 | 152 | 90 | 50 | 12 | 12 | 105 | 78 | 38 | 123 | 66 | 42 | 67 |
| 17 | 152 | 91 | 16 | 12 | 12 | 112 | 80 | 37 | 120 | 64 | 49 | 69 |
| 18 | 142 | 70 | 14 | 12 | 12 | 118 | 82 | 36 | 125 | 55 | 47 | 60 |
| 19 | 146 | 64 | 14 | 12 | 12 | 125 | 83 | 44 | 109 | 64 | 48 | 54 |
| 20 | 152 | 59 | 14 | 13 | 12 | 138 | 80 | 66 | 101 | 61 | 54 | 54 |
| 21 | 142 | 53 | 14 | 12 | 12 | 158 | 80 | 102 | 83 | 69 | 60 | 56 |
| 22 | 142 | 32 | 14 | 12 | 12 | 143 | 83 | 89 | 74 | 72 | 60 | 65 |
| 23 | 143 | 36 | 14 | 12 | 12 | 128 | 84 | 109 | 73 | 73 | 58 | 65 |
| 24 | 137 | 52 | 14 | 12 | 12 | 109 | 81 | 119 | 76 | 77 | 60 | 68 |
| 25 | 139 | 52 | 14 | 12 | 12 | 100 | 74 | 130 | 76 | 66 | 57 | 64 |
| 26 | 126 | 48 | 14 | 12 | 12 | 98 | 67 | 88 | 87 | 53 | 59 | 72 |
| 27 | 127 | 30 | 14 | 12 | 12 | 77 | 70 | 78 | 135 | 52 | 60 | 69 |
| 28 | 126 | 28 | 14 | 12 | 12 | 91 | 67 | 82 | 108 | 54 | 66 | 64 |
| 29 | 130 | 28 | 13 | 12 | 12 | 95 | 67 | 89 | 97 | 56 | 66 | 62 |
| 30 | 133 | 28 | 14 | 12 | --- | 75 | 63 | 88 | 95 | 57 | 61 | 63 |
| 31 | 140 | --- | 14 | 12 | --- | 87 | --- | 87 | --- | 66 | 59 | --- |
| TOTAL | 4077 | 2968 | 831 | 387 | 340 | 2143 | 3240 | 2135 | 3141 | 2227 | 1761 | 1896 |
| MEAN | 132 | 98.9 | 26.8 | 12.5 | 11.7 | 69.1 | 108 | 68.9 | 105 | 71.8 | 56.8 | 63.2 |
| MAX | 152 | 173 | 50 | 13 | 12 | 158 | 194 | 130 | 137 | 100 | 66 | 73 |
| MIN | 100 | 28 | 13 | 12 | 11 | 11 | 63 | 36 | 73 | 52 | 42 | 54 |
| AC-FT | 8090 | 5890 | 1650 | 768 | 674 | 4250 | 6430 | 4230 | 6230 | 4420 | 3490 | 3760 |
| CAL YR 1987 | TOTAL 34630 | | | | | | | | | | | |
| WTR YR 1988 | TOTAL 25146 | | | | | | | | | | | |
| | MEAN 94.7 | MAX 534 | MIN 13 | AC-FT 68690 | | | | | | | | |
| | MEAN 68.7 | MAX 194 | MIN 11 | AC-FT 49880 | | | | | | | | |

269

LOCATION.--Lat 37°59'26", long 103°31'55", in SE¼NE¼ sec.2, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank at upstream side of bridge on State Highway 109 in La Junta, 450 ft upstream from King Arroyo.

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.

GAGE.--Water-stage recorder 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.

AVERAGE DISCHARGE.--61 Years (water years 1913-73), 244 ft³/s; 176,800 acre-ft/yr, prior to completion of Pueblo Dam; 13 years (water years: 1975-87), 284 ft³/s; 205,800 acre-ft/yr, subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 200,000 ft³/s, June 4, 1921, gage height, 18.4 ft, site and datum then in use, from rating curve extended above 15,000 ft³/s, on basis of slope-area measurement of peak flow; no flow, Jan. 20-23, Mar. 20-22, 1915.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--|-------|-------|-------|------|-------|-------|--------|-------|------|------|------|
| 1 | 38 | 560 | 295 | 210 | 672 | 25 | 892 | 348 | 1680 | 400 | 38 | 75 |
| 2 | 31 | 1340 | 294 | 226 | 614 | 57 | 840 | 252 | 1680 | 206 | 47 | 80 |
| 3 | 31 | 1340 | 326 | 226 | 489 | 56 | 642 | 405 | 1510 | 158 | 45 | 83 |
| 4 | 31 | 1630 | 300 | 210 | 396 | 202 | 604 | 1250 | 1560 | 124 | 66 | 75 |
| 5 | 44 | 769 | 387 | 235 | 301 | 36 | 642 | 1010 | 2050 | 269 | 51 | 77 |
| 6 | 34 | 764 | 435 | 278 | 103 | 26 | 641 | 1100 | 2070 | 155 | 49 | 95 |
| 7 | 44 | 737 | 435 | 266 | 97 | 41 | 586 | 1500 | 2010 | 77 | 49 | 100 |
| 8 | 45 | 667 | 429 | 870 | 93 | 44 | 553 | 2060 | 1640 | 72 | 49 | 108 |
| 9 | 49 | 658 | 455 | 560 | 106 | 44 | 602 | 1760 | 1610 | 75 | 49 | 152 |
| 10 | 46 | 666 | 448 | 556 | 84 | 53 | 683 | 1730 | 3360 | 55 | 51 | 82 |
| 11 | 60 | 618 | 461 | 586 | 79 | 60 | 754 | 1890 | 3720 | 55 | 118 | 82 |
| 12 | 64 | 599 | 514 | 676 | 74 | 85 | 570 | 1660 | 4210 | 57 | 62 | 108 |
| 13 | 198 | 514 | 337 | 676 | 72 | 49 | 718 | 1840 | 3960 | 66 | 64 | 97 |
| 14 | 159 | 633 | 275 | 348 | 112 | 68 | 920 | 2250 | 3500 | 80 | 60 | 84 |
| 15 | 125 | 528 | 280 | 170 | 115 | 72 | 1260 | 3200 | 2650 | 101 | 62 | 65 |
| 16 | 124 | 387 | 290 | 121 | 143 | 72 | 1160 | 3800 | 2000 | 163 | 64 | 64 |
| 17 | 125 | 374 | 290 | 143 | 110 | 70 | 610 | 4150 | 1730 | 87 | 73 | 60 |
| 18 | 353 | 336 | 290 | 587 | 120 | 238 | 652 | 4780 | 1670 | 68 | 60 | 60 |
| 19 | 310 | 315 | 275 | 551 | 91 | 586 | 2050 | 5330 | 1620 | 64 | 55 | 58 |
| 20 | 375 | 300 | 263 | 610 | 78 | 684 | 2240 | 4870 | 1000 | 73 | 47 | 57 |
| 21 | 474 | 305 | 257 | 435 | 84 | 893 | 1410 | 6440 | 600 | 53 | 45 | 56 |
| 22 | 647 | 280 | 257 | 499 | 69 | 907 | 1240 | 6840 | 330 | 53 | 45 | 62 |
| 23 | 659 | 261 | 257 | 465 | 63 | 900 | 718 | 6150 | 261 | 50 | 44 | 60 |
| 24 | 661 | 261 | 275 | 489 | 80 | 901 | 429 | 5420 | 195 | 45 | 55 | 53 |
| 25 | 667 | 242 | 310 | 549 | 41 | 825 | 285 | 5520 | 187 | 48 | 66 | 52 |
| 26 | 684 | 230 | 310 | 521 | 30 | 709 | 405 | 4080 | 160 | 44 | 66 | 45 |
| 27 | 744 | 239 | 320 | 474 | 28 | 658 | 405 | 3480 | 140 | 47 | 68 | 44 |
| 28 | 718 | 261 | 331 | 572 | 25 | 956 | 121 | 3740 | 120 | 45 | 240 | 40 |
| 29 | 817 | 261 | 385 | 642 | --- | 1040 | 140 | 2900 | 110 | 38 | 92 | 38 |
| 30 | 700 | 266 | 387 | 627 | --- | 1110 | 324 | 2900 | 100 | 38 | 84 | 38 |
| 31 | 667 | --- | 206 | 668 | --- | 921 | --- | 2900 | --- | 38 | 89 | --- |
| TOTAL | 9724 | 16341 | 10374 | 14046 | 4369 | 12388 | 23096 | 95555 | 47433 | 2904 | 2053 | 2150 |
| MEAN | 314 | 545 | 335 | 453 | 156 | 400 | 770 | 3082 | 1581 | 93.7 | 66.2 | 71.7 |
| MAX | 817 | 1630 | 514 | 870 | 672 | 1110 | 2240 | 6840 | 4210 | 400 | 240 | 152 |
| MIN | 31 | 230 | 206 | 121 | 25 | 25 | 121 | 252 | 100 | 38 | 38 | 38 |
| AC-FT | 19290 | 32410 | 20580 | 27860 | 8670 | 24570 | 45810 | 189500 | 94080 | 5760 | 4070 | 4260 |
| CAL YR 1986 | TOTAL 87345 MEAN 239 MAX 2000 MIN 21 AC-FT 173200 | | | | | | | | | | | |
| WTR YR 1987 | TOTAL 240433 MEAN 659 MAX 6840 MIN 25 AC-FT 476900 | | | | | | | | | | | |

ARKANSAS RIVER BASIN

07123675 HORSE CREEK NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°05'06", long 103°21'12", in SE¼SW¼ 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.

GAGE.--Water-stage recorder. Elevation of gage is 3,975 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 29, Jan. 1-8, 13, 20, 21, 25, Feb. 6-9, 11. Records good except those for estimated daily discharges, which are fair. Natural flow of stream affected by seepage and sluicing from Fort Lyon Canal. There is some irrigation upstream, however, amounts are unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 17.0 ft³/s; 12,320 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 345 ft³/s, June 7, 1983, gage height, 4.39 ft; from rating curve extended above 130 ft³/s; no flow many days in 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46 ft³/s at 1300 Mar. 12, gage height, 2.52 ft; maximum gage height, 2.79 ft, at 0900 Feb. 6 (backwater from ice); minimum daily discharge, 2.5 ft³/s, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 27 | 12 | 11 | 7.5 | 9.0 | 14 | 7.9 | 12 | 12 | 4.5 | 8.3 | 3.2 |
| 2 | 24 | 12 | 11 | 7.5 | 7.7 | 13 | 16 | 15 | 12 | 5.7 | 7.8 | 4.0 |
| 3 | 15 | 13 | 11 | 7.5 | 9.7 | 13 | 25 | 18 | 11 | 8.3 | 7.2 | 5.5 |
| 4 | 33 | 13 | 11 | 7.2 | 12 | 15 | 29 | 14 | 11 | 6.4 | 9.9 | 6.4 |
| 5 | 19 | 12 | 11 | 7.0 | 13 | 24 | 25 | 14 | 11 | 4.7 | 11 | 5.4 |
| 6 | 14 | 12 | 11 | 7.0 | 14 | 16 | 22 | 13 | 10 | 3.6 | 9.8 | 5.4 |
| 7 | 14 | 12 | 11 | 7.2 | 15 | 15 | 20 | 12 | 9.9 | 4.2 | 13 | 5.3 |
| 8 | 16 | 12 | 11 | 7.5 | 16 | 16 | 16 | 12 | 9.5 | 5.7 | 8.1 | 4.5 |
| 9 | 17 | 12 | 10 | 7.9 | 17 | 14 | 18 | 12 | 9.4 | 8.6 | 6.1 | 4.1 |
| 10 | 16 | 14 | 10 | 9.1 | 16 | 12 | 18 | 11 | 9.0 | 7.0 | 4.8 | 4.0 |
| 11 | 17 | 16 | 11 | 8.7 | 15 | 16 | 17 | 13 | 8.4 | 4.8 | 6.5 | 3.8 |
| 12 | 16 | 13 | 10 | 9.4 | 16 | 26 | 16 | 11 | 7.6 | 4.8 | 8.5 | 4.0 |
| 13 | 15 | 14 | 10 | 10 | 20 | 21 | 16 | 8.8 | 5.2 | 5.2 | 4.5 | 6.2 |
| 14 | 14 | 14 | 10 | 9.8 | 23 | 16 | 11 | 8.6 | 5.0 | 5.6 | 3.7 | 6.4 |
| 15 | 14 | 13 | 9.2 | 9.8 | 26 | 14 | 9.8 | 7.5 | 10 | 6.2 | 3.4 | 6.3 |
| 16 | 14 | 13 | 9.5 | 10 | 22 | 15 | 9.9 | 7.2 | 15 | 8.1 | 2.6 | 6.7 |
| 17 | 14 | 12 | 10 | 11 | 29 | 12 | 11 | 6.7 | 11 | 11 | 2.5 | 6.6 |
| 18 | 15 | 12 | 11 | 11 | 31 | 16 | 13 | 7.7 | 9.6 | 11 | 2.8 | 4.8 |
| 19 | 14 | 13 | 12 | 8.8 | 24 | 21 | 11 | 11 | 8.5 | 8.4 | 3.4 | 4.1 |
| 20 | 13 | 12 | 12 | 8.0 | 21 | 15 | 11 | 17 | 7.1 | 6.4 | 4.0 | 3.9 |
| 21 | 14 | 13 | 11 | 8.0 | 20 | 14 | 11 | 21 | 5.7 | 5.2 | 5.4 | 3.7 |
| 22 | 16 | 11 | 12 | 8.8 | 25 | 14 | 12 | 15 | 4.9 | 4.5 | 4.5 | 3.7 |
| 23 | 16 | 11 | 12 | 9.0 | 22 | 14 | 11 | 12 | 4.2 | 3.7 | 4.0 | 5.1 |
| 24 | 14 | 11 | 11 | 9.2 | 19 | 13 | 11 | 13 | 5.3 | 3.9 | 4.1 | 6.2 |
| 25 | 13 | 11 | 9.8 | 8.5 | 19 | 12 | 11 | 14 | 5.2 | 3.7 | 3.4 | 5.8 |
| 26 | 11 | 11 | 9.8 | 8.9 | 18 | 11 | 10 | 12 | 4.4 | 3.0 | 3.4 | 5.2 |
| 27 | 12 | 11 | 11 | 8.2 | 17 | 8.6 | 10 | 11 | 5.6 | 3.0 | 3.5 | 4.8 |
| 28 | 13 | 11 | 10 | 8.6 | 15 | 8.4 | 11 | 11 | 5.0 | 4.0 | 3.6 | 4.5 |
| 29 | 13 | 11 | 9.5 | 8.9 | 14 | 8.4 | 11 | 10 | 3.9 | 6.4 | 3.4 | 4.5 |
| 30 | 12 | 11 | 8.8 | 9.9 | --- | 7.7 | 11 | 9.9 | 4.6 | 8.7 | 3.4 | 4.9 |
| 31 | 12 | --- | 7.8 | 9.9 | --- | 7.5 | --- | 9.6 | --- | 9.7 | 3.4 | --- |
| TOTAL | 487 | 368 | 325.4 | 269.8 | 525.4 | 442.6 | 431.6 | 370.0 | 241.0 | 186.0 | 170.0 | 149.0 |
| MEAN | 15.7 | 12.3 | 10.5 | 8.70 | 18.1 | 14.3 | 14.4 | 11.9 | 8.03 | 6.00 | 5.48 | 4.97 |
| MAX | 33 | 16 | 12 | 11 | 31 | 26 | 29 | 21 | 15 | 11 | 13 | 6.7 |
| MIN | 11 | 11 | 7.8 | 7.0 | 7.7 | 7.5 | 7.9 | 6.7 | 3.9 | 3.0 | 2.5 | 3.2 |
| AC-FT | 966 | 730 | 645 | 535 | 1040 | 878 | 856 | 734 | 478 | 369 | 337 | 296 |

CAL YR 1987 TOTAL 8645.0 MEAN 23.6 MAX 267 MIN 5.0 AC-FT 17150
WTR YR 1988 TOTAL 3965.8 MEAN 10.8 MAX 33 MIN 2.5 AC-FT 7870

ARKANSAS RIVER BASIN

271

07123675 HORSE CREEK NEAR LAS ANIMAS, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1987 to current year.

WATER TEMPERATURE: December 1987 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing or of poor quality. Records are good. Daily maximum and minimum specific conductance data available in district office.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 9,330 microsiemens May 1; minimum, 2,360 microsiemens Mar. 16.

WATER TEMPERATURE: Maximum, 33.0°C Aug. 12; minimum, 0.0°C many days during winter.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEC. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1 | --- | --- | --- | 4780 | 5530 | 4990 | 5370 | 7470 | 5950 | 4340 | 3060 | 4180 |
| 2 | --- | --- | --- | 4890 | 5280 | 4960 | 5400 | 7300 | 5890 | 4130 | 3130 | 4220 |
| 3 | --- | --- | --- | 5010 | 5100 | 4980 | 5750 | 6750 | 5560 | 3850 | 3420 | 4060 |
| 4 | --- | --- | --- | 4950 | 4830 | 5060 | 6140 | 6430 | 4880 | 3910 | 3230 | 3820 |
| 5 | --- | --- | --- | 5000 | 4680 | 4530 | 5890 | 6120 | 4550 | 4220 | 3230 | 4150 |
| 6 | --- | --- | --- | 5050 | --- | 5320 | 5650 | 6160 | 4790 | 4390 | 3340 | 4150 |
| 7 | --- | --- | --- | 5060 | --- | 5540 | 4800 | 6420 | 5300 | 4170 | 3060 | 4150 |
| 8 | --- | --- | --- | 5080 | --- | 5170 | 4610 | 6210 | 5390 | 3630 | 3440 | 4080 |
| 9 | --- | --- | --- | 5100 | --- | 5520 | 4970 | 5920 | 5310 | 4170 | 4010 | 4050 |
| 10 | --- | --- | --- | 5170 | 4920 | 5650 | 5340 | 5570 | 5460 | 4280 | 4040 | 4060 |
| 11 | --- | --- | --- | 5270 | 5060 | 5240 | 5630 | 5490 | 5100 | 4320 | 3670 | 4010 |
| 12 | --- | --- | --- | 5650 | 5000 | 4260 | 5850 | 4970 | 4530 | 3990 | 3270 | 3970 |
| 13 | --- | --- | --- | 5800 | 4750 | 3840 | 6030 | 4830 | 4490 | 3750 | 3770 | 4280 |
| 14 | --- | --- | --- | 5660 | 4630 | 4350 | 6700 | 4760 | 4670 | 3680 | 3830 | 4580 |
| 15 | --- | --- | --- | 5560 | 5820 | 4560 | 6930 | 4960 | 4520 | 3830 | 3820 | 4560 |
| 16 | --- | --- | --- | 5550 | 5610 | 4310 | 6870 | 5250 | 4280 | 3950 | 3840 | 4270 |
| 17 | --- | --- | --- | 5440 | 7610 | 5200 | 6540 | 5520 | 4200 | 3800 | 3770 | 3850 |
| 18 | --- | --- | --- | 5340 | 5370 | 5090 | 6710 | 5630 | 4350 | 3880 | 4000 | 4080 |
| 19 | --- | --- | --- | 5040 | 4470 | 4310 | 7190 | 5530 | 4390 | 4090 | 4060 | 4050 |
| 20 | --- | --- | --- | 4900 | 4600 | 4730 | 7250 | 5500 | 4420 | 4470 | 4000 | 4070 |
| 21 | --- | --- | --- | 5310 | 4720 | 4690 | 7060 | 5220 | 4420 | 4570 | 3990 | 4130 |
| 22 | --- | --- | 4710 | 5460 | 6730 | 4420 | 6940 | 5620 | 4490 | 4580 | 4140 | 4130 |
| 23 | --- | --- | 4680 | 5440 | 7890 | 4840 | 6870 | 5190 | 4470 | 4420 | 3960 | 4100 |
| 24 | --- | --- | 4670 | 5450 | 5810 | 5430 | 6820 | 4970 | 4340 | 4690 | 3730 | 4500 |
| 25 | --- | --- | 4620 | 5400 | 5250 | 5570 | 6890 | 4800 | 4400 | 4510 | 4120 | 4270 |
| 26 | --- | --- | 4600 | 5440 | 5080 | 5680 | 6970 | 4800 | 4380 | 4220 | 4400 | 4270 |
| 27 | --- | --- | 4730 | 5310 | 4950 | 6180 | 6850 | 4920 | 4460 | 4060 | 4310 | 4210 |
| 28 | --- | --- | 4790 | 5290 | 4930 | 6400 | 6670 | 5470 | 4360 | 3790 | 4360 | 4240 |
| 29 | --- | --- | 4780 | 5260 | 4940 | 5980 | 6450 | 5740 | 4360 | 3230 | 4220 | 4220 |
| 30 | --- | --- | 4830 | 5290 | --- | 6100 | 6490 | 5760 | 4320 | 3430 | 4250 | 4280 |
| 31 | --- | --- | 4800 | 5490 | --- | 5960 | --- | 5660 | --- | 3290 | 4250 | --- |
| MEAN | --- | --- | --- | 5270 | --- | 5120 | 6250 | 5640 | 4730 | 4050 | 3800 | 4170 |
| MAX | --- | --- | --- | 5800 | --- | 6400 | 7250 | 7470 | 5950 | 4690 | 4400 | 4580 |
| MIN | --- | --- | --- | 4780 | --- | 3840 | 4610 | 4760 | 4200 | 3230 | 3060 | 3820 |

ARKANSAS RIVER BASIN

07123675 HORSE CREEK NEAR LAS ANIMAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | --- | --- | 4.5 | .0 | 1.9 | .4 | 13.0 | 4.6 |
| 2 | --- | --- | --- | --- | --- | --- | 3.7 | .0 | 3.7 | .4 | 8.0 | 3.7 |
| 3 | --- | --- | --- | --- | --- | --- | 4.2 | .0 | 5.5 | .0 | 10.6 | 2.9 |
| 4 | --- | --- | --- | --- | --- | --- | 5.1 | .0 | 5.0 | .0 | 10.7 | 2.1 |
| 5 | --- | --- | --- | --- | --- | --- | 2.9 | .2 | 1.7 | .0 | 9.8 | 1.9 |
| 6 | --- | --- | --- | --- | --- | --- | 1.5 | .0 | --- | --- | 12.0 | 3.0 |
| 7 | --- | --- | --- | --- | --- | --- | 3.5 | .0 | --- | --- | 8.1 | 2.7 |
| 8 | --- | --- | --- | --- | --- | --- | 2.7 | .0 | --- | --- | 8.3 | .6 |
| 9 | --- | --- | --- | --- | --- | --- | 4.7 | .2 | 5.8 | --- | 11.9 | 1.5 |
| 10 | --- | --- | --- | --- | --- | --- | 4.8 | .0 | 1.1 | .0 | 11.9 | 4.2 |
| 11 | --- | --- | --- | --- | --- | --- | 4.9 | .1 | 6.3 | .0 | 5.8 | 1.9 |
| 12 | --- | --- | --- | --- | --- | --- | 4.8 | .0 | 7.2 | .0 | 5.7 | .0 |
| 13 | --- | --- | --- | --- | --- | --- | 4.5 | .0 | 6.8 | .0 | 6.1 | .7 |
| 14 | --- | --- | --- | --- | --- | --- | 4.5 | .0 | 5.5 | .0 | 8.9 | .5 |
| 15 | --- | --- | --- | --- | --- | --- | 5.0 | .5 | 5.2 | .0 | 8.6 | .7 |
| 16 | --- | --- | --- | --- | --- | --- | 4.6 | 2.1 | 5.8 | .0 | 3.5 | 1.0 |
| 17 | --- | --- | --- | --- | --- | --- | 4.9 | .1 | 5.2 | .6 | 6.8 | .2 |
| 18 | --- | --- | --- | --- | --- | --- | 2.9 | .0 | 4.0 | .0 | 10.1 | .2 |
| 19 | --- | --- | --- | --- | --- | --- | .7 | .0 | 5.0 | .1 | 10.9 | 1.2 |
| 20 | --- | --- | --- | --- | --- | --- | 4.9 | .0 | 6.4 | .3 | 14.3 | 3.2 |
| 21 | --- | --- | --- | --- | --- | --- | 3.4 | .0 | 8.6 | .8 | 15.8 | 5.0 |
| 22 | --- | --- | --- | --- | 8.1 | --- | 4.2 | .4 | 5.7 | 1.2 | 13.8 | 6.2 |
| 23 | --- | --- | --- | --- | 6.0 | 1.8 | 4.9 | .2 | 7.0 | 1.7 | 15.6 | 5.4 |
| 24 | --- | --- | --- | --- | 4.2 | 1.3 | 4.1 | .0 | 7.9 | .7 | 12.0 | 6.0 |
| 25 | --- | --- | --- | --- | 3.4 | 1.4 | 4.8 | .0 | 9.5 | 1.3 | 14.1 | 3.0 |
| 26 | --- | --- | --- | --- | 4.7 | .5 | 4.6 | .0 | 10.8 | 2.2 | 16.8 | 5.0 |
| 27 | --- | --- | --- | --- | 4.4 | .2 | 4.6 | .0 | 11.3 | 2.5 | 18.2 | 7.2 |
| 28 | --- | --- | --- | --- | 6.0 | .0 | 4.1 | .3 | 11.6 | 4.2 | 10.0 | 4.9 |
| 29 | --- | --- | --- | --- | 5.0 | .0 | 4.7 | .2 | 11.2 | 3.5 | 14.5 | 2.6 |
| 30 | --- | --- | --- | --- | 6.2 | .0 | 4.5 | .5 | --- | --- | 16.7 | 3.9 |
| 31 | --- | --- | --- | --- | 4.6 | .0 | 2.6 | .8 | --- | --- | 6.8 | 3.3 |
| MONTH | --- | --- | --- | --- | --- | --- | 5.1 | .0 | --- | --- | 18.2 | .0 |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 3.3 | .0 | 21.6 | 11.4 | 24.3 | 11.0 | 30.7 | 15.3 | 32.0 | 16.6 | 26.2 | 16.2 |
| 2 | 9.8 | .8 | 12.1 | 5.1 | 22.1 | 13.4 | 30.2 | 16.4 | 31.7 | 18.6 | 24.5 | 16.9 |
| 3 | 13.4 | .9 | 17.6 | 4.5 | 26.9 | 13.4 | 30.9 | 16.8 | 32.3 | 18.7 | 25.5 | 15.5 |
| 4 | 12.7 | 5.1 | 20.2 | 8.0 | 26.4 | 14.4 | 29.9 | 16.0 | 24.9 | 19.7 | 25.3 | 13.5 |
| 5 | 15.1 | 6.8 | 21.0 | 9.0 | 25.7 | 15.1 | 32.6 | 15.2 | 28.3 | 19.5 | 25.6 | 13.4 |
| 6 | 17.2 | 6.1 | 21.6 | 10.5 | 28.7 | 14.3 | 32.4 | 15.8 | 30.7 | 18.8 | 25.0 | 13.9 |
| 7 | 19.1 | 7.9 | 20.2 | 7.3 | 29.2 | 15.0 | 29.7 | 17.8 | 30.3 | 21.3 | 26.1 | 14.5 |
| 8 | 17.2 | 8.3 | 21.4 | 8.9 | 29.8 | 15.4 | 29.2 | 14.7 | 30.9 | 19.1 | 23.7 | 14.3 |
| 9 | 14.1 | 6.0 | 22.9 | 8.9 | 26.2 | 16.6 | 30.0 | 17.2 | 30.4 | 18.7 | 24.5 | 13.3 |
| 10 | 14.6 | 5.7 | 23.0 | 11.4 | 28.2 | 15.9 | 29.7 | 16.2 | 31.4 | 18.3 | 24.9 | 14.3 |
| 11 | 17.0 | 4.7 | 24.4 | 11.0 | 28.6 | 15.3 | 31.1 | 15.6 | 30.7 | 20.0 | 22.7 | 14.8 |
| 12 | 19.0 | 6.3 | 25.2 | 11.7 | 28.8 | 15.8 | 32.3 | 16.3 | 33.0 | 20.0 | 15.4 | 13.4 |
| 13 | 20.6 | 8.3 | 24.7 | 12.0 | 24.3 | 15.3 | 32.8 | 17.4 | 31.0 | 18.7 | 16.9 | 12.7 |
| 14 | 15.9 | 7.9 | 23.4 | 12.3 | 27.8 | 13.1 | 31.7 | 14.6 | 31.4 | 18.7 | 22.1 | 13.7 |
| 15 | 18.5 | 7.0 | 25.1 | 12.2 | 26.9 | 15.7 | 31.7 | 19.4 | 30.0 | 20.0 | 24.0 | 13.8 |
| 16 | 15.5 | 8.1 | 26.1 | 11.7 | 27.8 | 15.9 | 31.9 | 18.6 | 30.9 | 19.3 | 25.1 | 12.2 |
| 17 | 14.4 | 9.2 | 26.6 | 13.1 | 30.2 | 16.9 | 32.2 | 19.2 | 30.0 | 15.8 | 25.3 | 12.1 |
| 18 | 19.3 | 7.4 | 25.8 | 14.1 | 30.1 | 16.9 | 31.0 | 19.5 | 31.1 | 16.8 | 25.2 | 11.3 |
| 19 | 20.9 | 9.2 | 16.4 | 11.4 | 31.3 | 17.1 | 20.9 | 17.4 | 30.0 | 17.0 | 22.1 | 9.0 |
| 20 | 20.9 | 9.9 | 11.1 | 9.0 | 31.5 | 17.0 | 27.5 | 16.5 | 30.1 | 17.2 | 23.4 | 9.7 |
| 21 | 22.1 | 10.0 | 16.1 | 9.0 | 32.2 | 16.7 | 30.9 | 14.9 | 30.9 | 17.2 | 22.6 | 15.0 |
| 22 | 19.9 | 7.9 | 15.3 | 10.6 | 31.7 | 17.0 | 29.8 | 15.3 | 30.1 | 18.8 | 23.3 | 13.4 |
| 23 | 19.5 | 8.1 | 18.8 | 10.4 | 32.0 | 17.8 | 31.4 | 16.1 | 29.3 | 19.5 | 20.5 | 13.8 |
| 24 | 12.8 | 8.0 | 23.9 | 11.6 | 32.7 | 17.5 | 30.5 | 16.2 | 31.6 | 18.1 | 23.9 | 12.1 |
| 25 | 20.2 | 6.8 | 25.5 | 12.4 | 31.5 | 16.7 | 31.4 | 16.3 | 30.6 | 17.5 | 24.8 | 13.4 |
| 26 | 19.4 | 6.2 | 26.7 | 13.8 | 27.6 | 17.3 | 29.7 | 17.3 | 28.3 | 16.5 | 23.1 | 13.0 |
| 27 | 20.8 | 6.7 | 26.3 | 13.8 | 28.7 | 16.6 | 30.9 | 15.4 | 24.3 | 16.3 | 24.1 | 14.2 |
| 28 | 19.4 | 8.1 | 26.0 | 13.5 | 30.2 | 16.5 | 32.4 | 16.2 | 25.2 | 14.0 | 17.0 | 10.9 |
| 29 | 21.8 | 10.9 | 25.8 | 13.1 | 31.6 | 17.1 | 30.9 | 17.0 | 27.4 | 13.7 | 14.0 | 9.8 |
| 30 | 22.7 | 10.1 | 24.9 | 15.2 | 26.7 | 16.9 | 31.3 | 17.7 | 26.8 | 14.8 | 21.5 | 11.4 |
| 31 | --- | --- | 19.7 | 12.9 | --- | --- | 28.2 | 17.4 | 26.7 | 15.0 | --- | --- |
| MONTH | 22.7 | .0 | 26.7 | 4.5 | 32.7 | 11.0 | 32.8 | 14.6 | 33.0 | 13.7 | 26.2 | 9.0 |

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LOCATION.--Lat 38°04'51", long 103°13'09", in SE¼NE¼ sec.3, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020009, on right bank at upstream side of bridge on U.S. Highway 50, 1.1 mi north of courthouse in Las Animas, and 4.2 mi upstream from Purgatoire River.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. 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: Dec. 16-22, Dec. 26 to Feb. 11 and Feb 17-22. Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 412,000 acres, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

AVERAGE DISCHARGE.--34 years (water years 1940-73), 203 ft³/s; 147,100 acre-ft/yr, prior to completion of Pueblo Dam; 14 years (water years 1975-88), 265 ft³/s; 192,000 acre-ft/yr, subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft³/s, May 20, 1955, gage height, 15.03 ft, site and datum then in use, from rating curve extended above 24,000 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.9 ft³/s, July 31, Aug. 1, 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 522 ft³/s at 1430 Apr. 3, gage height, 5.32 ft; maximum gage height, 6.63 ft at 1330 Dec. 31 (backwater from ice); minimum daily discharge, 19 ft³/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|------|------|------|-------|--------|------|------|
| 1 | 51 | 59 | 281 | 170 | 280 | 138 | 74 | 36 | 35 | 26 | 153 | 80 |
| 2 | 54 | 56 | 280 | 160 | 250 | 143 | 246 | 42 | 32 | 127 | 151 | 51 |
| 3 | 48 | 61 | 281 | 160 | 260 | 134 | 432 | 48 | 32 | 347 | 192 | 49 |
| 4 | 46 | 70 | 276 | 160 | 270 | 127 | 324 | 41 | 32 | 183 | 209 | 53 |
| 5 | 54 | 71 | 223 | 150 | 260 | 126 | 161 | 40 | 34 | 140 | 191 | 93 |
| 6 | 50 | 82 | 212 | 140 | 250 | 125 | 70 | 43 | 36 | 109 | 162 | 92 |
| 7 | 51 | 82 | 200 | 140 | 270 | 114 | 60 | 41 | 34 | 149 | 105 | 67 |
| 8 | 48 | 77 | 189 | 150 | 280 | 112 | 55 | 37 | 34 | 170 | 77 | 59 |
| 9 | 48 | 93 | 173 | 160 | 280 | 144 | 52 | 36 | 43 | 195 | 76 | 36 |
| 10 | 49 | 83 | 167 | 200 | 250 | 146 | 59 | 38 | 37 | 198 | 53 | 28 |
| 11 | 57 | 90 | 172 | 250 | 234 | 134 | 57 | 41 | 33 | 184 | 35 | 26 |
| 12 | 62 | 98 | 172 | 270 | 259 | 139 | 54 | 44 | 32 | 291 | 29 | 26 |
| 13 | 63 | 81 | 172 | 285 | 243 | 143 | 53 | 38 | 32 | 209 | 26 | 27 |
| 14 | 61 | 102 | 175 | 270 | 270 | 143 | 52 | 32 | 30 | 187 | 23 | 28 |
| 15 | 63 | 150 | 174 | 300 | 257 | 122 | 50 | 29 | 32 | 147 | 20 | 28 |
| 16 | 63 | 225 | 170 | 300 | 207 | 72 | 43 | 27 | 33 | 105 | 19 | 28 |
| 17 | 62 | 168 | 170 | 280 | 190 | 80 | 43 | 27 | 35 | 89 | 23 | 27 |
| 18 | 65 | 133 | 190 | 250 | 190 | 149 | 49 | 26 | 36 | 121 | 21 | 27 |
| 19 | 60 | 117 | 200 | 210 | 200 | 119 | 50 | 26 | 35 | 136 | 21 | 26 |
| 20 | 52 | 209 | 180 | 200 | 230 | 157 | 46 | 34 | 33 | 116 | 26 | 29 |
| 21 | 47 | 244 | 190 | 200 | 230 | 96 | 43 | 48 | 31 | 74 | 38 | 45 |
| 22 | 49 | 239 | 200 | 220 | 200 | 70 | 46 | 68 | 29 | 81 | 77 | 58 |
| 23 | 55 | 236 | 209 | 230 | 191 | 77 | 50 | 35 | 29 | 137 | 86 | 68 |
| 24 | 54 | 239 | 186 | 230 | 194 | 74 | 48 | 32 | 49 | 145 | 65 | 71 |
| 25 | 46 | 278 | 167 | 200 | 179 | 73 | 43 | 33 | 68 | 123 | 46 | 80 |
| 26 | 50 | 298 | 160 | 250 | 158 | 71 | 40 | 31 | 38 | 140 | 47 | 101 |
| 27 | 56 | 307 | 160 | 300 | 161 | 68 | 40 | 28 | 67 | 118 | 40 | 79 |
| 28 | 58 | 300 | 170 | 350 | 146 | 61 | 43 | 28 | 46 | 103 | 64 | 57 |
| 29 | 62 | 294 | 170 | 400 | 145 | 61 | 46 | 27 | 29 | 151 | 53 | 45 |
| 30 | 60 | 292 | 190 | 400 | --- | 58 | 41 | 26 | 27 | 114 | 61 | 39 |
| 31 | 59 | --- | 180 | 350 | --- | 56 | --- | 29 | --- | 92 | 76 | --- |
| TOTAL | 1703 | 4834 | 6039 | 7335 | 6534 | 3332 | 2470 | 1111 | 1093 | 4507 | 2265 | 1523 |
| MEAN | 54.9 | 161 | 195 | 237 | 225 | 107 | 82.3 | 35.8 | 36.4 | 145 | 73.1 | 50.8 |
| MAX | 65 | 307 | 281 | 400 | 280 | 157 | 432 | 68 | 68 | 347 | 209 | 101 |
| MIN | 46 | 56 | 160 | 140 | 145 | 56 | 40 | 26 | 27 | 26 | 19 | 26 |
| AC-FT | 3380 | 9590 | 11980 | 14550 | 12960 | 6610 | 4900 | 2200 | 2170 | 8940 | 4490 | 3020 |
| CAL YR 1987 | TOTAL | 230815 | MEAN | 632 | MAX | 5930 | MIN | 36 | AC-FT | 457800 | | |
| WTR YR 1988 | TOTAL | 42746 | MEAN | 117 | MAX | 432 | MIN | 19 | AC-FT | 84790 | | |

ARKANSAS RIVER BASIN

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1985 to current year.

WATER TEMPERATURE: December 1985 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 7,950 microsiemens Jan. 22, 1986; minimum, 780 microsiemens Apr. 21, 1987.

WATER TEMPERATURE: Maximum, 34.5°C Aug. 18, 1986; minimum, 0.0°C many days during most winters.

EXTREMES FOR PERIOD CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 7,830 microsiemens Oct. 5, minimum, 1,120 microsiemens July 3.

WATER TEMPERATURE: Maximum, 34.2°C June 21; minimum, 0.0°C many days during winter.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | OXYGEN, DIS- SOLVED (MG/L) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-------|------|---|---|--------------------------------|-------------------------------------|--|--|
| OCT | | | | | | | |
| 06... | 1015 | 49 | 4450 | 8.2 | 10.0 | 1.10 | 0.06 |
| NOV | | | | | | | |
| 05... | 1245 | 62 | 3220 | 8.2 | 11.6 | 1.40 | 0.07 |
| DEC | | | | | | | |
| 08... | 1230 | 189 | 2580 | 8.3 | 10.7 | 3.20 | 0.01 |
| JAN | | | | | | | |
| 12... | 1500 | 300 | 2210 | 8.1 | 11.4 | 2.90 | 0.17 |
| FEB | | | | | | | |
| 11... | 1000 | 225 | 2400 | 8.3 | 12.8 | 2.90 | 0.15 |
| MAR | | | | | | | |
| 15... | 1330 | 102 | 2780 | 8.2 | 10.8 | 2.60 | 0.08 |
| APR | | | | | | | |
| 21... | 0910 | 44 | 3840 | 8.1 | 11.3 | 1.30 | 0.06 |
| MAY | | | | | | | |
| 17... | 1250 | 28 | 3770 | 8.1 | 11.5 | 1.10 | 0.14 |
| JUN | | | | | | | |
| 15... | 1215 | 36 | 3240 | 8.1 | 12.0 | 0.700 | 0.06 |
| JUL | | | | | | | |
| 14... | 1500 | 161 | 1960 | 8.2 | 6.9 | 1.40 | 0.09 |
| AUG | | | | | | | |
| 22... | 1330 | 20 | 3500 | 8.2 | 12.5 | 1.30 | 0.08 |
| SEP | | | | | | | |
| 14... | 0830 | 30 | 3130 | 8.2 | 8.5 | 1.20 | 0.04 |

ARKANSAS RIVER BASIN

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07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 4230 | 3460 | 2340 | 2310 | 2190 | 2790 | 3340 | 4100 | 3710 | 3580 | 2020 | 2100 |
| 2 | 4050 | 3500 | 2910 | 2300 | 1870 | 2740 | 1970 | 4310 | 3830 | 2290 | 1950 | 2610 |
| 3 | 3990 | 3350 | 3000 | 2220 | 1630 | 2810 | 1530 | 4160 | 3830 | 1360 | --- | 2640 |
| 4 | 4580 | 3190 | 2950 | 2320 | 1730 | 2880 | 1680 | 4370 | 3760 | --- | 1580 | 2530 |
| 5 | 6850 | 3230 | 3040 | 2420 | 1970 | 2910 | 2480 | 4120 | 3560 | --- | 2310 | 1990 |
| 6 | 4590 | 3110 | 2970 | 2440 | 2130 | 2880 | 3060 | 3930 | 3500 | --- | --- | 1980 |
| 7 | 4300 | 3140 | 2580 | 2370 | 2020 | 2880 | 3180 | 3980 | 3480 | --- | --- | 2240 |
| 8 | 4380 | 3180 | 2600 | 2440 | 2090 | 2930 | 3350 | 4110 | 3500 | --- | --- | 2350 |
| 9 | 4030 | 2960 | 2640 | 2380 | 1980 | 2710 | 3510 | 4070 | 3230 | --- | --- | 2780 |
| 10 | 3800 | 3130 | 2650 | 2360 | 2300 | 2670 | 3400 | 3900 | 3420 | --- | --- | 2600 |
| 11 | 3590 | 3070 | 2630 | 2300 | 2610 | 2630 | 3600 | 3760 | 3620 | --- | --- | 2680 |
| 12 | 3500 | 2950 | 2640 | 2240 | 2710 | 2570 | 3640 | 3550 | 3530 | --- | --- | 2980 |
| 13 | 3360 | 3180 | 2630 | 2200 | 2620 | --- | 3620 | 3540 | 3380 | --- | --- | 3120 |
| 14 | 3430 | 3020 | 2630 | 2170 | 2600 | --- | 3450 | 3610 | 3420 | 1950 | --- | 3150 |
| 15 | 3500 | 2550 | 2750 | 2050 | 2560 | 2640 | 3480 | 3610 | 3340 | 1970 | --- | 3300 |
| 16 | 3250 | 2310 | 2930 | 2080 | 2830 | 2780 | 3530 | 3580 | 3590 | 2120 | 3380 | 3320 |
| 17 | 3260 | 2190 | 2640 | 2030 | 3010 | 2750 | 3560 | 3600 | 3560 | 2310 | 3160 | 3290 |
| 18 | 3250 | 2830 | 2200 | 2070 | 2630 | 2600 | 3520 | 3720 | 3460 | 2490 | 3200 | 3300 |
| 19 | 3500 | 3050 | 2250 | 2150 | 2530 | 2610 | 3590 | 3510 | 3500 | 2780 | 3160 | 3330 |
| 20 | 3840 | 2720 | 2570 | 2290 | 2620 | --- | 3810 | 3410 | 3510 | 2580 | 2860 | 3160 |
| 21 | 3930 | 3140 | 2580 | 2420 | 2610 | --- | 3840 | 3300 | 3600 | 2120 | 2850 | 2450 |
| 22 | 3840 | 3270 | --- | --- | 2910 | 3060 | 3870 | 2790 | 3590 | 2260 | 2080 | 2390 |
| 23 | 3590 | 3330 | --- | --- | 3310 | 3090 | 3900 | 3590 | 3740 | 2500 | 1870 | 2280 |
| 24 | 3630 | 2500 | 2610 | --- | 2940 | 3270 | 3940 | 3610 | 3200 | 1920 | 2130 | 2290 |
| 25 | 3580 | 2370 | 2690 | 2220 | 2770 | 3330 | 4060 | 3620 | 2610 | 2020 | 2220 | 2320 |
| 26 | 3610 | 2260 | 2630 | 2200 | 2760 | 3310 | 4140 | 3630 | 3230 | 2070 | 2260 | 2280 |
| 27 | 3490 | 2190 | 2520 | 2110 | 2770 | 3380 | 4120 | 3720 | 2440 | 2250 | --- | 2300 |
| 28 | 3520 | 2230 | 2520 | 2080 | 2780 | 3420 | 3990 | 3810 | 2920 | 2410 | --- | 2510 |
| 29 | 3470 | 2510 | 2410 | 2020 | 2780 | 3460 | 3880 | 3870 | 3560 | 2150 | --- | 2770 |
| 30 | 3440 | 2270 | 2420 | 1940 | --- | 3650 | 3970 | 3890 | 3480 | 2120 | 2280 | 3050 |
| 31 | 3430 | --- | 2280 | 1750 | --- | 3670 | --- | 3790 | --- | 2360 | 2130 | --- |
| MEAN | 3830 | 2870 | --- | --- | 2490 | --- | 3430 | 3760 | 3440 | --- | --- | 2670 |
| MAX | 6850 | 3500 | --- | --- | 3310 | --- | 4140 | 4370 | 3830 | --- | --- | 3330 |
| MIN | 3250 | 2190 | --- | --- | 1630 | --- | 1530 | 2790 | 2440 | --- | --- | 1980 |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|-----|----------|-----|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 23.2 | 11.0 | 16.8 | 10.2 | 3.1 | .0 | .0 | .0 | 1.4 | .0 | 14.0 | 6.5 |
| 2 | 21.5 | 11.1 | 18.0 | 11.1 | 3.9 | .9 | .0 | .0 | 1.0 | .0 | 8.7 | 3.6 |
| 3 | 23.4 | 10.1 | 16.9 | 8.7 | 6.0 | 2.2 | .0 | .0 | .1 | .0 | 10.3 | 2.5 |
| 4 | 23.4 | 10.9 | 15.9 | 8.9 | 5.6 | 3.4 | .0 | .0 | .2 | .0 | 11.3 | 3.1 |
| 5 | 20.8 | 11.4 | 16.0 | 8.6 | 7.2 | 4.9 | .0 | .0 | .0 | .0 | 11.5 | 3.3 |
| 6 | 20.1 | 9.0 | 15.0 | 9.9 | 8.9 | 5.3 | .0 | .0 | .9 | .0 | 13.7 | 4.4 |
| 7 | 18.7 | 8.8 | 15.3 | 8.9 | 8.7 | 4.4 | .0 | .0 | 1.7 | .0 | 8.9 | 3.3 |
| 8 | 19.7 | 9.3 | 12.9 | 6.6 | 7.2 | 4.1 | .0 | .0 | 1.5 | .0 | 9.7 | 1.0 |
| 9 | 18.1 | 8.6 | 10.6 | 4.0 | 6.4 | 2.6 | .0 | .0 | 2.7 | .0 | 12.3 | 2.3 |
| 10 | 14.5 | 6.6 | 11.5 | 3.8 | 6.4 | 2.3 | .0 | .0 | 1.7 | .0 | 9.7 | 5.9 |
| 11 | 17.1 | 5.8 | 10.5 | 4.7 | 7.1 | 3.2 | .0 | .0 | 1.7 | .0 | --- | --- |
| 12 | 18.2 | 6.7 | 11.5 | 4.0 | 5.1 | 2.6 | .0 | .0 | 5.5 | .0 | --- | --- |
| 13 | 18.0 | 11.3 | 12.2 | 4.4 | 2.5 | .6 | .0 | .0 | 6.5 | .7 | --- | --- |
| 14 | 17.3 | 9.6 | 11.0 | 5.9 | 1.4 | .0 | .0 | .0 | 7.1 | 2.5 | --- | --- |
| 15 | 18.4 | 7.9 | 6.9 | 1.9 | 1.3 | .0 | .0 | .0 | 5.3 | 3.2 | 9.8 | --- |
| 16 | 17.3 | 8.4 | 4.4 | .9 | .0 | .0 | .0 | .0 | 6.5 | 4.6 | 4.3 | 2.9 |
| 17 | 17.8 | 7.1 | 5.4 | .0 | .0 | .0 | .0 | .0 | 6.2 | 4.9 | 5.6 | 3.1 |
| 18 | 16.3 | 7.1 | 5.7 | 2.2 | .4 | .0 | .0 | .0 | 5.8 | 4.9 | 5.0 | 2.8 |
| 19 | 15.5 | 7.0 | 5.9 | 1.6 | 1.1 | .0 | .0 | .0 | 5.6 | 5.0 | 11.7 | 3.9 |
| 20 | 16.4 | 8.0 | 5.6 | 1.6 | 2.3 | .9 | .0 | .0 | 6.2 | 5.3 | 13.8 | 10.7 |
| 21 | 17.2 | 5.8 | 6.0 | 3.7 | 2.9 | 1.7 | .0 | .0 | 7.2 | 5.9 | 16.1 | 12.3 |
| 22 | 15.3 | 6.2 | 6.6 | 5.0 | 3.7 | 2.8 | --- | --- | 7.5 | 6.7 | 15.7 | 13.6 |
| 23 | 15.0 | 5.6 | 6.5 | 5.5 | 3.5 | .5 | --- | --- | 8.4 | 4.6 | 15.0 | 6.9 |
| 24 | 9.9 | 7.8 | 6.7 | 3.1 | .9 | .0 | --- | --- | 9.1 | 2.2 | 10.8 | 7.1 |
| 25 | 18.8 | 8.7 | 5.0 | 1.6 | .0 | .0 | --- | --- | 9.4 | 2.7 | 13.2 | 4.5 |
| 26 | 17.3 | 8.1 | 2.8 | 1.5 | .1 | .0 | .6 | .0 | 10.6 | 4.4 | 15.5 | 6.3 |
| 27 | 16.3 | 6.8 | 4.1 | .9 | .7 | .0 | .3 | .0 | 11.2 | 4.9 | 18.3 | 7.6 |
| 28 | 16.9 | 6.5 | 3.0 | .0 | .9 | .0 | .0 | .0 | 11.6 | 6.5 | 10.5 | 4.5 |
| 29 | 16.7 | 7.0 | 3.0 | .0 | 1.0 | .0 | .0 | .0 | 11.3 | 5.7 | 15.5 | 1.9 |
| 30 | 16.5 | 10.1 | 3.1 | .0 | .9 | .0 | .2 | .0 | --- | --- | 18.1 | 3.4 |
| 31 | 18.0 | 9.8 | --- | --- | .0 | .0 | .2 | .0 | --- | --- | 5.8 | 2.9 |
| MONTH | 23.4 | 5.6 | 18.0 | .0 | 8.9 | .0 | --- | --- | 11.6 | .0 | --- | --- |

ARKANSAS RIVER BASIN

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 2.9 | .0 | 23.1 | 11.5 | 27.1 | 10.6 | 33.2 | 16.0 | 26.7 | 21.4 | 26.9 | 18.1 |
| 2 | 1.9 | .0 | 11.5 | 4.0 | 25.2 | 12.3 | 30.8 | 16.8 | 27.1 | 25.2 | 24.4 | 18.6 |
| 3 | 9.8 | 1.1 | 20.4 | 3.8 | 29.9 | 13.0 | --- | 23.0 | 26.4 | 24.2 | 26.1 | 16.2 |
| 4 | 12.0 | 6.7 | 23.4 | 7.0 | 28.8 | 14.2 | --- | --- | 25.8 | 22.0 | 25.5 | 14.0 |
| 5 | 13.9 | --- | 25.8 | 8.5 | 28.5 | 15.3 | --- | --- | --- | --- | 25.8 | 15.3 |
| 6 | 14.0 | 6.7 | 23.5 | 9.6 | 31.9 | 14.8 | --- | --- | --- | --- | 24.6 | 16.0 |
| 7 | 13.6 | 8.3 | 20.9 | 6.9 | 32.6 | 15.0 | --- | --- | --- | --- | 25.6 | 16.0 |
| 8 | 15.4 | 8.1 | 24.9 | 8.7 | 33.1 | 15.4 | --- | --- | --- | --- | 23.5 | 16.9 |
| 9 | 14.8 | 6.3 | 26.5 | 8.8 | 29.4 | 16.2 | --- | --- | --- | --- | 23.8 | 14.0 |
| 10 | 15.6 | 6.0 | 26.4 | 11.8 | 30.2 | 16.7 | --- | --- | --- | --- | 23.4 | 15.2 |
| 11 | 20.0 | 4.8 | 27.4 | 10.7 | 31.8 | 15.8 | --- | --- | --- | --- | 21.3 | 16.0 |
| 12 | 21.9 | 6.4 | 28.2 | 12.1 | 31.6 | 16.5 | --- | --- | --- | --- | 16.0 | 14.0 |
| 13 | 23.6 | 8.7 | 27.5 | 13.0 | 27.3 | 16.2 | --- | --- | --- | --- | 16.0 | 13.5 |
| 14 | 17.6 | 7.9 | 25.9 | 12.8 | 30.4 | 14.2 | 32.6 | --- | --- | --- | 21.6 | 14.3 |
| 15 | 20.2 | 6.5 | 27.2 | 12.3 | 28.8 | 16.6 | 23.4 | --- | --- | --- | 25.9 | 14.3 |
| 16 | 18.6 | 8.0 | 28.8 | 12.0 | 30.7 | 14.5 | 24.6 | 21.7 | 31.6 | --- | 26.3 | 12.5 |
| 17 | 15.5 | 9.1 | 29.7 | 13.7 | 33.1 | 16.1 | 23.9 | 21.7 | 27.1 | 18.8 | 26.2 | 12.6 |
| 18 | 22.2 | 7.1 | 27.9 | 14.6 | 32.0 | 17.0 | 23.5 | 21.5 | 29.7 | 19.8 | 25.3 | 13.7 |
| 19 | 24.3 | 9.0 | 18.0 | 10.4 | 33.0 | 17.0 | 21.9 | 19.6 | 28.5 | 19.6 | 24.8 | 11.4 |
| 20 | 24.2 | 9.7 | 12.2 | 8.3 | 32.5 | 17.6 | 25.2 | 19.1 | 28.9 | 19.6 | 25.0 | 12.4 |
| 21 | 25.4 | 9.6 | 17.4 | 8.5 | 34.2 | 17.4 | 24.5 | 18.6 | 29.3 | 18.9 | 24.3 | 16.4 |
| 22 | 22.8 | 7.5 | 15.3 | 10.3 | 33.1 | 17.4 | 28.1 | 19.5 | 28.0 | 22.8 | 22.4 | 17.3 |
| 23 | 21.4 | 8.0 | 21.9 | 10.1 | 33.7 | 18.4 | 26.8 | 22.3 | 30.3 | 23.6 | 21.2 | 18.2 |
| 24 | 14.9 | 8.2 | 26.7 | 11.0 | 33.7 | 18.9 | 27.3 | 22.2 | 31.8 | 20.7 | 22.4 | 17.8 |
| 25 | 23.2 | 6.6 | 29.4 | 12.5 | 31.2 | 19.4 | 27.3 | 23.5 | 26.5 | 20.0 | 23.6 | 19.6 |
| 26 | 21.9 | 6.0 | 31.2 | 13.7 | 29.1 | 18.7 | 27.3 | 21.6 | 25.3 | 19.1 | 24.2 | 20.1 |
| 27 | 23.4 | 6.0 | 30.8 | 13.9 | 32.4 | 20.0 | 26.3 | 19.0 | --- | --- | 27.0 | 18.9 |
| 28 | 22.2 | 7.4 | 30.1 | 13.6 | 31.9 | 18.7 | 28.0 | 19.7 | --- | --- | 18.7 | 12.3 |
| 29 | 23.1 | 11.0 | 29.1 | 13.2 | 33.9 | 17.7 | 25.6 | 21.5 | --- | --- | 13.2 | 10.8 |
| 30 | 24.7 | 10.3 | 26.5 | 15.4 | 29.7 | 17.5 | 26.5 | 21.5 | 28.5 | --- | 18.6 | 12.0 |
| 31 | --- | --- | 23.2 | 12.3 | --- | --- | 26.6 | 19.6 | 29.5 | 18.0 | --- | --- |
| MONTH | 25.4 | --- | 31.2 | 3.8 | 34.2 | 10.6 | --- | --- | --- | --- | 27.0 | 10.8 |

ARKANSAS RIVER BASIN

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07124200 PURGATOIRE RIVER AT MADRID, CO

LOCATION.--Lat 37°07'46", long 104°38'20", in SW¼NE¼ sec.35, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 70 ft downstream from county 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. 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: Nov. 26-27, Dec. 13 to Feb.16, Feb. 24 to Mar. 10, Mar. 13, 18, June 13-15, and Aug. 11-26. Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 6,000 acres upstream from station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--16 years, 70.6 ft³/s; 51,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s, July 20, 1976, gage height, 12.80 ft, from floodmarks, from rating curve extended above 300 ft³/s, on basis of drift-timed measurement of peak flow; minimum daily, 3.0 ft³/s, Feb. 23 to Mar. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| July 16 | 1545 | *a970 | *b3.91 | | | | |

Minimum daily discharge, 8.6 ft³/s, Jan. 6.

a-From rating curve extended above 300 ft³/s, on basis of drift-timed measurement of peak flow.

b-From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|------|------|------|------|------|------|------|------|
| 1 | 28 | 23 | 41 | 10 | 23 | 19 | 21 | 16 | 76 | 139 | 63 | 50 |
| 2 | 27 | 24 | 51 | 9.8 | 21 | 24 | 20 | 20 | 65 | 122 | 69 | 53 |
| 3 | 26 | 24 | 48 | 9.4 | 20 | 21 | 24 | 20 | 60 | 117 | 59 | 53 |
| 4 | 26 | 23 | 47 | 9.2 | 19 | 20 | 25 | 19 | 59 | 120 | 60 | 47 |
| 5 | 24 | 22 | 28 | 9.0 | 20 | 19 | 22 | 18 | 107 | 137 | 129 | 45 |
| 6 | 24 | 22 | 25 | 8.6 | 19 | 21 | 21 | 19 | 104 | 96 | 132 | 44 |
| 7 | 24 | 22 | 22 | 8.8 | 19 | 26 | 19 | 20 | 118 | 85 | 119 | 42 |
| 8 | 24 | 22 | 22 | 9.8 | 18 | 25 | 20 | 20 | 82 | 131 | 95 | 40 |
| 9 | 24 | 21 | 21 | 10 | 17 | 25 | 20 | 19 | 62 | 170 | 84 | 36 |
| 10 | 23 | 19 | 34 | 11 | 17 | 24 | 20 | 19 | 87 | 111 | 77 | 34 |
| 11 | 23 | 23 | 27 | 12 | 16 | 16 | 19 | 20 | 84 | 126 | 88 | 32 |
| 12 | 23 | 22 | 23 | 13 | 17 | 16 | 18 | 20 | 108 | 88 | 84 | 50 |
| 13 | 23 | 23 | 20 | 14 | 17 | 15 | 18 | 20 | 120 | 72 | 70 | 99 |
| 14 | 26 | 24 | 19 | 16 | 18 | 15 | 18 | 25 | 72 | 62 | 62 | 75 |
| 15 | 28 | 28 | 18 | 19 | 19 | 22 | 20 | 30 | 88 | 66 | 56 | 67 |
| 16 | 25 | 26 | 20 | 20 | 20 | 23 | 23 | 36 | 80 | 151 | 60 | 65 |
| 17 | 25 | 23 | 21 | 19 | 21 | 21 | 27 | 43 | 80 | 89 | 63 | 60 |
| 18 | 24 | 28 | 22 | 18 | 20 | 21 | 27 | 65 | 52 | 79 | 65 | 58 |
| 19 | 23 | 24 | 20 | 15 | 17 | 22 | 22 | 110 | 46 | 71 | 56 | 55 |
| 20 | 23 | 32 | 19 | 14 | 20 | 24 | 20 | 115 | 45 | 81 | 52 | 53 |
| 21 | 23 | 28 | 19 | 13 | 20 | 21 | 20 | 86 | 54 | 78 | 50 | 51 |
| 22 | 23 | 27 | 19 | 14 | 20 | 20 | 19 | 67 | 56 | 64 | 56 | 50 |
| 23 | 23 | 24 | 18 | 14 | 21 | 20 | 19 | 53 | 58 | 55 | 48 | 73 |
| 24 | 23 | 27 | 17 | 16 | 20 | 18 | 19 | 45 | 80 | 59 | 43 | 60 |
| 25 | 23 | 22 | 16 | 19 | 20 | 18 | 19 | 38 | 104 | 76 | 42 | 51 |
| 26 | 23 | 21 | 14 | 22 | 19 | 17 | 18 | 32 | 115 | 64 | 42 | 47 |
| 27 | 23 | 22 | 13 | 24 | 19 | 18 | 17 | 27 | 147 | 76 | 47 | 45 |
| 28 | 23 | 28 | 13 | 24 | 18 | 18 | 16 | 39 | 160 | 74 | 60 | 44 |
| 29 | 23 | 43 | 12 | 25 | 18 | 18 | 17 | 68 | 114 | 64 | 64 | 42 |
| 30 | 23 | 42 | 11 | 25 | --- | 18 | 17 | 73 | 159 | 73 | 56 | 42 |
| 31 | 23 | --- | 10 | 25 | --- | 18 | --- | 78 | --- | 85 | 51 | --- |
| TOTAL | 746 | 759 | 710 | 476.6 | 553 | 623 | 605 | 1280 | 2642 | 2881 | 2102 | 1563 |
| MEAN | 24.1 | 25.3 | 22.9 | 15.4 | 19.1 | 20.1 | 20.2 | 41.3 | 88.1 | 92.9 | 67.8 | 52.1 |
| MAX | 28 | 43 | 51 | 25 | 23 | 26 | 27 | 115 | 160 | 170 | 132 | 99 |
| MIN | 23 | 19 | 10 | 8.6 | 16 | 15 | 16 | 16 | 45 | 55 | 42 | 32 |
| AC-FT | 1480 | 1510 | 1410 | 945 | 1100 | 1240 | 1200 | 2540 | 5240 | 5710 | 4170 | 3100 |

CAL YR 1987 TOTAL 38127 MEAN 104 MAX 507 MIN 10 AC-FT 75620
WTR YR 1988 TOTAL 14940.6 MEAN 40.8 MAX 170 MIN 8.6 AC-FT 29630

ARKANSAS RIVER BASIN

07124300 LONG CANYON CREEK NEAR MADRID, CO

LOCATION.--Lat 37°06'53", long 104°36'17", in SE¼NW¼ sec.6, T.34 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank 700 ft upstream from private bridge, 1.4 mi upstream from Oso Canyon, 2.2 mi southeast of Madrid, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--100 mi².

PERIOD OF RECORD.--March 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,259.09 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 18-24, Dec. 15-16, 20, 25-29, Jan. 3, 5-8, 19-20, 25-26, Feb. 2-4, 6-7, and June 29 to July 13. Records good except for estimated daily discharges, which are poor. No diversion upstream from station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--16 years, 4.53 ft³/s; 3,280 acre-ft/yr. The figure published in the 1987 report was in error; the correct figure is 15 years, 4.69 ft³/s, 3,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,140 ft³/s, July 17, 1979, gage height, 7.37 ft, from floodmarks, from rating curve extended above 1,000 ft³/s, on basis of slope-area measurements at gage heights, 6.88 ft, and 7.37 ft; no flow, Feb. 22 to May 22, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| June 5 | 1645 | 506 | 4.26 | June 29 | 1745 | *2,400 | *6.76 |

Minimum daily discharge, 0.49 ft³/s, Sept. 18, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 2.1 | .89 | .73 | .77 | .79 | .78 | .60 | .86 | 1.0 | 5.0 | 2.1 | .86 |
| 2 | 2.1 | .89 | .75 | .77 | .70 | .78 | .70 | .91 | 1.0 | 2.5 | 1.9 | 1.3 |
| 3 | 2.1 | .84 | .84 | .64 | .66 | .78 | .67 | .93 | 1.0 | 2.0 | 1.6 | 1.4 |
| 4 | 1.9 | .88 | .91 | .74 | .72 | .81 | .67 | .89 | 1.6 | 1.8 | 1.5 | .93 |
| 5 | 1.8 | .89 | .81 | .60 | .79 | .80 | .67 | .89 | 20 | 2.9 | 1.6 | .89 |
| 6 | 1.8 | .83 | .78 | .62 | .72 | .78 | .67 | .86 | 5.4 | 2.3 | 1.5 | .81 |
| 7 | 1.7 | .78 | .78 | .66 | .80 | .78 | .64 | .78 | 2.3 | 1.9 | 1.4 | .71 |
| 8 | 1.6 | .78 | .78 | .68 | .93 | .70 | .55 | .78 | 2.0 | 3.0 | 1.5 | .67 |
| 9 | 1.6 | .87 | .84 | .73 | .91 | .69 | .55 | .78 | 1.9 | 5.6 | 8.2 | .66 |
| 10 | 1.5 | .76 | .85 | .76 | .77 | .67 | .55 | .78 | 9.1 | 3.7 | 10 | .63 |
| 11 | 1.5 | .82 | .78 | .78 | .87 | .70 | .55 | .85 | 2.2 | 3.3 | 10 | .68 |
| 12 | 1.6 | .80 | .79 | .78 | .91 | .67 | .55 | .89 | 2.2 | 4.0 | 6.9 | 1.1 |
| 13 | 1.6 | .81 | .62 | .74 | .87 | .69 | .55 | .89 | 1.9 | 2.8 | 3.5 | 1.4 |
| 14 | 1.6 | .80 | .58 | .79 | .85 | .74 | .55 | .89 | 1.8 | 2.1 | 1.7 | 1.0 |
| 15 | 1.6 | .82 | .60 | .80 | .82 | .71 | .55 | .89 | 23 | 2.0 | 1.4 | .84 |
| 16 | 1.5 | .78 | .62 | .79 | .89 | .67 | .55 | .89 | 21 | 4.7 | 1.3 | .74 |
| 17 | 1.4 | .75 | .67 | .74 | .88 | .68 | .70 | .89 | 8.4 | 2.0 | 1.3 | .57 |
| 18 | 1.4 | .70 | .67 | .77 | .85 | .67 | .78 | .89 | 4.2 | 1.6 | 1.6 | .49 |
| 19 | 1.4 | .73 | .71 | .60 | .86 | .67 | .78 | 1.1 | 2.4 | 1.7 | 1.4 | .51 |
| 20 | 1.2 | .78 | .66 | .58 | .82 | .67 | .78 | 1.6 | 2.2 | 1.7 | 1.0 | .51 |
| 21 | 1.2 | .76 | .75 | .67 | .81 | .67 | .78 | 4.3 | 1.7 | 1.4 | .93 | .49 |
| 22 | 1.0 | .74 | .93 | .72 | .82 | .67 | .78 | 2.3 | 1.7 | 1.2 | .95 | .51 |
| 23 | 1.0 | .76 | .89 | .78 | .81 | .67 | .78 | 1.5 | 1.7 | 1.1 | 1.0 | 4.6 |
| 24 | 1.0 | .73 | .74 | .72 | .82 | .67 | .78 | 1.2 | 1.5 | 1.1 | 1.0 | 1.3 |
| 25 | 1.0 | .77 | .60 | .60 | .80 | .67 | .84 | 1.2 | 12 | 1.0 | 1.1 | .84 |
| 26 | 1.0 | .81 | .60 | .64 | .78 | .67 | .89 | 1.2 | 17 | .96 | 1.4 | .71 |
| 27 | 1.0 | .75 | .62 | .67 | .81 | .67 | .89 | 1.2 | 14 | 2.0 | 1.3 | .69 |
| 28 | 1.0 | .78 | .68 | .74 | .78 | .67 | .89 | 1.0 | 21 | 9.1 | 1.4 | .62 |
| 29 | 1.0 | .66 | .78 | .78 | .78 | .69 | .89 | 1.0 | 164 | 7.1 | 1.2 | .74 |
| 30 | 1.0 | .68 | .91 | .95 | --- | .65 | .89 | 1.0 | 30 | 4.8 | 1.0 | .77 |
| 31 | 1.0 | --- | .81 | .85 | --- | .62 | --- | .99 | --- | 3.1 | .96 | --- |
| TOTAL | 44.2 | 23.64 | 23.08 | 22.46 | 23.62 | 21.76 | 21.02 | 35.13 | 379.2 | 89.46 | 73.64 | 27.97 |
| MEAN | 1.43 | .79 | .74 | .72 | .81 | .70 | .70 | 1.13 | 12.6 | 2.89 | 2.38 | .93 |
| MAX | 2.1 | .89 | .93 | .95 | .93 | .81 | .89 | 4.3 | 164 | 9.1 | 10 | 4.6 |
| MIN | 1.0 | .66 | .58 | .58 | .66 | .62 | .55 | .78 | 1.0 | .96 | .93 | .49 |
| AC-FT | 88 | 47 | 46 | 45 | 47 | 43 | 42 | 70 | 752 | 177 | 146 | 55 |

CAL YR 1987 TOTAL 6381.96 MEAN 17.5 MAX 610 MIN .49 AC-FT 12660
WTR YR 1988 TOTAL 785.18 MEAN 2.15 MAX 164 MIN .49 AC-FT 1560

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LOCATION.--Lat 37°08'27", long 104°33'03", in NE¼SW¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, in valve house near center of dam on Purgatoire River and 3.2 mi southwest of courthouse in Trinidad.

GAGE.--Water-stage recorder. Datum of gage is 6,073.64 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers).

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 52,300 acre-ft, Apr. 30 to May 3, elevation, 6,214.93 ft; minimum contents, 16,600 acre-ft, Sept. 22, elevation, 6,172.20 ft.

| | | | |
|---------|--------|---------|--------|
| 6,160.0 | 10,500 | 6,190.0 | 28,300 |
| 6,165.0 | 13,100 | 6,200.0 | 36,800 |
| 6,170.0 | 15,400 | 6,210.0 | 46,800 |
| 6,175.0 | 18,100 | 6,220.0 | 58,400 |
| 6,180.0 | 21,200 | 6,230.0 | 71,800 |

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 45500 | 46600 | 47200 | 48200 | 49300 | 50400 | 51200 | 52300 | 42900 | 35600 | 30700 | 21000 |
| 2 | 45500 | 46500 | 47200 | 48300 | 49300 | 50400 | 51300 | 52300 | 42500 | 35500 | 30400 | 20800 |
| 3 | 45600 | 46400 | 47300 | 48300 | 49400 | 50400 | 51400 | 52300 | 42200 | 35300 | 30000 | 20500 |
| 4 | 45600 | 46300 | 47400 | 48300 | 49400 | 50500 | 51400 | 52200 | 41900 | 35100 | 29600 | 20300 |
| 5 | 45600 | 46300 | 47400 | 48300 | 49400 | 50500 | 51500 | 52100 | 41700 | 35200 | 29300 | 20000 |
| 6 | 45600 | 46300 | 47500 | 48300 | 49500 | 50500 | 51500 | 51800 | 41500 | 35200 | 29000 | 19800 |
| 7 | 45700 | 46400 | 47500 | 48400 | 49500 | 50600 | 51500 | 51500 | 41200 | 35100 | 28800 | 19500 |
| 8 | 45700 | 46400 | 47500 | 48400 | 49600 | 50600 | 51600 | 51200 | 40900 | 35100 | 28500 | 19300 |
| 9 | 45700 | 46400 | 47600 | 48400 | 49600 | 50700 | 51600 | 50800 | 40700 | 35100 | 28400 | 19100 |
| 10 | 45700 | 46400 | 47600 | 48500 | 49600 | 50700 | 51600 | 50300 | 40400 | 35000 | 28100 | 18800 |
| 11 | 45800 | 46400 | 47600 | 48500 | 49700 | 50700 | 51600 | 49800 | 40100 | 35000 | 27800 | 18600 |
| 12 | 45800 | 46500 | 47600 | 48500 | 49700 | 50600 | 51700 | 49300 | 39900 | 34900 | 27500 | 18400 |
| 13 | 45900 | 46500 | 47600 | 48500 | 49800 | 50600 | 51700 | 48700 | 39700 | 34700 | 27200 | 18300 |
| 14 | 45900 | 46600 | 47600 | 48600 | 49800 | 50600 | 51700 | 48200 | 39400 | 34500 | 26900 | 18100 |
| 15 | 46000 | 46600 | 47600 | 48600 | 49900 | 50600 | 51800 | 47600 | 39300 | 34400 | 26600 | 17900 |
| 16 | 46000 | 46700 | 47700 | 48600 | 49900 | 50600 | 51800 | 47000 | 39100 | 34300 | 26400 | 17700 |
| 17 | 46000 | 46700 | 47700 | 48700 | 50000 | 50600 | 51900 | 46500 | 38800 | 34100 | 26200 | 17500 |
| 18 | 46100 | 46700 | 47800 | 48700 | 50000 | 50700 | 52000 | 46000 | 38500 | 33900 | 26000 | 17200 |
| 19 | 46100 | 46800 | 47800 | 48800 | 50000 | 50800 | 52000 | 45700 | 38100 | 33700 | 25800 | 17000 |
| 20 | 46100 | 46800 | 47900 | 48800 | 50100 | 50800 | 52000 | 45700 | 37800 | 33500 | 25600 | 16800 |
| 21 | 46100 | 46900 | 47900 | 48800 | 50100 | 50900 | 52100 | 45800 | 37400 | 33300 | 25300 | 16700 |
| 22 | 46200 | 46900 | 48000 | 48900 | 50200 | 50900 | 52100 | 45800 | 37200 | 33000 | 24900 | 16600 |
| 23 | 46200 | 47000 | 48000 | 48900 | 50100 | 51000 | 52100 | 45700 | 36800 | 32800 | 24700 | 16700 |
| 24 | 46200 | 47000 | 48000 | 48900 | 50100 | 51000 | 52100 | 45400 | 36400 | 32500 | 24300 | 16800 |
| 25 | 46300 | 47000 | 48000 | 49000 | 50200 | 51000 | 52200 | 45000 | 36100 | 32300 | 23800 | 16900 |
| 26 | 46400 | 47100 | 48000 | 49000 | 50200 | 51100 | 52200 | 44700 | 35800 | 32000 | 23400 | 17000 |
| 27 | 46400 | 47100 | 48100 | 49100 | 50300 | 51100 | 52200 | 44400 | 35700 | 31800 | 23000 | 17100 |
| 28 | 46400 | 47100 | 48100 | 49100 | 50300 | 51000 | 52200 | 44100 | 35600 | 31500 | 22600 | 17200 |
| 29 | 46500 | 47100 | 48200 | 49200 | 50300 | 51100 | 52200 | 43800 | 35500 | 31100 | 22200 | 17200 |
| 30 | 46500 | 47200 | 48200 | 49200 | --- | 51100 | 52300 | 43500 | 35600 | 30900 | 21700 | 17300 |
| 31 | 46500 | --- | 48200 | 49200 | --- | 51200 | --- | 43100 | --- | 30900 | 213 | |

ARKANSAS RIVER BASIN

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO

LOCATION.--Lat 37°08'37", long 104°32'49", in SW¼NE¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank at toe of dam and 3.0 mi southwest of court house 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 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.--Estimated daily discharges: Jan. 20-22, and Feb. 11. Records good. 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years (water years 1978-88), 81.9 ft³/s; 59,340 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 963 ft³/s, Sept. 10, 1981, gage height, 7.89 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 325 ft³/s at 0845 Aug. 24, gage height, 6.52 ft; minimum daily, 0.02 ft³/s, Feb. 5-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|--------|-------|------|-------|--------|------|---------|-------|-------|-------|---------|
| 1 | 4.5 | .08 | .29 | .14 | .03 | .19 | .18 | .15 | 202 | 189 | 149 | 226 |
| 2 | 3.8 | 52 | .27 | .14 | .03 | .22 | .18 | .18 | 202 | 182 | 229 | 157 |
| 3 | 3.9 | 77 | .27 | .14 | .03 | .22 | .18 | 23 | 201 | 182 | 253 | 157 |
| 4 | 3.3 | 44 | .27 | .14 | .03 | .21 | .18 | 69 | 200 | 183 | 256 | 157 |
| 5 | 3.0 | 27 | .27 | .14 | .02 | .22 | .18 | 100 | 198 | 102 | 245 | 157 |
| 6 | 2.7 | .22 | .27 | .14 | .02 | .24 | .18 | 137 | 197 | 95 | 234 | 154 |
| 7 | 1.5 | .22 | .27 | .14 | .02 | .25 | .18 | 152 | 204 | 139 | 225 | 152 |
| 8 | .14 | .22 | .27 | .14 | .02 | .26 | .17 | 152 | 209 | 139 | 231 | 152 |
| 9 | .14 | .22 | .27 | .14 | .02 | .24 | .18 | 231 | 209 | 139 | 195 | 146 |
| 10 | .14 | .22 | .27 | .14 | .02 | .22 | .16 | 270 | 209 | 139 | 188 | 144 |
| 11 | .13 | .27 | 6.3 | .11 | .02 | 19 | .18 | 277 | 197 | 139 | 213 | 143 |
| 12 | .11 | .27 | 9.5 | .11 | .02 | 30 | .18 | 286 | 192 | 140 | 237 | 143 |
| 13 | .11 | .27 | 4.0 | .11 | .02 | 31 | .17 | 297 | 189 | 144 | 198 | 142 |
| 14 | .09 | .27 | .21 | .09 | .02 | 20 | .18 | 303 | 183 | 145 | 182 | 158 |
| 15 | .08 | .31 | .18 | .04 | .02 | .22 | .18 | 301 | 174 | 145 | 181 | 163 |
| 16 | .08 | .30 | .18 | .04 | .03 | .22 | .18 | 300 | 177 | 164 | 159 | 160 |
| 17 | .11 | .27 | .18 | .04 | .03 | .21 | .18 | 300 | 206 | 173 | 147 | 160 |
| 18 | .11 | .27 | .18 | .04 | .03 | .18 | .16 | 299 | 213 | 173 | 154 | 159 |
| 19 | .11 | .27 | .18 | .04 | .03 | .18 | .14 | 279 | 209 | 174 | 165 | 152 |
| 20 | .10 | .28 | .18 | .04 | .03 | .18 | .14 | 127 | 208 | 174 | 170 | 136 |
| 21 | .08 | .29 | .18 | .04 | .03 | .18 | .14 | 68 | 208 | 174 | 170 | 104 |
| 22 | .08 | .28 | .18 | .04 | 16 | .18 | .14 | 51 | 194 | 174 | 209 | 103 |
| 23 | .07 | .34 | .18 | .04 | 23 | .18 | .15 | 125 | 209 | 174 | 226 | 39 |
| 24 | .06 | .33 | .18 | .03 | 17 | .18 | .18 | 189 | 239 | 175 | 287 | 2.0 |
| 25 | .06 | .33 | .18 | .03 | .13 | .18 | .16 | 184 | 239 | 174 | 291 | .87 |
| 26 | .08 | .33 | .18 | .03 | 3.9 | .18 | .17 | 179 | 236 | 190 | 262 | .87 |
| 27 | .08 | .33 | .18 | .03 | 5.7 | .18 | .16 | 180 | 221 | 208 | 253 | .69 |
| 28 | .08 | .30 | .18 | .03 | 3.8 | .18 | .16 | 185 | 207 | 249 | 252 | .58 |
| 29 | .08 | .27 | .17 | .03 | .19 | .18 | .18 | 185 | 202 | 259 | 264 | .58 |
| 30 | .08 | .27 | .15 | .03 | --- | .18 | .15 | 196 | 203 | 142 | 263 | .58 |
| 31 | .08 | --- | .14 | .03 | --- | .18 | --- | 203 | --- | 97 | 258 | --- |
| TOTAL | 24.98 | 207.03 | 25.71 | 2.42 | 70.24 | 105.44 | 5.05 | 5648.33 | 6137 | 5076 | 6746 | 3370.17 |
| MEAN | .81 | 6.90 | .83 | .078 | 2.42 | 3.40 | .17 | 182 | 205 | 164 | 218 | 112 |
| MAX | 4.5 | 77 | 9.5 | .14 | 23 | 31 | .18 | 303 | 239 | 259 | 291 | 226 |
| MIN | .06 | .08 | .14 | .03 | .02 | .18 | .14 | .15 | 174 | 95 | 147 | .58 |
| AC-FT | 50 | 411 | 51 | 4.8 | 139 | 209 | 10 | 11200 | 12170 | 10070 | 13380 | 6680 |

CAL YR 1987 TOTAL 26651.33 MEAN 73.0 MAX 306 MIN .05 AC-FT 52860
WTR YR 1988 TOTAL 27418.37 MEAN 74.9 MAX 303 MIN .02 AC-FT 54380

ARKANSAS RIVER BASIN

281

07126140 VAN BREMER ARROYO NEAR TYRONE, CO

LOCATION.--Lat 37°23'58", long 104°06'55", in SW¼SW¼, 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, 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: Nov. 30 to Dec. 2, 16-18, and Dec. 24 to Feb. 25. Records good except for estimated daily discharges, which are fair. Natural flow affected by return flow from irrigation and storage in a small channel reservoir upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 511 ft³/s Aug. 23, 1986, gage height, 10.02 ft, from rating curve extended above about 45 ft³/s on basis of flow through culvert computation; no flow many days 1985, 1986, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 245 ft³/s at 0800 Aug. 24, gage height, 8.73 ft; no flow, May 16-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|-------|------|-------|--------|--------|
| 1 | .04 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | 9.0 | .01 | .66 |
| 2 | .03 | .03 | .03 | .01 | .01 | .01 | .02 | .01 | .01 | 1.3 | .01 | 1.1 |
| 3 | .03 | .03 | .03 | .01 | .01 | .01 | .02 | .01 | .01 | .71 | .01 | 1.8 |
| 4 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | .02 | .01 | 2.1 |
| 5 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | 2.1 |
| 6 | .03 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | .01 | .15 | .01 | 2.2 |
| 7 | .03 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | .01 | 1.5 | .01 | 3.0 |
| 8 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | 2.8 | .42 | 3.7 |
| 9 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | 4.0 | 2.3 | 4.1 |
| 10 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | 16 | 3.0 | 8.2 |
| 11 | .03 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | .01 | 8.9 | 2.4 | 10 |
| 12 | .03 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | .01 | 2.0 | 2.0 | 18 |
| 13 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | .01 | .01 | 1.1 | 2.2 | 25 |
| 14 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | .79 | 2.2 | 23 |
| 15 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | .75 | 2.5 | 21 |
| 16 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .00 | .01 | .91 | 1.8 | 22 |
| 17 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .00 | .01 | .76 | 2.0 | 18 |
| 18 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .00 | .01 | .62 | 2.1 | 15 |
| 19 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | .18 | 2.6 | 15 |
| 20 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | .82 | .01 | .17 | 2.3 | 12 |
| 21 | .03 | .03 | .03 | .01 | .01 | .01 | .01 | 5.1 | .01 | .42 | 2.1 | 11 |
| 22 | .03 | .03 | .03 | .01 | .02 | .01 | .01 | 2.3 | .01 | .20 | 2.2 | 11 |
| 23 | .03 | .02 | .03 | .01 | .02 | .01 | .01 | 1.7 | .01 | .04 | 3.1 | 31 |
| 24 | .03 | .02 | .02 | .01 | .01 | .01 | .01 | 1.3 | .01 | .04 | 81 | 28 |
| 25 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | 1.7 | .01 | .04 | 9.6 | 8.8 |
| 26 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | 2.8 | .01 | .04 | 2.3 | 3.2 |
| 27 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | 3.6 | .01 | .04 | 2.1 | 2.8 |
| 28 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | 3.0 | .01 | .02 | 2.3 | 1.8 |
| 29 | .03 | .03 | .02 | .01 | .01 | .01 | .01 | 1.9 | .01 | .01 | 1.0 | 1.2 |
| 30 | .03 | .03 | .02 | .01 | --- | .01 | .01 | 1.1 | 1.6 | .01 | .84 | .92 |
| 31 | .03 | --- | .02 | .01 | --- | .01 | --- | .06 | --- | .01 | .83 | --- |
| TOTAL | 0.94 | 0.88 | 0.84 | 0.35 | 0.31 | 0.31 | 0.32 | 25.54 | 1.89 | 52.54 | 135.26 | 307.68 |
| MEAN | .030 | .029 | .027 | .011 | .011 | .010 | .011 | .82 | .063 | 1.69 | 4.36 | 10.3 |
| MAX | .04 | .03 | .03 | .02 | .02 | .01 | .02 | 5.1 | 1.6 | 16 | 81 | 31 |
| MIN | .03 | .02 | .02 | .01 | .01 | .01 | .01 | .00 | .01 | .01 | .01 | .66 |
| AC-FT | 1.9 | 1.7 | 1.7 | .7 | .6 | .6 | .6 | 51 | 3.7 | 104 | 268 | 610 |

CAL YR 1987 TOTAL 587.81 MEAN 1.61 MAX 13 MIN .01 AC-FT 1170
WTR YR 1988 TOTAL 526.86 MEAN 1.44 MAX 81 MIN .00 AC-FT 1050

ARKANSAS RIVER BASIN

07126140 VAN BREMER ARROYO NEAR TYRONE, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1985 to current year.

WATER TEMPERATURE: May 1985 to current year.

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

REMARKS.--Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 25,700 microsiemens May 20, 1988; minimum, 320 microsiemens Aug. 23, 1986.

WATER TEMPERATURE: Maximum, 36.5°C July 4, 1986; minimum, 0.0°C on many days during the winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 25,700 microsiemens May 20; minimum, 800 microsiemens June 30.

WATER TEMPERATURE: Maximum, 31.7°C Aug. 1; minimum, 0.0°C on many days during the winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|
| NOV 06... | 0840 | 0.03 | -- | 8.4 | 9.0 | 9.4 | 3800 | 410 | 680 |
| FEB 26... | 0800 | 0.01 | 10000 | 8.4 | 0.5 | 10.6 | 3900 | 390 | 710 |
| MAY 26... | 0820 | 2.9 | 8010 | 8.1 | 13.5 | -- | 2000 | 340 | 290 |
| JUL 01... | 0850 | 25 | 2420 | 8.1 | 15.5 | 6.7 | 830 | 150 | 110 |
| AUG 24... | 0840 | 230 | 1300 | 7.9 | 17.0 | 7.2 | 540 | 170 | 27 |
| 25... | 0900 | 12 | 1500 | 7.9 | 20.5 | 6.2 | 530 | 150 | 38 |

| DATE | SODIUM, DIS- SOLVED (MG/L AS NA) | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | ALKA- LINEITY 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) |
|--------------|--|---|---|--|---|---|--|---|
| NOV 06... | 1700 | 12 | 5.8 | 303 | 6400 | 770 | 0.80 | 6.6 |
| FEB 26... | 1600 | 11 | 4.3 | 267 | 5900 | 630 | 0.50 | 1.7 |
| MAY 26... | 1500 | 15 | 31 | 330 | 4200 | 450 | 0.40 | 21 |
| JUL 01... | 300 | 5 | 10 | 160 | 1100 | 110 | 0.40 | 5.3 |
| AUG 24... | 73 | 1 | 10 | 71 | 640 | 14 | 0.30 | 5.9 |
| 25... | 110 | 2 | 11 | 118 | 650 | 30 | 0.30 | 8.7 |

| DATE | 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) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
|--------------|--|--|---|---|---|--|--|--|
| NOV 06... | 11600 | 10200 | 15.8 | 0.94 | 8.30 | <0.01 | 60 | 30 |
| FEB 26... | 10300 | 9420 | 14.0 | 0.28 | 4.70 | 0.01 | 60 | 60 |
| MAY 26... | 7260 | 7030 | 9.87 | 56.8 | -- | 0.04 | 80 | 110 |
| JUL 01... | 1940 | 1900 | 2.64 | 131 | 4.50 | 0.08 | 80 | 80 |
| AUG 24... | 1030 | 994 | 1.40 | 640 | 2.60 | 0.03 | 18 | 32 |
| 25... | 1150 | 1070 | 1.56 | 37.3 | 1.40 | 0.02 | 38 | 13 |

ARKANSAS RIVER BASIN

283

07126140 VAN BREMER ARROYO NEAR TYRONE, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|
| 1 | 8660 | 11500 | 12200 | --- | --- | 10500 | 11400 | 13000 | 6000 | 2000 | 9400 | 2520 |
| 2 | 9680 | 11500 | 11700 | --- | --- | 10400 | 10600 | 13200 | 7900 | 3300 | 10000 | 2480 |
| 3 | 10000 | 11600 | 11000 | --- | --- | 10500 | 10200 | 12700 | 9400 | 6500 | 10200 | 2740 |
| 4 | 10200 | 11500 | 11100 | --- | --- | 11000 | 11000 | 13000 | 10000 | 7000 | 9900 | 2930 |
| 5 | 10500 | 11600 | 11100 | --- | --- | 11100 | 11200 | 13500 | 9700 | 7500 | 9700 | 2530 |
| 6 | 10500 | 11800 | 11400 | --- | --- | 10900 | 11500 | 13600 | 9500 | 9100 | 9700 | 2560 |
| 7 | 10500 | 11800 | 11400 | 11800 | --- | 10900 | 11700 | 14100 | 10100 | 7000 | 9900 | 2500 |
| 8 | 10600 | 11800 | 11500 | 11800 | --- | 11100 | 11700 | 14700 | 10300 | 5300 | 9100 | 2350 |
| 9 | 10800 | 12000 | 12000 | --- | --- | 11000 | 11900 | 14700 | 10700 | 3500 | 2600 | 2150 |
| 10 | 10900 | 12000 | 11800 | --- | --- | 10900 | 11900 | 14300 | 10700 | 2000 | 2100 | 2020 |
| 11 | 10800 | 11700 | 11500 | --- | --- | 10900 | 11900 | 13500 | 10500 | 2000 | 2000 | 1910 |
| 12 | 10900 | 11900 | 11800 | --- | --- | 11100 | 11800 | 13000 | 10300 | 2400 | 2000 | 1930 |
| 13 | 11000 | 11700 | 12200 | --- | --- | 11000 | 11900 | 12900 | 10200 | --- | 1900 | 1830 |
| 14 | 11000 | 11800 | 12000 | --- | --- | 10900 | 11900 | 13300 | 10200 | --- | 1800 | 1710 |
| 15 | 11000 | 11700 | --- | --- | --- | 11000 | 11800 | 13800 | 10300 | --- | 1660 | 1600 |
| 16 | 11100 | 11900 | --- | --- | --- | 11100 | 11600 | --- | 10200 | --- | 1680 | 1480 |
| 17 | 11100 | 12400 | --- | --- | --- | 11200 | 11700 | --- | 10900 | --- | 1650 | 1410 |
| 18 | 11000 | 11900 | --- | --- | --- | 10800 | 11600 | --- | 11500 | --- | 1460 | 1540 |
| 19 | 11100 | 12100 | 11500 | --- | 10100 | 10800 | 12000 | 14600 | 11700 | 6900 | 1550 | 1510 |
| 20 | 11200 | 11700 | 11300 | --- | 9900 | 11000 | 12200 | 14300 | 11800 | 7400 | 1880 | 1500 |
| 21 | 11200 | 11600 | 11900 | --- | 9600 | 11200 | 12200 | 8900 | 12000 | 7500 | 1640 | 1450 |
| 22 | 11300 | 11800 | 11800 | --- | 9000 | 11500 | 12600 | 7900 | 12000 | 7900 | 1620 | 1380 |
| 23 | 11400 | 12100 | 11600 | --- | 9800 | 11700 | 12300 | 7800 | 12100 | 8900 | 1730 | 1450 |
| 24 | 11400 | 12000 | 12000 | --- | 10200 | 11800 | 12200 | 6400 | 12300 | 6000 | 1470 | 1700 |
| 25 | 11400 | 12600 | 12100 | --- | 10000 | 12000 | 12100 | 7300 | 12400 | 3700 | 1480 | 2090 |
| 26 | 11400 | 11800 | 12000 | --- | 10100 | 11900 | 12300 | 8100 | 12000 | 4000 | 1550 | 2560 |
| 27 | 11400 | 11700 | 11900 | --- | 10600 | 12100 | 12600 | 6600 | 11100 | 4900 | 1520 | 2890 |
| 28 | 11300 | 12600 | 11700 | --- | 10300 | 12400 | 12600 | 5100 | 11300 | 6300 | 1530 | 3260 |
| 29 | 11600 | 12600 | 12000 | --- | 10500 | 12000 | 12300 | 4600 | 11400 | 8400 | 1840 | 3740 |
| 30 | 11500 | 12400 | 11800 | --- | --- | 12000 | 12500 | 4500 | 9000 | 8800 | 2040 | 4390 |
| 31 | 11600 | --- | 11900 | --- | --- | 12000 | --- | 5000 | --- | 9000 | 2160 | --- |
| MEAN | 10900 | 11900 | --- | --- | --- | 11200 | 11800 | --- | 10600 | --- | 3830 | 2200 |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 19.5 | 9.4 | 12.7 | 6.4 | .0 | .0 | .0 | .0 | --- | --- | 11.4 | 1.5 |
| 2 | 19.2 | 8.0 | 12.0 | 7.0 | .0 | .0 | .0 | .0 | --- | --- | 6.5 | 1.0 |
| 3 | 20.2 | 8.5 | 10.9 | 4.0 | .4 | .0 | .0 | .0 | --- | --- | 8.0 | .4 |
| 4 | 19.5 | 8.5 | 10.4 | 3.5 | 2.0 | .0 | .0 | .0 | --- | --- | 9.5 | .0 |
| 5 | 17.2 | 7.5 | 10.5 | 3.2 | 3.4 | .7 | .0 | .0 | --- | --- | 9.0 | .0 |
| 6 | 17.5 | 6.0 | 11.7 | 7.5 | 4.7 | 1.4 | .0 | .0 | --- | --- | 10.9 | .0 |
| 7 | 16.2 | 5.9 | 9.0 | 3.5 | 3.9 | .0 | .0 | .0 | --- | --- | 5.5 | .0 |
| 8 | 16.0 | 7.0 | 7.7 | 1.9 | 2.5 | .0 | .0 | .0 | --- | --- | 7.5 | .0 |
| 9 | 16.0 | 6.7 | 5.5 | .0 | 1.5 | .0 | .0 | .0 | --- | --- | 10.4 | .0 |
| 10 | 14.2 | 5.5 | 5.4 | .0 | 3.2 | .0 | .0 | .0 | --- | --- | 10.9 | .0 |
| 11 | 13.2 | 3.2 | 7.2 | 1.2 | 3.5 | .2 | .0 | .0 | --- | --- | 7.9 | .0 |
| 12 | 15.2 | 4.2 | 5.5 | .0 | 1.7 | .0 | .0 | .0 | --- | --- | 9.9 | .0 |
| 13 | 15.2 | 9.9 | 6.7 | .7 | .7 | .0 | .0 | .0 | --- | --- | 7.5 | .0 |
| 14 | 14.4 | 8.0 | 8.0 | 3.0 | .0 | .0 | .0 | .0 | --- | --- | 7.5 | .0 |
| 15 | 14.0 | 5.0 | 4.2 | .0 | .2 | .0 | .0 | .0 | --- | --- | 10.5 | .0 |
| 16 | 12.7 | 5.0 | 2.0 | .0 | .0 | .0 | .0 | .0 | --- | --- | 4.5 | .0 |
| 17 | 13.0 | 3.5 | 1.7 | .0 | .0 | .0 | .0 | .0 | --- | --- | 5.0 | .0 |
| 18 | 12.9 | 3.7 | 1.4 | .0 | .0 | .0 | .0 | .0 | --- | --- | 7.9 | .0 |
| 19 | 11.7 | 4.0 | 1.0 | .0 | .0 | .0 | .0 | .0 | 1.4 | .0 | 14.9 | .5 |
| 20 | 10.7 | 3.2 | 3.0 | .0 | .0 | .0 | --- | --- | 2.0 | .0 | 14.5 | 2.0 |
| 21 | 10.7 | 1.5 | 4.7 | .0 | .0 | .0 | --- | --- | 3.0 | .0 | 16.4 | .4 |
| 22 | 10.2 | 2.7 | 4.7 | .0 | .0 | .0 | --- | --- | 4.5 | .0 | 12.5 | 4.4 |
| 23 | 10.5 | 2.0 | 3.2 | .0 | .0 | .0 | --- | --- | 5.0 | .0 | 16.7 | 5.0 |
| 24 | 11.2 | 3.5 | 2.7 | .0 | .0 | .0 | --- | --- | 5.0 | .0 | 13.8 | 4.1 |
| 25 | 12.9 | 6.2 | 1.0 | .0 | .0 | .0 | --- | --- | 6.5 | .0 | 13.3 | 1.5 |
| 26 | 11.5 | 4.2 | 1.0 | .0 | .0 | .0 | --- | --- | 7.0 | 1.0 | 17.0 | 4.4 |
| 27 | 10.4 | 3.9 | .5 | .0 | .0 | .0 | --- | --- | 8.4 | .0 | 17.7 | 5.0 |
| 28 | 10.9 | 2.7 | .0 | .0 | .0 | .0 | --- | --- | 10.0 | 1.9 | 11.5 | 4.8 |
| 29 | 11.5 | 3.9 | .0 | .0 | .0 | .0 | --- | --- | 10.0 | .5 | 14.7 | 1.1 |
| 30 | 12.5 | 6.7 | .0 | .0 | .0 | .0 | --- | --- | --- | --- | 13.5 | .6 |
| 31 | 11.0 | 3.2 | --- | --- | .0 | .0 | --- | --- | --- | --- | 5.3 | 2.5 |
| MONTH | 20.2 | 1.5 | 12.7 | .0 | 4.7 | .0 | --- | --- | --- | --- | 17.7 | .0 |

ARKANSAS RIVER BASIN

07126140 VAN BREMER ARROYO NEAR TYRONE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|-----|-----|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 3.6 | .0 | --- | --- | --- | --- | 27.0 | 14.6 | 31.7 | 17.1 | 23.7 | 16.3 |
| 2 | 9.5 | .0 | --- | --- | --- | --- | 27.5 | 16.7 | 31.1 | 18.1 | 19.8 | 16.6 |
| 3 | 17.1 | .0 | --- | --- | --- | --- | 30.0 | 17.6 | 29.7 | 18.2 | 22.2 | 13.7 |
| 4 | 13.3 | 4.9 | --- | --- | --- | --- | 30.2 | 15.5 | 22.8 | 19.3 | 21.4 | 12.4 |
| 5 | 18.0 | 4.8 | --- | --- | --- | --- | 29.0 | 16.0 | 28.6 | 18.0 | 21.9 | 11.8 |
| 6 | 19.5 | 3.5 | --- | --- | --- | --- | 30.0 | 16.3 | 28.7 | 16.8 | 21.8 | 12.6 |
| 7 | 22.0 | 6.2 | --- | --- | --- | --- | 25.1 | 18.6 | 27.0 | 18.0 | 20.9 | 13.3 |
| 8 | 17.5 | 6.7 | --- | --- | --- | --- | 27.1 | 16.3 | 28.6 | 16.8 | 21.5 | 13.6 |
| 9 | 11.8 | 4.9 | --- | --- | --- | --- | 26.6 | 16.9 | 23.7 | 17.3 | 21.8 | 13.1 |
| 10 | 17.3 | 3.9 | --- | --- | --- | --- | 27.2 | 16.5 | 25.4 | 16.1 | 22.9 | 14.4 |
| 11 | 19.0 | 4.3 | --- | --- | --- | --- | 27.8 | 18.5 | 26.6 | 18.1 | 20.3 | 15.0 |
| 12 | 20.8 | 4.6 | --- | --- | --- | --- | 27.6 | 18.5 | 25.7 | 17.0 | 16.4 | 13.3 |
| 13 | 20.1 | 6.3 | --- | --- | --- | --- | --- | --- | 26.6 | 16.5 | 18.3 | 12.3 |
| 14 | 16.4 | 7.4 | --- | --- | --- | --- | --- | --- | 27.1 | 16.4 | 20.2 | 14.1 |
| 15 | 20.5 | 5.7 | --- | --- | --- | --- | --- | --- | 26.9 | 18.3 | 21.6 | 14.8 |
| 16 | 13.1 | 8.8 | --- | --- | --- | --- | --- | --- | 25.6 | 17.9 | 21.7 | 12.8 |
| 17 | 11.8 | 6.2 | --- | --- | 30.4 | --- | --- | --- | 24.2 | 17.8 | 21.3 | 13.1 |
| 18 | 21.0 | 6.5 | --- | --- | 30.0 | 16.3 | 29.5 | --- | 24.3 | 18.2 | 21.2 | 14.4 |
| 19 | 22.8 | 7.7 | --- | --- | 28.5 | 17.0 | 18.9 | 16.7 | 26.6 | 16.5 | 19.3 | 10.4 |
| 20 | 23.5 | 10.5 | --- | --- | 28.4 | 16.6 | 28.2 | 15.7 | 26.2 | 16.6 | 18.6 | 10.6 |
| 21 | 22.1 | 10.1 | --- | --- | 29.5 | 17.9 | 29.4 | 15.8 | 26.7 | 16.6 | 20.7 | 14.0 |
| 22 | --- | --- | --- | --- | 27.8 | 17.3 | 29.4 | 15.9 | 25.3 | 18.8 | 20.0 | 13.3 |
| 23 | --- | --- | --- | --- | 29.5 | 19.6 | 27.4 | 15.5 | 27.2 | 19.4 | 17.6 | 12.1 |
| 24 | --- | --- | --- | --- | 30.7 | 19.1 | 28.1 | 17.2 | 24.6 | 16.6 | 20.4 | 11.0 |
| 25 | --- | --- | --- | --- | 29.2 | 17.4 | 28.3 | 17.6 | 25.2 | 20.3 | 21.3 | 12.2 |
| 26 | --- | --- | --- | --- | 25.6 | 18.7 | 30.9 | 19.5 | 26.2 | 18.6 | 20.1 | 12.3 |
| 27 | --- | --- | --- | --- | 26.0 | 18.0 | 30.4 | 16.4 | 20.7 | 17.2 | 20.0 | 12.7 |
| 28 | --- | --- | --- | --- | 30.4 | 18.0 | 30.2 | 17.3 | 22.9 | 14.6 | 16.2 | 11.0 |
| 29 | --- | --- | --- | --- | 29.2 | 18.7 | 28.5 | 17.2 | 24.2 | 14.5 | 13.3 | 7.8 |
| 30 | --- | --- | --- | --- | 23.7 | 14.3 | 30.4 | 17.2 | 23.6 | 15.4 | 17.8 | 9.6 |
| 31 | --- | --- | --- | --- | --- | --- | 31.2 | 16.6 | 24.1 | 16.1 | --- | --- |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | 31.7 | 14.5 | 23.7 | 7.8 |

ARKANSAS RIVER BASIN

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07126200 VAN BREMER ARROYO NEAR MODEL, CO

LOCATION.--Lat 37°20'45", long 103°57'27", in sec.13, T.31 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on right bank 3 mi upstream from mouth, 16 mi east of Model, and 33 mi northeast of Trinidad.

DRAINAGE AREA.--175 mi² of which 11.8 mi² is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1966 to current year.

REVISIONS.--WDR CO-84-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 4,960 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct.1, and Aug.16-23. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 2.38 ft³/s; 1,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft³/s, May 26, 1967, gage height, 9.4 ft, from floodmarks, from rating curve extended above 65 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 9.98 ft, Aug. 9, 1979 from floodmark; no flow, June 7-13, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Aug. 24 | 1415 | *a167 | *b2.89 | | | | |

Minimum daily, 0.08 ft³/s, July 25-29.

a-From rating extended above 65 ft³/s, on basis of slope-area measurement of peak flow.

b-From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-----------|--------|---------|------------|------|------|------|------|-------|--------|--------|
| 1 | .25 | .14 | .15 | .12 | .23 | .20 | .28 | .19 | .20 | 8.0 | .10 | .33 |
| 2 | .19 | .14 | .14 | .12 | .23 | .20 | .34 | .17 | .20 | 6.7 | .10 | .37 |
| 3 | .15 | .14 | .14 | .12 | .23 | .20 | .38 | .17 | .20 | 1.3 | .10 | .27 |
| 4 | .14 | .14 | .14 | .12 | .23 | .20 | .33 | .17 | .20 | .38 | .10 | .20 |
| 5 | .14 | .14 | .14 | .12 | .20 | .20 | .28 | .17 | .20 | .22 | .10 | .17 |
| 6 | .14 | .14 | .14 | .12 | .17 | .20 | .27 | .17 | .19 | .17 | .12 | .24 |
| 7 | .14 | .14 | .14 | .12 | .17 | .20 | .20 | .17 | .17 | .15 | .12 | .72 |
| 8 | .14 | .14 | .14 | .12 | .22 | .20 | .20 | .17 | .15 | .46 | .12 | .93 |
| 9 | .14 | .14 | .13 | .12 | .32 | .20 | .20 | .19 | .14 | 1.6 | .13 | 2.2 |
| 10 | .14 | .14 | .12 | .12 | .27 | .20 | .20 | .20 | .14 | 4.7 | .14 | 2.7 |
| 11 | .14 | .14 | .12 | .12 | .27 | .20 | .20 | .23 | .14 | 16 | .14 | 6.1 |
| 12 | .14 | .14 | .12 | .17 | .27 | .20 | .20 | .27 | .14 | 5.9 | .14 | 8.4 |
| 13 | .14 | .16 | .12 | .15 | .29 | .19 | .20 | .27 | .15 | 2.0 | .14 | 19 |
| 14 | .14 | .16 | .12 | .14 | .26 | .17 | .20 | .27 | .14 | .77 | .14 | 21 |
| 15 | .14 | .14 | .12 | .14 | .23 | .17 | .20 | .27 | .17 | .37 | .14 | 19 |
| 16 | .14 | .14 | .12 | .14 | .23 | .17 | .20 | .27 | .23 | .28 | .14 | 20 |
| 17 | .14 | .15 | .12 | .14 | .23 | .17 | .22 | .27 | .23 | .22 | .14 | 21 |
| 18 | .14 | .17 | .12 | .16 | .23 | .17 | .28 | .27 | .17 | .43 | 25 | 15 |
| 19 | .14 | .17 | .12 | .17 | .23 | .17 | .26 | .40 | .14 | 1.3 | 16 | 15 |
| 20 | .14 | .17 | .12 | .17 | .23 | .17 | .23 | .62 | .14 | .26 | 14 | 15 |
| 21 | .17 | .17 | .12 | .17 | .23 | .17 | .22 | .52 | .19 | .16 | 11 | 11 |
| 22 | .17 | .17 | .12 | .17 | .23 | .17 | .20 | .35 | .20 | .14 | 8.0 | 11 |
| 23 | .16 | .17 | .12 | .17 | .23 | .17 | .20 | .23 | .19 | .13 | 6.0 | 17 |
| 24 | .14 | .17 | .12 | .17 | .23 | .17 | .20 | .23 | .17 | .09 | 27 | 34 |
| 25 | .14 | .17 | .12 | .17 | .23 | .17 | .20 | .21 | .20 | .08 | 22 | 15 |
| 26 | .14 | .17 | .12 | .17 | .23 | .17 | .20 | .20 | .25 | .08 | 5.7 | 5.4 |
| 27 | .14 | .17 | .12 | .17 | .21 | .17 | .20 | .20 | .27 | .08 | 3.1 | 2.4 |
| 28 | .14 | .17 | .12 | .17 | .20 | .17 | .20 | .20 | .26 | .08 | 2.4 | 1.7 |
| 29 | .14 | .17 | .12 | .22 | .20 | .17 | .20 | .20 | .23 | .08 | 2.8 | 1.2 |
| 30 | .14 | .17 | .12 | .23 | --- | .17 | .20 | .20 | .36 | .09 | 1.2 | .60 |
| 31 | .14 | --- | .12 | .23 | --- | .19 | --- | .20 | --- | .10 | .53 | --- |
| TOTAL | 4.59 | 4.64 | 3.90 | 4.74 | 6.73 | 5.67 | 6.89 | 7.65 | 5.76 | 52.32 | 146.84 | 266.93 |
| MEAN | .15 | .15 | .13 | .15 | .23 | .18 | .23 | .25 | .19 | 1.69 | 4.74 | 8.90 |
| MAX | .25 | .17 | .15 | .23 | .32 | .20 | .38 | .62 | .36 | 16 | 27 | 34 |
| MIN | .14 | .14 | .12 | .12 | .17 | .17 | .20 | .17 | .14 | .08 | .10 | .17 |
| AC-FT | 9.1 | 9.2 | 7.7 | 9.4 | 13 | 11 | 14 | 15 | 11 | 104 | 291 | 529 |
| CAL YR 1987 | TOTAL 560.06 | MEAN 1.53 | MAX 70 | MIN .08 | AC-FT 1110 | | | | | | | |
| WTR YR 1988 | TOTAL 516.66 | MEAN 1.41 | MAX 34 | MIN .08 | AC-FT 1020 | | | | | | | |

ARKANSAS RIVER BASIN

07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1983 to current year.

WATER TEMPERATURE: January 1983 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--There was no temperature record Oct. 1 and Aug. 15-23, and no conductance record Oct. 1, Jan. 4-6, and Aug. 15-23. Daily maximum and minimum specific conductance data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 8,860 microsiemens May 13, 1987; minimum, 130 microsiemens Aug. 22, 1984.

WATER TEMPERATURE: Maximum, 34.0°C June 15, 28, 1986; minimum, 0.0°C Nov. 26-27, 1983, Jan. 14, Feb. 17, 1984, Dec 23, 25-26, 1985, Jan. 4-6, 1988.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 5,580 microsiemens July 2; minimum 1,170 microsiemens Sept. 24.

WATER TEMPERATURE: Maximum, 31.0°C July 17; minimum, 0.0°C Jan. 5-6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|
| NOV 06... | 1200 | 0.02 | -- | 8.0 | 13.5 | 8.8 | 750 | 160 | 85 |
| FEB 19... | 0930 | 0.22 | 1770 | 7.9 | 3.0 | 10.5 | 690 | 150 | 76 |
| MAY 26... | 1040 | 0.18 | 2000 | 7.8 | 18.5 | -- | 720 | 150 | 84 |
| JUL 01... | 1105 | 0.50 | 1880 | 7.8 | 22.0 | 6.7 | 720 | 150 | 85 |
| AUG 24... | 1515 | 156 | 1900 | 8.0 | 25.5 | 5.8 | 510 | 91 | 69 |
| 25... | 1100 | 20 | 1430 | 7.8 | 21.0 | 7.0 | 580 | 170 | 38 |

| 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 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) |
|--------------|--|---|---|---|---|---|--|---|
| NOV 06... | 190 | 3 | 11 | 252 | 880 | 42 | 0.90 | 9.1 |
| FEB 19... | 150 | 3 | 10 | 246 | 750 | 27 | 0.90 | 7.8 |
| MAY 26... | 170 | 3 | 11 | 259 | 840 | 29 | 1.0 | 7.5 |
| JUL 01... | 170 | 3 | 10 | 281 | 840 | 30 | 0.90 | 9.0 |
| AUG 24... | 220 | 4 | 12 | 234 | 680 | 82 | 0.50 | 13 |
| 25... | 100 | 2 | 15 | 78 | 710 | 20 | 0.30 | 7.4 |

| DATE | SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) | SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) | SOLIDS, DIS- SOLVED (TONS PER AC-FT) | SOLIDS, DIS- SOLVED (TONS PER DAY) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
|--------------|--|---|---|---|---|--|--|--|
| NOV 06... | 1700 | 1530 | 2.31 | 0.09 | <0.10 | <0.01 | 50 | 120 |
| FEB 19... | 1390 | 1320 | 1.89 | 0.83 | <0.10 | <0.01 | 30 | 130 |
| MAY 26... | 1510 | 1450 | 2.05 | 0.73 | <0.10 | 0.02 | 8 | 140 |
| JUL 01... | 1550 | 1460 | 2.11 | 2.09 | <0.10 | <0.01 | 19 | 110 |
| AUG 24... | 1350 | 1310 | 1.84 | 569 | <0.10 | 0.04 | 180 | 16 |
| 25... | 1140 | 1120 | 1.55 | 61.6 | 2.10 | 0.02 | 16 | 23 |

ARKANSAS RIVER BASIN

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07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | --- | 2100 | 2040 | 2080 | 1970 | 1810 | 1940 | 2000 | 1890 | 2020 | 2350 | 1790 |
| 2 | 2760 | 2080 | 2050 | 2060 | 1940 | 1810 | 1870 | 1970 | 1920 | 2700 | 2320 | 1760 |
| 3 | 2660 | 2080 | 2070 | 2110 | 1930 | 1820 | 1870 | 1970 | 1920 | 2310 | 2270 | 1800 |
| 4 | 2600 | 2070 | 2060 | --- | 1940 | 1840 | 1890 | 1990 | 1920 | 2580 | 2230 | 1800 |
| 5 | 2570 | 2060 | 2020 | --- | 1950 | 1860 | 1870 | 1990 | 1910 | 2510 | 2210 | 1790 |
| 6 | 2530 | 2070 | 1970 | --- | 1950 | 1890 | 1870 | 1990 | 1930 | 2440 | 2250 | 1790 |
| 7 | 2510 | 2070 | 1930 | 2120 | 1970 | 1890 | 1880 | 2010 | 1920 | 2350 | 2240 | 1940 |
| 8 | 2520 | 2070 | 1920 | 2110 | 1980 | 1910 | 1880 | 1990 | 1940 | 2360 | 2200 | 2050 |
| 9 | 2530 | 2060 | 1930 | 2110 | 1970 | 1910 | 1890 | 1980 | 1940 | 2630 | 2190 | 2240 |
| 10 | 2500 | 2050 | 1940 | 2110 | 1900 | 1920 | 1890 | 1970 | 1930 | 2890 | 2200 | 2350 |
| 11 | 2460 | 2060 | 1960 | 2090 | 1860 | 1920 | 1900 | 1970 | 1930 | 3490 | 2250 | 3000 |
| 12 | 2460 | 2060 | 1980 | 2080 | 1850 | 1910 | 1910 | 2020 | 1910 | 2950 | 2210 | 2700 |
| 13 | 2440 | 2060 | 1970 | 2100 | 1890 | 1900 | 1920 | 2000 | 1910 | 3180 | 2180 | 2050 |
| 14 | 2440 | 2060 | 2000 | 2070 | 1840 | 1920 | 1930 | 1980 | 1920 | 3290 | 2150 | 1940 |
| 15 | 2440 | 2040 | 2080 | 2060 | 1770 | 1930 | 1960 | 1970 | 1940 | 3200 | --- | 1760 |
| 16 | 2410 | 2050 | 2060 | 2060 | 1760 | 1940 | 1950 | 1980 | 1940 | 3100 | --- | 1670 |
| 17 | 2390 | 2040 | 2020 | 2070 | 1760 | 1920 | 1960 | 1960 | 1980 | 3010 | --- | 1570 |
| 18 | 2350 | 2040 | 2020 | 2030 | 1750 | 1930 | 1970 | 1960 | 1970 | 2810 | --- | 1510 |
| 19 | 2320 | 2050 | 2100 | 1990 | 1750 | 1930 | 2010 | 1930 | 1940 | 2960 | --- | 1540 |
| 20 | 2310 | 2050 | 2100 | 2020 | 1770 | 1920 | 1980 | 1960 | 1950 | 2710 | --- | 1620 |
| 21 | 2290 | 2040 | 2070 | 2000 | 1790 | 1920 | 1980 | 1990 | 1950 | 2630 | --- | 1640 |
| 22 | 2260 | 2030 | 2060 | 1980 | 1780 | 1920 | 1970 | 1980 | 1950 | 2540 | --- | 1610 |
| 23 | 2240 | 2020 | 2070 | 1990 | 1770 | 1930 | 1960 | 1940 | 1940 | 2460 | --- | 1520 |
| 24 | 2220 | 2010 | 2050 | 2000 | 1770 | 1940 | 1960 | 1930 | 1940 | 2410 | 1570 | 1590 |
| 25 | 2210 | 2000 | 2040 | 2010 | 1770 | 1930 | 1980 | 1900 | 1940 | 2360 | 1420 | 1790 |
| 26 | 2200 | 1980 | 2030 | 1990 | 1760 | 1930 | 1990 | 1910 | 1910 | 2320 | 1530 | 1740 |
| 27 | 2160 | 2020 | 2020 | 1990 | 1750 | 1950 | 1990 | 1910 | 1950 | 2290 | 1600 | 1790 |
| 28 | 2140 | 2030 | 2030 | 1990 | 1770 | 1930 | 1990 | 1910 | 1960 | 2370 | 1660 | 1820 |
| 29 | 2130 | 2030 | 2020 | 1990 | 1790 | 1930 | 1990 | 1910 | 1960 | 2340 | 1730 | 1860 |
| 30 | 2120 | 2030 | 1980 | 1990 | --- | 1970 | 1990 | 1910 | 1930 | 2290 | 1770 | 1900 |
| 31 | 2110 | --- | 2050 | 2000 | --- | 1950 | --- | 1900 | --- | 2330 | 1790 | --- |
| MEAN | --- | 2050 | 2020 | --- | 1840 | 1910 | 1940 | 1960 | 1930 | 2640 | --- | 1860 |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | 14.6 | 10.4 | 7.2 | 2.4 | 3.0 | 1.1 | 3.7 | 2.7 | 14.2 | 6.7 |
| 2 | 20.5 | --- | 16.2 | 10.2 | 6.9 | 2.5 | 2.0 | .7 | 4.3 | 2.1 | 10.5 | 5.2 |
| 3 | 21.6 | 12.8 | 15.6 | 9.3 | 9.4 | 3.8 | 1.6 | .3 | 5.1 | 2.9 | 12.0 | 4.5 |
| 4 | 21.0 | 13.1 | 15.4 | 9.1 | 9.5 | 4.2 | .8 | .1 | 5.5 | 3.0 | 12.8 | 4.3 |
| 5 | 18.9 | 12.6 | 14.3 | 9.2 | 7.9 | 6.0 | .3 | .0 | 4.2 | 2.2 | 12.9 | 3.5 |
| 6 | 19.8 | 11.5 | 14.2 | 11.0 | 10.1 | 5.3 | .5 | .0 | 6.0 | 2.0 | 14.3 | 5.3 |
| 7 | 18.6 | 11.5 | 12.8 | 9.0 | 9.9 | 4.3 | 3.2 | .3 | 5.7 | 3.1 | 9.4 | 4.3 |
| 8 | 17.7 | 12.3 | 11.8 | 7.8 | 7.9 | 5.0 | 3.1 | 1.9 | 7.8 | 3.2 | 10.4 | 2.2 |
| 9 | 17.3 | 11.9 | 11.4 | 5.2 | 7.9 | 3.2 | 2.9 | 1.7 | 8.6 | 2.6 | 14.1 | 3.1 |
| 10 | 16.9 | 10.6 | 11.8 | 5.2 | 8.0 | 3.3 | 3.3 | 1.7 | 4.5 | 2.3 | 12.6 | 6.1 |
| 11 | 16.5 | 8.7 | 9.4 | 6.7 | 8.1 | 4.7 | 3.5 | 2.1 | 6.1 | 1.2 | 10.7 | 4.3 |
| 12 | 17.7 | 9.7 | 11.4 | 4.5 | 5.5 | 2.6 | 3.8 | 1.6 | 8.4 | 3.3 | 11.5 | 4.4 |
| 13 | 16.6 | 12.9 | 11.5 | 5.8 | 4.1 | 1.3 | 3.8 | 1.7 | 9.6 | 3.5 | 10.8 | 3.1 |
| 14 | 16.3 | 12.3 | 11.5 | 7.0 | 4.0 | 1.0 | 4.1 | 2.2 | 8.1 | 2.8 | 11.0 | 2.0 |
| 15 | 16.3 | 9.8 | 8.5 | 4.2 | 3.5 | 1.0 | 4.7 | 2.5 | 8.8 | 2.8 | 11.7 | 3.8 |
| 16 | 16.3 | 9.9 | 7.2 | 3.4 | 3.4 | 1.4 | 3.9 | 2.4 | 8.7 | 4.1 | 6.2 | 3.0 |
| 17 | 17.0 | 8.8 | 8.1 | 1.9 | 4.3 | 2.3 | 4.4 | 2.3 | 6.9 | 3.9 | 5.2 | 2.0 |
| 18 | 16.9 | 9.2 | 7.8 | 3.1 | 5.9 | 2.8 | 3.3 | 1.6 | 7.2 | 2.8 | 10.7 | 1.3 |
| 19 | 15.4 | 9.3 | 8.5 | 1.9 | 5.8 | 3.0 | 2.3 | 1.3 | 8.2 | 3.0 | 14.4 | 3.3 |
| 20 | 15.2 | 8.5 | 10.0 | 3.6 | 6.5 | 3.3 | 3.6 | 1.2 | 9.4 | 2.5 | 16.3 | 5.5 |
| 21 | 15.7 | 7.6 | 10.3 | 4.2 | 4.3 | 2.1 | 3.2 | 1.5 | 11.2 | 2.5 | 17.6 | 6.6 |
| 22 | 13.9 | 8.2 | 9.7 | 4.7 | 7.0 | 2.3 | 3.9 | 2.1 | 10.0 | 3.4 | 14.3 | 8.2 |
| 23 | 14.3 | 7.6 | 8.4 | 3.6 | 5.7 | 2.8 | 4.0 | 2.1 | 10.6 | 2.7 | 17.4 | 7.9 |
| 24 | 13.8 | 8.5 | 8.1 | 3.9 | 3.0 | .9 | 4.4 | 2.1 | 11.0 | 2.8 | 14.0 | 8.0 |
| 25 | 16.1 | 10.4 | 7.5 | 2.8 | 2.6 | 1.2 | 3.9 | 1.7 | 11.7 | 2.9 | 15.7 | 6.1 |
| 26 | 16.0 | 9.3 | 5.9 | 2.8 | 3.2 | 1.2 | 4.3 | 2.1 | 12.1 | 4.7 | 18.1 | 7.3 |
| 27 | 15.3 | 9.2 | 6.2 | 2.6 | 3.1 | 1.4 | 4.0 | 2.2 | 12.8 | 4.1 | 17.7 | 8.3 |
| 28 | 15.9 | 8.3 | 5.9 | 1.6 | 3.7 | 1.3 | 5.3 | 2.4 | 12.2 | 6.3 | 14.4 | 6.9 |
| 29 | 16.2 | 9.1 | 6.3 | 2.2 | 3.6 | 1.2 | 4.4 | 2.7 | 13.7 | 5.5 | 14.1 | 4.1 |
| 30 | 15.6 | 11.4 | 6.6 | 2.5 | 4.0 | 1.7 | 6.9 | 2.6 | --- | --- | 15.2 | 5.9 |
| 31 | 15.2 | 8.9 | --- | --- | 3.5 | 1.1 | 5.6 | 2.7 | --- | --- | 8.5 | 3.4 |
| MONTH | --- | --- | 16.2 | 1.6 | 10.1 | .9 | 6.9 | .0 | 13.7 | 1.2 | 18.1 | 1.3 |

ARKANSAS RIVER BASIN

07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 5.6 | 2.2 | 19.6 | 12.6 | 24.5 | 13.3 | 29.8 | 18.4 | 29.6 | 20.3 | 25.3 | 19.1 |
| 2 | 12.1 | 1.1 | 14.5 | 8.5 | 23.5 | 14.8 | 26.1 | 21.5 | 29.0 | 20.8 | 22.8 | 18.9 |
| 3 | 16.1 | 4.0 | 18.8 | 7.1 | 25.6 | 16.6 | 28.7 | 21.4 | 28.2 | 20.7 | 24.5 | 16.9 |
| 4 | 14.8 | 8.3 | 21.4 | 10.5 | 25.8 | 16.5 | 28.2 | 20.7 | 22.8 | 20.9 | 23.7 | 15.4 |
| 5 | 17.4 | 8.7 | 19.9 | 12.0 | 23.7 | 16.7 | 28.3 | 19.7 | 27.5 | 19.8 | 25.0 | 14.9 |
| 6 | 19.8 | 8.4 | 19.7 | 11.8 | 28.2 | 16.4 | 29.1 | 19.1 | 27.9 | 19.8 | 24.5 | 15.4 |
| 7 | 21.7 | 10.0 | 18.9 | 8.9 | 28.8 | 18.1 | 25.9 | 20.4 | 26.2 | 20.3 | 22.7 | 16.9 |
| 8 | 18.1 | 11.0 | 19.6 | 9.5 | 28.9 | 17.9 | 28.9 | 18.1 | 27.4 | 19.3 | 22.1 | 16.3 |
| 9 | 14.9 | 8.4 | 22.5 | 11.1 | 27.5 | 20.0 | 26.9 | 20.2 | 25.7 | 19.2 | 21.5 | 16.8 |
| 10 | 15.8 | 7.6 | 21.9 | 12.5 | 26.2 | 18.8 | 26.6 | 20.7 | 27.7 | 17.6 | 22.5 | 17.5 |
| 11 | 18.0 | 7.4 | 23.6 | 12.8 | 27.0 | 18.6 | 26.8 | 21.6 | 28.4 | 20.1 | 20.7 | 18.2 |
| 12 | 19.7 | 8.8 | 25.4 | 13.8 | 26.2 | 17.8 | 27.7 | 21.9 | 27.4 | 19.5 | 18.5 | 15.4 |
| 13 | 20.4 | 10.2 | 22.8 | 14.9 | 21.4 | 16.7 | 29.7 | 22.9 | 27.8 | 19.1 | 16.5 | 14.1 |
| 14 | 17.2 | 10.6 | 24.2 | 15.2 | 26.2 | 15.0 | 30.3 | 23.3 | 28.1 | 19.3 | 18.2 | 15.6 |
| 15 | 20.3 | 9.2 | 24.2 | 14.8 | 26.2 | 18.3 | 29.8 | 21.3 | --- | --- | 19.5 | 17.0 |
| 16 | 13.8 | 10.8 | 24.1 | 15.5 | 27.7 | 16.5 | 30.2 | 20.9 | --- | --- | 19.9 | 16.9 |
| 17 | 11.9 | 9.4 | 23.6 | 15.7 | 28.8 | 18.2 | 31.0 | 20.4 | --- | --- | 19.8 | 17.3 |
| 18 | 19.3 | 8.4 | 22.8 | 15.8 | 28.4 | 19.0 | 28.6 | 21.1 | --- | --- | 21.0 | 17.3 |
| 19 | 20.7 | 10.7 | 17.0 | 12.3 | 28.1 | 19.2 | 22.4 | 19.4 | --- | --- | 18.8 | 15.0 |
| 20 | 21.5 | 12.0 | 12.7 | 11.0 | 28.3 | 19.1 | 26.6 | 18.4 | --- | --- | 18.3 | 14.2 |
| 21 | 21.2 | 12.2 | 15.7 | 10.5 | 29.6 | 20.2 | 29.1 | 18.3 | --- | --- | 19.4 | 15.7 |
| 22 | 19.0 | 9.6 | 14.1 | 10.9 | 28.9 | 19.6 | 28.7 | 19.3 | --- | --- | 19.3 | 16.0 |
| 23 | 18.4 | 10.4 | 19.8 | 11.0 | 28.4 | 21.5 | 25.8 | 19.2 | --- | --- | 17.7 | 15.3 |
| 24 | 13.9 | 9.5 | 23.6 | 14.0 | 28.3 | 21.3 | 28.9 | 18.8 | 26.8 | --- | 17.7 | 13.2 |
| 25 | 20.5 | 8.2 | 24.9 | 14.0 | 28.5 | 19.7 | 28.4 | 18.9 | 24.8 | 20.4 | 19.5 | 15.9 |
| 26 | 18.4 | 9.0 | 26.3 | 14.9 | 26.0 | 20.2 | 28.3 | 20.1 | 25.6 | 21.5 | 19.5 | 15.4 |
| 27 | 20.4 | 8.7 | 23.8 | 15.8 | 25.8 | 20.1 | 29.5 | 19.5 | 23.2 | 19.8 | 20.1 | 15.8 |
| 28 | 20.6 | 11.4 | 23.6 | 16.3 | 28.8 | 19.2 | 30.4 | 20.5 | 22.9 | 18.1 | 18.1 | 14.0 |
| 29 | 20.5 | 13.0 | 23.5 | 14.7 | 29.8 | 20.6 | 29.6 | 21.0 | 24.1 | 18.1 | 16.0 | 12.3 |
| 30 | 22.1 | 12.6 | 22.4 | 15.7 | 24.4 | 19.8 | 27.9 | 20.6 | 25.0 | 18.7 | 18.2 | 12.1 |
| 31 | --- | --- | 21.1 | 15.6 | --- | --- | 28.8 | 20.0 | 26.9 | 19.0 | --- | --- |
| MONTH | 22.1 | 1.1 | 26.3 | 7.1 | 29.8 | 13.3 | 31.0 | 18.1 | --- | --- | 25.3 | 12.1 |

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LOCATION.--Lat 37°21'30", long 103°53'44", in sec.10, T.31 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on right bank 250 ft downstream from county road bridge at gas line crossing, 1.2 mi downstream from Van Bremer Arroyo, and 18 mi southeast of Thatcher.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Elevation of gage is 4,790 ft above National Geodetic Vertical Datum of 1929, from topographic map.

AVERAGE DISCHARGE.--10 years (water years 1967-76), 37.9 ft³/s; 27,460 acre-ft/yr, prior to completion of Trinidad Dam; 12 years (water years 1977-88), 83.9 ft³/s; 60,790 acre-ft/yr, subsequent to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,400 ft³/s; July 3, 1981, gage height, 22.0 ft, from rating curve extended above 2,100 ft³/s, on the basis of two slope-area measurements of peak flow; no flow at times in most years.

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,690 ft³/s at 2300 Aug. 9, gage height, 8.02 ft; minimum daily, 13 ft³/s, May 17.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|-------|------|------|------|------|
| 1 | 35 | 41 | 50 | 38 | 90 | 33 | 45 | 33 | 62 | 287 | 46 | 20 |
| 2 | 40 | 41 | 51 | 40 | 67 | 37 | 48 | 32 | 54 | 104 | 34 | 21 |
| 3 | 39 | 38 | 49 | 43 | 49 | 41 | 57 | 46 | 47 | 58 | 26 | 39 |
| 4 | 39 | 36 | 49 | 40 | 44 | 40 | 125 | 59 | 40 | 49 | 28 | 31 |
| 5 | 38 | 34 | 48 | 38 | 43 | 40 | 212 | 52 | 41 | 49 | 34 | 24 |
| 6 | 34 | 34 | 46 | 20 | 39 | 40 | 212 | 144 | 39 | 47 | 64 | 21 |
| 7 | 34 | 34 | 46 | 35 | 41 | 40 | 143 | 105 | 40 | 94 | 53 | 22 |
| 8 | 36 | 37 | 45 | 37 | 46 | 40 | 112 | 54 | 34 | 73 | 48 | 22 |
| 9 | 36 | 38 | 43 | 40 | 48 | 39 | 92 | 45 | 30 | 194 | 256 | 16 |
| 10 | 35 | 38 | 41 | 43 | 50 | 38 | 76 | 38 | 23 | 136 | 382 | 17 |
| 11 | 35 | 40 | 41 | 45 | 38 | 37 | 62 | 28 | 28 | 95 | 93 | 19 |
| 12 | 35 | 40 | 42 | 40 | 40 | 35 | 53 | 27 | 31 | 56 | 66 | 24 |
| 13 | 37 | 40 | 39 | 38 | 49 | 36 | 43 | 28 | 39 | 47 | 110 | 41 |
| 14 | 38 | 40 | 28 | 40 | 51 | 36 | 40 | 25 | 43 | 38 | 64 | 57 |
| 15 | 41 | 40 | 30 | 45 | 46 | 36 | 38 | 24 | 58 | 33 | 56 | 50 |
| 16 | 45 | 44 | 35 | 39 | 46 | 46 | 39 | 18 | 71 | 32 | 38 | 49 |
| 17 | 42 | 46 | 40 | 38 | 46 | 41 | 43 | 13 | 74 | 27 | 27 | 51 |
| 18 | 40 | 49 | 45 | 38 | 46 | 36 | 65 | 14 | 63 | 43 | 70 | 43 |
| 19 | 40 | 46 | 48 | 43 | 46 | 36 | 101 | 18 | 51 | 109 | 57 | 38 |
| 20 | 38 | 47 | 52 | 33 | 42 | 37 | 109 | 844 | 36 | 47 | 39 | 34 |
| 21 | 38 | 48 | 47 | 29 | 38 | 36 | 76 | 1090 | 32 | 48 | 28 | 31 |
| 22 | 38 | 47 | 45 | 26 | 39 | 35 | 57 | 556 | 27 | 42 | 22 | 33 |
| 23 | 39 | 47 | 50 | 35 | 39 | 35 | 52 | 430 | 26 | 33 | 26 | 77 |
| 24 | 39 | 46 | 45 | 34 | 37 | 34 | 51 | 411 | 26 | 25 | 54 | 240 |
| 25 | 40 | 45 | 43 | 37 | 36 | 33 | 46 | 301 | 22 | 26 | 46 | 105 |
| 26 | 44 | 46 | 40 | 40 | 36 | 32 | 40 | 208 | 32 | 130 | 22 | 65 |
| 27 | 41 | 47 | 25 | 50 | 36 | 30 | 36 | 182 | 118 | 113 | 19 | 54 |
| 28 | 40 | 44 | 30 | 60 | 35 | 29 | 36 | 144 | 64 | 40 | 28 | 49 |
| 29 | 40 | 40 | 45 | 70 | 33 | 33 | 33 | 110 | 53 | 38 | 39 | 44 |
| 30 | 40 | 47 | 43 | 84 | --- | 34 | 34 | 80 | 47 | 77 | 29 | 44 |
| 31 | 41 | --- | 42 | 100 | --- | 36 | --- | 65 | --- | 61 | 22 | --- |
| TOTAL | 1197 | 1260 | 1323 | 1338 | 1296 | 1131 | 2176 | 5224 | 1351 | 2251 | 1926 | 1381 |
| MEAN | 38.6 | 42.0 | 42.7 | 43.2 | 44.7 | 36.5 | 72.5 | 169 | 45.0 | 72.6 | 62.1 | 46.0 |
| MAX | 45 | 49 | 52 | 100 | 90 | 46 | 212 | 1090 | 118 | 287 | 382 | 240 |
| MIN | 34 | 34 | 25 | 20 | 33 | 29 | 33 | 13 | 22 | 25 | 19 | 16 |
| AC-FT | 2370 | 2500 | 2620 | 2650 | 2570 | 2240 | 4320 | 10360 | 2680 | 4460 | 3820 | 2740 |

| | | | | | | | | | | | | |
|-----|----|------|-------|-------|------|------|-----|------|-----|----|-------|-------|
| CAL | YR | 1987 | TOTAL | 45374 | MEAN | 124 | MAX | 3070 | MIN | 19 | AC-FT | 90000 |
| WTR | YR | 1988 | TOTAL | 21854 | MEAN | 59.7 | MAX | 1090 | MIN | 13 | AC-FT | 43350 |

ARKANSAS RIVER BASIN

07126300 PURGATOIRE RIVER NEAR THATCHER, CO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1982 to current year

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1982 to current year.

WATER TEMPERATURE: December 1982 to current year.

SUSPENDED SEDIMENT DISCHARGE: May 1983 to current year.

INSTRUMENTATION.--Water-quality monitor since December 1982. Pumping sediment sampler since May 1983.

REMARKS.--Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance data available in the district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 5,120 microsiemens July 1, 1988; minimum, 340 microsiemens

Aug. 4, 1987.

WATER TEMPERATURE: Maximum, 31.0°C Aug. 15, 1984; minimum, 0.0°C on many days during winter months.

SEDIMENT CONCENTRATION: Maximum daily, 49,600 mg/L June 9, 1986; minimum daily, 10 mg/L Oct. 13, 19, Nov. 4, 1987, and Mar. 23-24, 1988.

SEDIMENT LOAD: Maximum daily, 250,000 tons June 6, 1983; minimum daily, 0.30 tons May 1, 1986.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 5,120 microsiemens July 1; minimum, 559 microsiemens July 27.

WATER TEMPERATURE: Maximum, 28.6°C July 13, 17; minimum, 0.0°C on many days during winter months.

SEDIMENT CONCENTRATION: Maximum daily, 15,900 mg/l Aug. 10; minimum daily, 10 mg/l Oct. 13, 19, Nov. 4, and Mar. 23-24.

SEDIMENT LOAD: Maximum daily, 51,500 tons May 20; minimum daily, 1.0 tons Oct. 13, Nov. 4, Mar. 23, 26-28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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 | POTAS- SIUM, DIS- SOLVED (MG/L AS K) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|---|---|
| NOV 04... | 1405 | 33 | -- | 8.4 | 12.0 | 9.6 | 1600 | 290 | 210 | 240 | 3 | 3.9 |
| FEB 24... | 1500 | 40 | 3500 | 8.5 | 5.0 | 12.2 | 1500 | 260 | 200 | 290 | 3 | 3.6 |
| MAY 20... | 1300 | 1510 | 1190 | 8.0 | 9.0 | 9.2 | 440 | 91 | 51 | 84 | 2 | 3.4 |
| 24... | 1030 | 583 | 770 | 8.4 | 12.0 | -- | 280 | 61 | 31 | 43 | 1 | 3.1 |
| JUL 27... | 1145 | 80 | 698 | 8.0 | 15.5 | 8.4 | 270 | 63 | 27 | 42 | 1 | 7.0 |

| 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) | 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) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|---|---|---|--|---|--|--|---|---|--|---|
| NOV 04... | 182 | 1900 | 44 | 0.40 | 5.6 | 3250 | 2800 | 4.42 | 290 | -- | <0.10 |
| FEB 24... | 218 | 2000 | 44 | 0.40 | 6.8 | 3160 | 2940 | 4.30 | 341 | -- | 0.21 |
| MAY 20... | 156 | 510 | 8.5 | 0.40 | 9.9 | 832 | 854 | 1.13 | 3390 | 100 | 0.40 |
| 24... | 112 | 250 | 6.7 | 0.30 | 15 | 488 | 479 | 0.66 | 768 | 144 | 0.28 |
| JUL 27... | 56 | 290 | 8.2 | 0.30 | 6.0 | 409 | 477 | 0.56 | 88.3 | 1840 | <0.10 |

| DATE | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) | CYANIDE TOTAL (MG/L AS CN) |
|--------------|--|---|---|---|---|--|---|---|--|---|-------------------------------------|
| NOV 04... | <0.01 | -- | -- | -- | -- | 40 | -- | -- | 30 | -- | -- |
| FEB 24... | <0.01 | -- | -- | -- | -- | 30 | -- | -- | 50 | -- | -- |
| MAY 20... | 0.04 | 1 | <5 | 580 | 440000 | 44 | 300 | 11000 | 68 | 2200 | <0.01 |
| 24... | 0.06 | <1 | <1 | 46 | 46000 | 30 | 26 | 810 | 9 | 190 | <0.01 |
| JUL 27... | 0.10 | 1 | 1 | 38 | 41000 | 31 | 22 | 680 | 74 | 210 | <0.01 |

ARKANSAS RIVER BASIN

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07126300 PURGATOIRE RIVER NEAR THATCHER, CO.--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDED (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-------|------|---|--|--|---|
| OCT | | | | | |
| 02... | 1400 | 41 | 25 | 2.8 | -- |
| NOV | | | | | |
| 04... | 1350 | 33 | 7 | 0.62 | -- |
| DEC | | | | | |
| 09... | 1250 | 43 | 20 | 2.3 | -- |
| JAN | | | | | |
| 07... | 1145 | 35 | 61 | 5.8 | -- |
| FEB | | | | | |
| 24... | 1415 | 40 | 7 | 0.80 | -- |
| MAR | | | | | |
| 23... | 1040 | 36 | 10 | 0.97 | -- |
| APR | | | | | |
| 22... | 0915 | 58 | 229 | 36 | -- |
| MAY | | | | | |
| 18... | 1640 | 14 | 113 | 4.3 | -- |
| 20... | 1210 | 1550 | 31800 | 133000 | 93 |
| 20... | 1420 | 1140 | 22200 | 68300 | 94 |
| 24... | 1210 | 504 | 1970 | 2680 | -- |
| 27... | 1010 | 172 | 436 | 202 | -- |
| JUN | | | | | |
| 15... | 1210 | 46 | 165 | 20 | -- |
| 27... | 1730 | 104 | 499 | 140 | -- |
| JUL | | | | | |
| 01... | 1415 | 276 | 2460 | 1830 | -- |
| 27... | 1145 | 80 | 1900 | 410 | 100 |
| 31... | 1730 | 60 | 28600 | 4630 | 100 |
| AUG | | | | | |
| 25... | 1640 | 34 | 147 | 13 | -- |
| SEP | | | | | |
| 10... | 1305 | 18 | 29 | 1.4 | -- |
| 13... | 1330 | 44 | 66 | 7.8 | -- |
| 25... | 1845 | 88 | 880 | 209 | -- |

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 3340 | 3450 | 3550 | 3680 | 3120 | 3390 | 3350 | 2870 | 1800 | 2050 | 2400 | --- |
| 2 | 3150 | 3450 | 3520 | 3670 | 3070 | 3390 | 3320 | 2930 | 1780 | 1570 | 2310 | --- |
| 3 | 3400 | 3470 | 3440 | 3720 | 3250 | 3470 | 3290 | 2890 | 1800 | 1720 | 2270 | --- |
| 4 | 3360 | 3510 | 3370 | 3810 | 3390 | 3470 | 3430 | 2870 | 2000 | 1840 | 2190 | --- |
| 5 | 3220 | 3550 | 3320 | 3840 | 3410 | 3270 | 2950 | 2770 | 2100 | 1960 | 2210 | --- |
| 6 | 3230 | 3470 | 3330 | 3760 | 3410 | 3330 | 1810 | 2290 | 2180 | 2040 | 2310 | --- |
| 7 | 3280 | 3560 | 3370 | 3750 | 3370 | 3310 | 1480 | 1430 | 2290 | 1810 | 2160 | --- |
| 8 | 3300 | 3800 | 3380 | 3670 | 3350 | 3340 | 1520 | 1400 | 2360 | 1510 | 2160 | --- |
| 9 | 3290 | 3810 | 3390 | 3620 | 3250 | 3380 | 1660 | 1490 | 2350 | 1570 | 2170 | --- |
| 10 | 3280 | 3790 | 3390 | 3600 | 3150 | 3370 | 1730 | 1630 | 2220 | 1400 | 1410 | 2890 |
| 11 | 3260 | 3580 | 3380 | 3630 | 3220 | 3400 | 1770 | 1810 | 2270 | 1700 | 1420 | 2890 |
| 12 | 3250 | 3490 | 3360 | 3600 | 3230 | 3430 | 1860 | 2010 | 2380 | 1890 | 1760 | 2810 |
| 13 | 3280 | 3480 | 3350 | 3510 | 3290 | 3450 | 2060 | 2170 | 2540 | 1950 | 2090 | 2880 |
| 14 | 3310 | 3490 | --- | 3470 | 3190 | 3440 | 2170 | 2250 | 2470 | 1970 | 2400 | 2780 |
| 15 | 3320 | 3480 | --- | 3490 | 3130 | 3390 | 2330 | 2320 | 2430 | 2040 | 2590 | 2700 |
| 16 | 3370 | 3470 | --- | 3570 | 3100 | 3370 | 2490 | 2390 | 2170 | 2320 | 2590 | 2680 |
| 17 | 3510 | 3440 | --- | 3530 | 3090 | 3530 | 2540 | 2530 | 2330 | 2640 | 2560 | 2610 |
| 18 | 3600 | 3380 | --- | 3480 | 3100 | 3500 | 2560 | 2670 | 2290 | 2710 | 2190 | 2770 |
| 19 | 3520 | 3500 | --- | 3510 | 3110 | 3270 | 2520 | 2850 | 2310 | 2100 | 1990 | 2690 |
| 20 | 3510 | 3480 | 3230 | 3570 | 3140 | 3360 | 2090 | 1650 | 2200 | 1140 | 2290 | 2580 |
| 21 | 3490 | 3540 | 3320 | 3620 | 3190 | 3450 | 1900 | 655 | 2180 | 1610 | --- | 2600 |
| 22 | 3490 | 3570 | 3400 | 3590 | 3270 | 3440 | 1840 | 702 | 2190 | 2150 | --- | 2550 |
| 23 | 3490 | 3530 | 3420 | 3670 | 3290 | 3500 | 2090 | 656 | 2370 | 2370 | --- | 2750 |
| 24 | 3520 | 3520 | 3460 | 3650 | 3350 | 3570 | 2310 | 658 | 2520 | 2270 | 2530 | 2720 |
| 25 | 3500 | 3500 | 3460 | 3470 | 3430 | 3550 | 2360 | 715 | 2560 | 2260 | 2060 | 2440 |
| 26 | 3480 | 3430 | 3570 | 3460 | 3400 | 3510 | 2390 | 917 | 2590 | 2130 | 2360 | 2770 |
| 27 | 3480 | 3380 | 3630 | 3390 | 3380 | 3540 | 2550 | 1110 | 2330 | 1210 | 2570 | 2750 |
| 28 | 3440 | 3340 | 3670 | 3530 | 3400 | 3500 | 2690 | 1150 | 2210 | 2250 | --- | 2800 |
| 29 | 3400 | 3350 | 3630 | 3450 | 3430 | 3470 | 2810 | 1320 | 2420 | 2290 | --- | 2880 |
| 30 | 3430 | 3430 | 3620 | 3350 | --- | 3540 | 2840 | 1400 | 2400 | 2370 | --- | 2910 |
| 31 | 3440 | --- | 3560 | 3300 | --- | 3500 | --- | 1590 | --- | 2740 | --- | --- |
| MEAN | 3390 | 3510 | --- | 3580 | 3260 | 3430 | 2360 | 1810 | 2270 | 1990 | --- | --- |
| MAX | 3600 | 3810 | --- | 3840 | 3430 | 3570 | 3430 | 2930 | 2590 | 2740 | --- | --- |
| MIN | 3150 | 3340 | --- | 3300 | 3070 | 3270 | 1480 | 655 | 1780 | 1140 | --- | --- |

ARKANSAS RIVER BASIN

07126300 PURGATOIRE RIVER NEAR THATCHER, CO.--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 19.1 | 15.3 | 12.5 | 10.4 | .5 | .0 | .1 | .0 | .0 | .0 | 10.9 | 7.0 |
| 2 | 18.3 | 14.8 | 13.2 | 10.4 | .7 | .0 | .1 | .0 | .0 | .0 | 9.4 | 4.7 |
| 3 | 18.7 | 14.5 | 12.6 | 9.8 | 2.4 | .0 | .1 | .0 | .0 | .0 | 7.7 | 4.1 |
| 4 | 18.7 | 15.0 | 12.4 | 9.5 | 2.7 | .5 | .1 | .0 | .0 | .0 | 8.5 | 4.4 |
| 5 | 17.3 | 14.5 | 12.1 | 9.5 | 2.9 | 1.8 | .1 | .0 | .0 | .0 | 8.8 | 4.6 |
| 6 | 17.2 | 13.3 | 12.4 | 10.5 | 4.7 | 2.3 | .0 | .0 | .0 | .0 | 10.1 | 5.7 |
| 7 | 16.1 | 13.1 | 10.9 | 9.3 | 5.2 | 2.7 | .0 | .0 | .0 | .0 | 8.2 | 4.8 |
| 8 | 15.8 | 13.3 | 9.8 | 7.4 | 4.9 | 2.8 | .0 | .0 | .1 | .0 | 7.2 | 3.1 |
| 9 | 16.1 | 13.0 | 8.6 | 6.0 | 4.2 | 2.1 | .0 | .0 | .1 | .0 | 8.6 | 3.6 |
| 10 | 14.4 | 11.8 | 8.1 | 5.2 | 3.8 | 1.9 | .0 | .0 | .0 | .0 | 9.3 | 5.7 |
| 11 | 13.5 | 10.0 | 7.2 | 5.7 | 4.0 | 2.1 | .0 | .0 | .1 | .0 | 8.0 | 5.0 |
| 12 | 14.3 | 10.6 | 7.3 | 4.3 | 2.7 | 1.6 | .0 | .0 | .1 | .0 | 7.8 | 4.5 |
| 13 | 14.7 | 12.7 | 7.5 | 4.7 | 1.5 | .0 | .0 | .0 | .1 | .0 | 6.5 | 3.4 |
| 14 | 14.0 | 12.3 | 7.9 | 5.5 | .3 | .0 | .0 | .0 | .2 | .0 | 7.0 | 2.0 |
| 15 | 13.9 | 10.9 | 6.6 | 3.7 | .3 | .0 | .0 | .0 | .2 | .0 | 7.6 | 3.4 |
| 16 | 13.6 | 10.6 | 4.5 | 2.5 | .4 | .0 | .0 | .0 | .3 | .0 | 5.4 | 3.2 |
| 17 | 13.7 | 9.7 | 3.8 | 1.3 | .2 | .0 | .0 | .0 | .2 | .0 | 3.2 | 1.5 |
| 18 | 13.6 | 10.1 | 3.7 | 1.4 | .2 | .0 | .0 | .0 | .4 | .0 | 5.4 | .3 |
| 19 | 12.9 | 10.1 | 3.3 | .6 | .2 | .0 | .0 | .0 | 1.2 | .0 | 8.2 | 2.7 |
| 20 | 12.2 | 9.2 | 3.8 | 1.0 | .3 | .0 | .0 | .0 | 2.5 | .0 | 10.6 | 5.0 |
| 21 | 12.0 | 8.4 | 4.4 | 1.6 | .1 | .0 | .0 | .0 | 4.6 | .7 | 12.5 | 7.0 |
| 22 | 11.2 | 8.6 | 4.9 | 2.3 | .4 | .0 | .0 | .0 | 5.5 | 2.1 | 12.0 | 8.9 |
| 23 | 11.2 | 8.0 | 4.8 | 2.3 | .4 | .0 | .0 | .0 | 6.3 | 2.6 | 13.7 | 8.7 |
| 24 | 11.6 | 8.8 | 4.8 | 2.7 | .0 | .0 | .0 | .0 | 6.4 | 2.7 | 12.3 | 9.2 |
| 25 | 12.8 | 10.0 | 4.0 | 1.7 | .0 | .0 | .0 | .0 | 7.3 | 3.1 | 13.0 | 7.9 |
| 26 | 13.0 | 9.7 | 2.7 | 1.3 | .1 | .0 | .0 | .0 | 8.0 | 4.2 | 14.4 | 9.1 |
| 27 | 12.5 | 9.6 | 2.5 | .9 | .0 | .0 | .0 | .0 | 8.8 | 4.7 | 14.6 | 9.5 |
| 28 | 12.6 | 9.0 | 1.6 | .0 | .1 | .0 | .0 | .0 | 9.0 | 6.0 | 12.3 | 7.8 |
| 29 | 12.6 | 9.3 | 1.0 | .0 | .1 | .0 | .0 | .0 | 9.9 | 5.9 | 11.2 | 6.3 |
| 30 | 12.8 | 10.7 | .6 | .0 | .1 | .0 | .0 | .0 | --- | --- | 11.3 | 6.6 |
| 31 | 12.5 | 9.4 | --- | --- | .1 | .0 | .0 | .0 | --- | --- | 8.5 | 3.6 |
| MONTH | 19.1 | 8.0 | 13.2 | .0 | 5.2 | .0 | .1 | .0 | 9.9 | .0 | 14.6 | .3 |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 3.4 | 1.0 | 18.3 | 14.1 | 20.3 | 16.5 | 22.2 | 18.2 | 26.7 | 21.3 | 23.1 | 20.0 |
| 2 | 6.2 | .5 | 15.0 | 8.9 | 20.3 | 15.9 | 24.9 | 20.1 | 26.5 | 22.4 | 21.8 | 19.8 |
| 3 | 10.3 | 3.9 | 14.7 | 7.7 | 22.0 | 17.0 | 26.6 | 21.5 | 26.6 | 22.6 | 22.0 | 18.4 |
| 4 | 10.9 | 7.8 | 17.0 | 10.7 | 23.4 | 17.9 | 25.2 | 21.6 | 24.1 | 21.9 | 21.5 | 17.6 |
| 5 | 11.8 | 8.6 | 16.7 | 12.8 | 21.7 | 18.2 | 25.4 | 21.4 | 25.3 | 21.1 | 22.0 | 16.8 |
| 6 | 13.9 | 8.1 | 16.5 | 13.0 | 24.7 | 17.9 | 26.1 | 20.7 | 25.6 | 21.5 | 22.3 | 17.0 |
| 7 | 14.6 | 10.0 | 15.6 | 11.1 | 25.7 | 20.3 | 24.3 | 18.2 | 23.9 | 21.7 | 22.2 | 17.6 |
| 8 | 14.8 | 11.9 | 16.3 | 11.1 | 26.8 | 21.0 | 23.6 | 18.9 | 25.8 | 20.9 | 22.0 | 17.9 |
| 9 | 12.1 | 9.5 | 18.4 | 12.4 | 25.9 | 21.7 | 24.4 | 20.5 | 24.5 | 19.0 | 21.5 | 17.7 |
| 10 | 12.1 | 8.1 | 19.0 | 14.0 | 25.5 | 21.5 | 23.2 | 18.4 | 19.1 | 10.3 | 22.5 | 18.0 |
| 11 | 13.4 | 7.8 | 20.7 | 14.3 | 24.4 | 20.4 | 26.0 | 20.7 | 23.3 | 18.5 | 20.3 | 17.8 |
| 12 | 15.1 | 9.4 | 22.4 | 15.9 | 24.4 | 20.1 | 27.4 | 21.6 | 24.6 | 20.4 | 18.6 | 15.7 |
| 13 | 16.4 | 11.4 | 22.4 | 17.3 | 20.8 | 18.5 | 28.6 | 23.0 | 25.1 | 21.0 | 17.5 | 14.8 |
| 14 | 15.0 | 11.6 | 21.7 | 17.4 | 22.9 | 16.8 | 28.1 | 23.4 | 25.3 | 21.1 | 18.9 | 16.1 |
| 15 | 16.0 | 10.7 | 22.5 | 17.4 | 23.3 | 19.2 | 27.9 | 22.9 | 25.5 | 21.5 | 19.9 | 16.3 |
| 16 | 14.2 | 11.5 | 22.4 | 18.2 | 23.3 | 18.4 | 28.2 | 23.5 | 24.4 | 20.9 | 20.8 | 16.4 |
| 17 | 11.4 | 9.8 | 22.0 | 17.6 | 25.1 | 19.8 | 28.6 | 22.9 | 25.3 | 21.3 | 20.6 | 16.8 |
| 18 | 14.4 | 8.6 | 20.4 | 17.1 | 26.2 | 20.8 | 26.8 | 23.1 | 25.0 | 18.6 | 21.1 | 17.3 |
| 19 | 15.7 | 11.0 | 18.7 | 13.8 | 25.9 | 21.3 | 23.0 | 18.5 | 25.4 | 20.1 | 19.4 | 15.3 |
| 20 | 17.1 | 12.6 | 13.7 | 7.6 | 26.9 | 21.7 | 22.1 | 17.4 | 26.1 | --- | 18.4 | 14.6 |
| 21 | 18.2 | 13.6 | 8.8 | 7.3 | 27.6 | 22.3 | 24.8 | 18.5 | --- | --- | 19.6 | 15.7 |
| 22 | 15.8 | 11.9 | 10.7 | 8.9 | 27.4 | 22.2 | 26.2 | 20.5 | --- | --- | 19.8 | 15.9 |
| 23 | 14.9 | 11.5 | 11.5 | 8.8 | 27.7 | 22.8 | 25.5 | 21.7 | 27.1 | --- | 17.9 | 15.7 |
| 24 | 13.5 | 11.1 | 15.2 | 10.7 | 27.8 | 23.1 | 26.8 | 21.0 | 28.3 | 22.7 | 17.4 | 13.8 |
| 25 | 16.1 | 9.6 | 17.3 | 12.6 | 27.3 | 22.1 | 26.7 | 21.1 | 26.1 | 21.7 | 18.7 | 14.8 |
| 26 | 15.8 | 10.7 | 19.3 | 14.2 | 25.2 | 22.4 | 26.7 | 8.9 | 26.6 | 22.2 | 19.5 | 15.5 |
| 27 | 16.9 | 10.4 | 19.7 | 16.1 | 23.5 | 21.0 | 21.5 | 9.0 | 23.9 | 20.3 | 19.8 | 16.2 |
| 28 | 17.7 | 12.8 | 19.0 | 16.6 | 24.7 | 20.2 | 26.8 | 20.8 | 22.5 | 18.4 | 17.8 | 14.6 |
| 29 | 17.9 | 14.3 | 20.3 | 15.7 | 26.4 | 21.5 | 26.8 | 22.8 | 23.6 | 18.1 | 15.0 | 12.7 |
| 30 | 20.2 | 14.2 | 20.3 | 16.9 | 23.6 | 21.7 | 25.6 | 22.8 | 23.8 | 19.2 | 16.6 | 12.7 |
| 31 | --- | --- | 18.5 | 16.2 | --- | --- | 24.9 | 21.5 | 24.9 | 19.7 | --- | --- |
| MONTH | 20.2 | .5 | 22.5 | 7.3 | 27.8 | 15.9 | 28.6 | 8.9 | --- | --- | 23.1 | 12.7 |

ARKANSAS RIVER BASIN

293

07126300 PURGATOIRE RIVER NEAR THATCHER, CO.--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| OCTOBER | | | NOVEMBER | | | DECEMBER | | | |
| 1 | 35 | 40 | 3.8 | 41 | 18 | 2.0 | 50 | --- | 8.5 |
| 2 | 40 | 36 | 3.9 | 41 | 28 | 3.1 | 51 | 63 | 8.7 |
| 3 | 39 | 34 | 3.6 | 38 | 26 | 2.7 | 49 | --- | 8.3 |
| 4 | 39 | --- | 3.4 | 36 | 10 | 1.0 | 49 | 42 | 5.6 |
| 5 | 38 | 31 | 3.2 | 34 | 30 | 2.8 | 48 | 31 | 4.0 |
| 6 | 34 | 28 | 2.6 | 34 | --- | 4.0 | 46 | --- | 3.5 |
| 7 | 34 | 19 | 1.7 | 34 | --- | 4.2 | 46 | 26 | 3.2 |
| 8 | 36 | 26 | 2.5 | 37 | 49 | 4.9 | 45 | --- | 2.8 |
| 9 | 36 | 26 | 2.5 | 38 | --- | 5.2 | 43 | 20 | 2.3 |
| 10 | 35 | 20 | 1.9 | 38 | 52 | 5.3 | 41 | --- | 2.2 |
| 11 | 35 | --- | 1.6 | 40 | 52 | 5.6 | 41 | --- | 2.2 |
| 12 | 35 | 14 | 1.3 | 40 | --- | 5.7 | 42 | --- | 2.3 |
| 13 | 37 | 10 | 1.0 | 40 | 54 | 5.8 | 39 | --- | 1.8 |
| 14 | 38 | 22 | 2.3 | 40 | --- | 6.0 | 28 | --- | 1.1 |
| 15 | 41 | 32 | 3.5 | 40 | --- | 6.2 | 30 | --- | 1.6 |
| 16 | 45 | 17 | 2.1 | 44 | --- | 6.9 | 35 | --- | 2.4 |
| 17 | 42 | 18 | 2.0 | 46 | 60 | 7.5 | 40 | --- | 3.6 |
| 18 | 40 | 18 | 1.9 | 49 | --- | 7.9 | 45 | --- | 4.9 |
| 19 | 40 | 10 | 1.1 | 46 | 60 | 7.4 | 48 | --- | 7.1 |
| 20 | 38 | 12 | 1.2 | 47 | --- | 7.6 | 52 | --- | 9.8 |
| 21 | 38 | 14 | 1.4 | 48 | --- | 7.8 | 47 | --- | 7.6 |
| 22 | 38 | 16 | 1.6 | 47 | 63 | 8.0 | 45 | --- | 6.1 |
| 23 | 39 | 13 | 1.4 | 47 | 66 | 8.4 | 50 | --- | 8.1 |
| 24 | 39 | 15 | 1.6 | 46 | --- | 8.1 | 45 | --- | 9.1 |
| 25 | 40 | 24 | 2.6 | 45 | --- | 7.6 | 43 | --- | 7.0 |
| 26 | 44 | 27 | 3.2 | 46 | --- | 7.8 | 40 | --- | 5.4 |
| 27 | 41 | 28 | 3.1 | 47 | --- | 8.0 | 25 | --- | 2.7 |
| 28 | 40 | 27 | 2.9 | 44 | --- | 7.5 | 30 | --- | 3.6 |
| 29 | 40 | 22 | 2.4 | 40 | --- | 6.8 | 45 | --- | 6.1 |
| 30 | 40 | 20 | 2.2 | 47 | --- | 8.0 | 43 | --- | 5.6 |
| 31 | 41 | 18 | 2.0 | --- | --- | --- | 42 | --- | 5.3 |
| TOTAL | 1197 | --- | 71.5 | 1260 | --- | 179.8 | 1323 | --- | 152.5 |
| YEAR | 21854 | | 167791.3 | | | | | | |
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | 38 | --- | 4.6 | 90 | --- | 24 | 33 | 42 | 3.7 |
| 2 | 40 | --- | 5.1 | 67 | --- | 14 | 37 | 60 | 6.0 |
| 3 | 43 | --- | 5.6 | 49 | --- | 7.9 | 41 | --- | 8.3 |
| 4 | 40 | --- | 4.8 | 44 | --- | 5.9 | 40 | 130 | 14 |
| 5 | 38 | --- | 4.3 | 43 | --- | 7.0 | 40 | 108 | 12 |
| 6 | 20 | --- | 2.2 | 39 | --- | 5.3 | 40 | --- | 9.4 |
| 7 | 35 | 61 | 5.8 | 41 | --- | 6.0 | 40 | 70 | 7.6 |
| 8 | 37 | --- | 6.2 | 46 | --- | 7.0 | 40 | 52 | 5.6 |
| 9 | 40 | --- | 6.9 | 48 | --- | 7.8 | 39 | --- | 4.2 |
| 10 | 43 | --- | 7.7 | 50 | --- | 9.4 | 38 | 33 | 3.4 |
| 11 | 45 | --- | 6.7 | 38 | --- | 5.1 | 37 | 33 | 3.3 |
| 12 | 40 | --- | 6.2 | 40 | --- | 6.5 | 35 | --- | 2.9 |
| 13 | 38 | --- | 6.2 | 49 | --- | 8.7 | 36 | 30 | 2.9 |
| 14 | 40 | --- | 5.8 | 51 | --- | 11 | 36 | 30 | 2.9 |
| 15 | 45 | --- | 6.1 | 46 | --- | 9.2 | 36 | --- | 2.9 |
| 16 | 39 | --- | 5.5 | 46 | 70 | 8.7 | 46 | 45 | 5.6 |
| 17 | 38 | --- | 5.5 | 46 | --- | 7.4 | 41 | 35 | 3.9 |
| 18 | 38 | --- | 5.7 | 46 | 55 | 6.8 | 36 | --- | 2.9 |
| 19 | 43 | --- | 7.0 | 46 | 60 | 7.5 | 36 | 25 | 2.4 |
| 20 | 33 | --- | 4.6 | 42 | --- | 6.1 | 37 | --- | 2.0 |
| 21 | 29 | --- | 3.3 | 38 | 35 | 3.6 | 36 | --- | 1.2 |
| 22 | 26 | --- | 2.5 | 39 | 30 | 3.2 | 35 | --- | 1.1 |
| 23 | 35 | --- | 3.6 | 39 | --- | 2.4 | 35 | 10 | 1.0 |
| 24 | 34 | --- | 3.9 | 37 | 18 | 1.8 | 34 | --- | 1.1 |
| 25 | 37 | --- | 4.5 | 36 | 24 | 2.3 | 33 | 12 | 1.1 |
| 26 | 40 | --- | 4.4 | 36 | --- | 2.6 | 32 | --- | 1.0 |
| 27 | 50 | --- | 5.5 | 36 | 23 | 2.2 | 30 | --- | 1.0 |
| 28 | 60 | --- | 6.6 | 35 | 30 | 2.8 | 29 | --- | 1.0 |
| 29 | 70 | --- | 7.7 | 33 | --- | 3.3 | 33 | --- | 1.9 |
| 30 | 84 | --- | 12 | --- | --- | --- | 34 | --- | 1.9 |
| 31 | 100 | --- | 20 | --- | --- | --- | 36 | --- | 2.0 |
| TOTAL | 1338 | --- | 186.5 | 1296 | --- | 195.5 | 1131 | --- | 120.2 |
| YEAR | 21854 | | 167791.3 | | | | | | |

ARKANSAS RIVER BASIN

07126300 PURGATOIRE RIVER NEAR THATCHER, CO.--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| APRIL | | | MAY | | | JUNE | | | |
| 1 | 45 | 25 | 3.0 | 33 | 96 | 8.6 | 62 | --- | 38 |
| 2 | 48 | --- | 3.2 | 32 | 96 | 8.3 | 54 | 222 | 32 |
| 3 | 57 | 59 | 9.1 | 46 | --- | 14 | 47 | 185 | 23 |
| 4 | 125 | 662 | 266 | 59 | 118 | 19 | 40 | --- | 20 |
| 5 | 212 | 2480 | 1600 | 52 | 133 | 19 | 41 | 155 | 17 |
| 6 | 212 | 3770 | 2230 | 144 | 1550 | 943 | 39 | 178 | 19 |
| 7 | 143 | 2370 | 910 | 105 | 2480 | 687 | 40 | --- | 18 |
| 8 | 112 | 900 | 272 | 54 | 630 | 92 | 34 | 133 | 12 |
| 9 | 92 | 464 | 115 | 45 | --- | 33 | 30 | 148 | 12 |
| 10 | 76 | 289 | 59 | 38 | 170 | 17 | 23 | --- | 10 |
| 11 | 62 | --- | 36 | 28 | 153 | 12 | 28 | 185 | 14 |
| 12 | 53 | 185 | 26 | 27 | --- | 11 | 31 | 185 | 15 |
| 13 | 43 | 133 | 15 | 28 | 128 | 9.7 | 39 | --- | 16 |
| 14 | 40 | --- | 12 | 25 | 128 | 8.6 | 43 | 156 | 18 |
| 15 | 38 | 104 | 11 | 24 | --- | 8.3 | 58 | 835 | 180 |
| 16 | 39 | 74 | 7.8 | 18 | 102 | 5.0 | 71 | --- | 370 |
| 17 | 43 | --- | 9.5 | 13 | 94 | 3.3 | 74 | 1010 | 202 |
| 18 | 65 | 222 | 39 | 14 | 94 | 3.6 | 63 | 444 | 76 |
| 19 | 101 | 370 | 101 | 18 | --- | 4.8 | 51 | --- | 32 |
| 20 | 109 | --- | 87 | 844 | 14900 | 51500 | 36 | 117 | 11 |
| 21 | 76 | 222 | 46 | 1090 | 9240 | 27200 | 32 | 89 | 7.7 |
| 22 | 57 | 170 | 26 | 556 | --- | 5400 | 27 | --- | 6.3 |
| 23 | 52 | 163 | 23 | 430 | --- | 1720 | 26 | 86 | 6.0 |
| 24 | 51 | --- | 20 | 411 | 2220 | 2460 | 26 | 86 | 6.0 |
| 25 | 46 | 141 | 18 | 301 | 1850 | 1500 | 22 | --- | 5.1 |
| 26 | 40 | 133 | 14 | 208 | 814 | 457 | 32 | 94 | 8.1 |
| 27 | 36 | --- | 12 | 182 | 481 | 236 | 118 | 536 | 180 |
| 28 | 36 | 111 | 11 | 144 | 481 | 187 | 64 | --- | 75 |
| 29 | 33 | 89 | 7.9 | 110 | --- | 110 | 53 | --- | 104 |
| 30 | 34 | --- | 8.8 | 80 | 259 | 56 | 47 | --- | 110 |
| 31 | --- | --- | --- | 65 | 237 | 42 | --- | --- | --- |
| TOTAL | 2176 | --- | 5998.3 | 5224 | --- | 92775.2 | 1351 | --- | 1643.2 |
| YEAR | 21854 | | 167791.3 | | | | | | |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 287 | 4060 | 2780 | 46 | 4750 | 590 | 20 | 65 | 3.5 |
| 2 | 104 | 4550 | 1280 | 34 | 1040 | 95 | 21 | 49 | 2.8 |
| 3 | 58 | --- | 271 | 26 | --- | 47 | 39 | 161 | 19 |
| 4 | 49 | 410 | 54 | 28 | 475 | 36 | 31 | 65 | 5.4 |
| 5 | 49 | 182 | 24 | 34 | 428 | 39 | 24 | 84 | 5.4 |
| 6 | 47 | --- | 17 | 64 | --- | 98 | 21 | --- | 3.7 |
| 7 | 94 | 686 | 225 | 53 | 475 | 68 | 22 | 49 | 2.9 |
| 8 | 73 | --- | 101 | 48 | 456 | 59 | 22 | 49 | 2.9 |
| 9 | 194 | 3950 | 2180 | 256 | 4170 | 23800 | 16 | --- | 1.4 |
| 10 | 136 | 1980 | 887 | 382 | 15900 | 21700 | 17 | 26 | 1.2 |
| 11 | 95 | 855 | 219 | 93 | 3320 | 834 | 19 | 28 | 1.4 |
| 12 | 56 | --- | 93 | 66 | --- | 271 | 24 | --- | 2.1 |
| 13 | 47 | 333 | 42 | 110 | 1250 | 402 | 41 | 67 | 7.4 |
| 14 | 38 | 190 | 19 | 64 | --- | 181 | 57 | 97 | 15 |
| 15 | 33 | --- | 13 | 56 | 760 | 115 | 50 | --- | 13 |
| 16 | 32 | 142 | 12 | 38 | 475 | 49 | 49 | 97 | 13 |
| 17 | 27 | --- | 8.3 | 27 | --- | 21 | 51 | 97 | 13 |
| 18 | 43 | --- | 34 | 70 | 908 | 452 | 43 | --- | 10 |
| 19 | 109 | 826 | 276 | 57 | 1710 | 275 | 38 | 80 | 8.2 |
| 20 | 47 | --- | 108 | 39 | 428 | 45 | 34 | 76 | 7.0 |
| 21 | 48 | 570 | 74 | 28 | --- | 21 | 31 | --- | 6.0 |
| 22 | 42 | 380 | 43 | 22 | --- | 14 | 33 | 59 | 5.3 |
| 23 | 33 | --- | 25 | 26 | 190 | 13 | 77 | 454 | 382 |
| 24 | 25 | 190 | 13 | 54 | 321 | 85 | 240 | 3160 | 2150 |
| 25 | 26 | 142 | 10 | 46 | 265 | 38 | 105 | 910 | 258 |
| 26 | 130 | 1750 | 2540 | 22 | 104 | 6.2 | 65 | --- | 82 |
| 27 | 113 | 3210 | 1370 | 19 | 78 | 4.0 | 54 | 240 | 35 |
| 28 | 40 | 855 | 92 | 28 | --- | 13 | 49 | 160 | 21 |
| 29 | 38 | --- | 19 | 39 | 78 | 8.2 | 44 | --- | 18 |
| 30 | 77 | 561 | 179 | 29 | 78 | 6.1 | 44 | 210 | 25 |
| 31 | 61 | 6210 | 950 | 22 | --- | 4.2 | --- | --- | --- |
| TOTAL | 2251 | --- | 13958.3 | 1926 | --- | 49389.7 | 1381 | --- | 3120.6 |
| YEAR | 21854 | | 167791.3 | | | | | | |

07126325 TAYLOR ARROYO BELOW ROCK CROSSING, NEAR THATCHER, CO

LOCATION.--Lat 37°25'26", long 103°55'09", in SE¼SE¼ sec.17, T.30 S., R.58 W., Las Animas County, Hydrologic Unit 11010010, 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, 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 good.

AVERAGE DISCHARGE.--5 Years, 0.16 ft³/s; 116 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 761 ft³/s, Aug. 21, 1984, gage height, 7.94 ft, result of slope-area measurement of peak flow; no flow most of the time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5.0 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---|------|-----------------------------------|---------------------|
| July 18 | 1830 | *199 | *5.76 | No other peak greater than base discharge | | | |

No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|------|------|------|-------|-------|------|------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .00 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .00 | .00 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .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 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .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 | .01 | .00 | .01 | .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 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .00 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.01 | 0.00 | 19.84 | 0.00 | 0.00 |
| MEAN | .00 | .00 | .00 | .00 | .00 | .00 | .005 | .000 | .00 | .64 | .00 | .00 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .01 | .00 | 17 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .0 | .0 | .0 | .0 | .0 | .0 | .3 | .02 | .0 | 39 | .0 | .0 |
| CAL YR 1987 | TOTAL | 122.97 | MEAN | .34 | MAX | 82 | MIN | .00 | AC-FT | 244 | | |
| WTR YR 1988 | TOTAL | 20.01 | MEAN | .06 | MAX | 17 | MIN | .00 | AC-FT | 40 | | |

ARKANSAS RIVER BASIN

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.--March 1983 to current year.

PERIOD OF DAILY RECORD.--March 1983 to current year.

INSTRUMENTATION.--Water-quality monitor since March 1983. Pumping sediment sampler since Aug. 5, 1983.

REMARKS.--Estimated daily load and concentrations: Apr. 1-5, May 21, July 18, and 21. Daily data that are not published are either missing, there was no flow during the day, or of poor quality. Maximum and minimum specific conductance and water temperature are published only for the period of flow during the day that was recorded.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,520 microsiemens Aug. 20, 1984; minimum, 90 microsiemens June 1, 1986.

WATER TEMPERATURE: Maximum, 32.0°C Aug. 11, 1987; minimum, 0.0°C Apr. 2, 1988.

SEDIMENT CONCENTRATIONS: Maximum daily, 15,300 mg/L Aug. 22, 1984; no flow most of time.

SEDIMENT LOAD: Maximum daily, 4,910 tons Aug. 9, 1987; no flow most of time.

EXTREMES FOR CURRENT YEAR .--

SPECIFIC CONDUCTANCE: Maximum, 270 microsiemens Apr. 4-5; minimum, 100 microsiemens Apr. 2.

WATER TEMPERATURE: Maximum, 24.9°C July 21; minimum, 0.0°C Apr. 2.

SEDIMENT CONCENTRATIONS: Maximum daily, 4,260 mg/L July 18; no flow most of time.

SEDIMENT LOAD: Maximum daily, 1,310 tons July 18; no flow most of time.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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 CACO3) | CALCIUM DIS- SOLVED AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|-------------------------------------|--|
| JUL 19... | 1320 | 0.80 | 180 | 8.2 | 15.0 | 8.0 | 82 | 28 | 3.0 |

| 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 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 SI02) |
|--------------|--|---|---|---|---|---|--|---|
| JUL 19... | 1.3 | 0.1 | 8.9 | 81 | 30 | 2.9 | 0.1 | 6.1 |

| DATE | 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) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
|--------------|--|--|---|---|---|--|--|--|
| JUL 19... | 121 | 131 | 0.16 | 0.26 | 0.40 | 0.02 | 48 | 8 |

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDED (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|--------------|------|---|--|--|---|
| JUL 19... | 1315 | 0.8 | 720 | 1.6 | 98 |

297

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MAXIMUMS AND MINIMUMS ONLY FOR PERIOD OF FLOW DURING THE DAY

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-----|-------|-----|-----|-----|------|-----|------|-----|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 190 | 140 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | 250 | 100 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | 260 | 160 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 | 270 | 250 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 270 | 260 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | 200 | 180 | --- | --- | --- | --- |
| 20 | --- | --- | 140 | 130 | --- | --- | 230 | 200 | --- | --- | --- | --- |
| 21 | --- | --- | 140 | 120 | --- | --- | 240 | 230 | --- | --- | --- | --- |
| 22 | --- | --- | 140 | 130 | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-----|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|-----|------|------|-----|------|------|--------|-----|-----------|-----|-----|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 3.1 | .1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | 6.3 | .0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | 14.8 | 1.2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 | 14.3 | 6.2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 17.8 | 7.6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | 16.1 | 14.5 | --- | --- | --- | --- |
| 20 | --- | --- | 9.2 | 8.9 | --- | --- | 24.4 | 15.6 | --- | --- | --- | --- |
| 21 | --- | --- | 15.1 | 8.3 | --- | --- | 24.9 | 16.0 | --- | --- | --- | --- |
| 22 | --- | --- | 11.0 | 10.7 | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

ARKANSAS RIVER BASIN

299

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| OCTOBER | | | | NOVEMBER | | | DECEMBER | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | --- | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |
| JANUARY | | | | FEBRUARY | | | MARCH | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | --- | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | --- | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |

ARKANSAS RIVER BASIN

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| APRIL | | | | MAY | | | | JUNE | |
| 1 | .01 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .04 | --- | .03 | .00 | --- | --- | .00 | --- | --- |
| 3 | .07 | --- | .09 | .00 | --- | --- | .00 | --- | --- |
| 4 | .03 | --- | .02 | .00 | --- | --- | .00 | --- | --- |
| 5 | .01 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .01 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | --- | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 0.16 | --- | --- | 0.01 | --- | --- | 0.00 | --- | --- |
| JULY | | | | AUGUST | | | | SEPTEMBER | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | 2.7 | 704 | 1310 5.1 | .00 | --- | --- | .00 | --- | --- |
| 20 | .13 | 420 | .15 | .00 | --- | --- | .00 | --- | --- |
| 21 | .01 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 19.84 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |

ARKANSAS RIVER BASIN

301

07126390 LOCKWOOD CANYON CREEK NEAR THATCHER, CO

LOCATION.--Lat 37°29'40", long 103°50'12", in SE¼NW¼ sec.30, T.29 S., R.57 W., Las Animas County, Hydrologic Unit 11020010, on right bank, 0.4 mi downstream from Sharp Ranch, 5.5 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.

REVISED RECORDS.--WDR CO-86-1: 1983, 1984.

GAGE.--Water-stage recorder, and crest-stage gage. Elevation of gage is 4,815 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good except those above about 10 ft³/s, which are poor.

AVERAGE DISCHARGE.--5 Years, 0.17 ft³/s; 123 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,070 ft³/s, May 22, 1987, gage height, 10.39 ft, from floodmark, from rating extended above 5 ft³/s, on the basis of slope-area measurements at gage heights of 9.42, and 10.39 ft; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2.0 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|--------------------------------|------------------|--|------|--------------------------------|------------------|
| June 30 | 0130 | *a118 | *b6.91 | No other peak greater than base discharge. | | | |

No flow, Aug. 14 to Sept. 30.

a-From rating extended above 5 ft³/s, on basis of slope-area measurements of peak flows.

b-From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|----------|--------|---------|-----------|------|------|------|-------|------|------|------|
| 1 | .01 | .01 | .02 | .01 | .05 | .06 | .06 | .04 | .01 | .06 | .02 | .00 |
| 2 | .01 | .01 | .02 | .01 | .04 | .06 | .09 | .03 | .01 | .03 | .01 | .00 |
| 3 | .02 | .01 | .02 | .01 | .04 | .06 | .10 | .04 | .01 | .02 | .01 | .00 |
| 4 | .01 | .01 | .02 | .01 | .04 | .06 | .09 | .03 | .01 | .01 | .01 | .00 |
| 5 | .01 | .01 | .02 | .01 | .04 | .06 | .07 | .03 | .01 | .01 | .01 | .00 |
| 6 | .01 | .01 | .01 | .01 | .04 | .06 | .07 | .03 | .01 | .01 | .01 | .00 |
| 7 | .01 | .01 | .01 | .01 | .04 | .06 | .07 | .03 | .01 | .03 | .01 | .00 |
| 8 | .01 | .01 | .01 | .01 | .04 | .06 | .07 | .02 | .01 | .04 | .01 | .00 |
| 9 | .01 | .01 | .01 | .01 | .04 | .06 | .06 | .02 | .01 | .05 | .01 | .00 |
| 10 | .01 | .01 | .01 | .01 | .05 | .06 | .06 | .03 | .01 | .04 | .01 | .00 |
| 11 | .01 | .01 | .01 | .01 | .05 | .06 | .05 | .03 | .01 | .02 | .01 | .00 |
| 12 | .01 | .01 | .01 | .01 | .05 | .06 | .06 | .03 | .01 | .02 | .01 | .00 |
| 13 | .01 | .01 | .01 | .01 | .05 | .06 | .06 | .02 | .01 | .03 | .01 | .00 |
| 14 | .01 | .01 | .01 | .01 | .05 | .06 | .06 | .02 | .01 | .03 | .01 | .00 |
| 15 | .01 | .01 | .01 | .01 | .06 | .06 | .05 | .02 | .01 | .03 | .00 | .00 |
| 16 | .01 | .01 | .01 | .01 | .06 | .05 | .05 | .02 | .01 | .03 | .00 | .00 |
| 17 | .01 | .01 | .01 | .01 | .05 | .05 | .06 | .02 | .01 | .04 | .00 | .00 |
| 18 | .01 | .02 | .01 | .02 | .06 | .05 | .06 | .01 | .01 | .06 | .00 | .00 |
| 19 | .01 | .02 | .01 | .02 | .06 | .06 | .06 | .01 | .01 | .04 | .00 | .00 |
| 20 | .01 | .02 | .01 | .01 | .06 | .06 | .06 | .02 | .01 | .05 | .00 | .00 |
| 21 | .01 | .02 | .01 | .01 | .06 | .06 | .06 | .02 | .01 | .07 | .00 | .00 |
| 22 | .01 | .02 | .01 | .01 | .06 | .06 | .07 | .01 | .01 | .06 | .00 | .00 |
| 23 | .01 | .02 | .01 | .02 | .06 | .06 | .06 | .01 | .01 | .06 | .00 | .00 |
| 24 | .01 | .02 | .01 | .02 | .06 | .07 | .06 | .01 | .01 | .06 | .00 | .00 |
| 25 | .01 | .02 | .01 | .02 | .06 | .06 | .06 | .01 | .01 | .05 | .00 | .00 |
| 26 | .01 | .02 | .01 | .02 | .06 | .06 | .05 | .01 | .01 | .03 | .00 | .00 |
| 27 | .01 | .02 | .01 | .02 | .06 | .06 | .05 | .01 | .01 | .03 | .00 | .00 |
| 28 | .01 | .02 | .01 | .02 | .06 | .06 | .05 | .01 | .01 | .02 | .00 | .00 |
| 29 | .01 | .02 | .01 | .03 | .06 | .06 | .04 | .01 | .01 | .02 | .00 | .00 |
| 30 | .01 | .02 | .01 | .03 | --- | .06 | .04 | .01 | 18 | .02 | .00 | .00 |
| 31 | .01 | --- | .01 | .03 | --- | .06 | --- | .01 | --- | .02 | .00 | --- |
| TOTAL | 0.32 | 0.43 | 0.36 | 0.45 | 1.51 | 1.84 | 1.85 | 0.62 | 18.29 | 1.09 | 0.15 | 0.00 |
| MEAN | .010 | .014 | .012 | .015 | .052 | .059 | .062 | .020 | .61 | .035 | .005 | .00 |
| MAX | .02 | .02 | .02 | .03 | .06 | .07 | .10 | .04 | .18 | .07 | .02 | .00 |
| MIN | .01 | .01 | .01 | .01 | .04 | .05 | .04 | .01 | .01 | .01 | .00 | .00 |
| AC-FT | .6 | .9 | .7 | .9 | 3.0 | 3.6 | 3.7 | 1.2 | 36 | 2.2 | .3 | .0 |
| CAL YR 1987 | TOTAL 159.06 | MEAN .44 | MAX 83 | MIN .00 | AC-FT 315 | | | | | | | |
| WTR YR 1988 | TOTAL 26.91 | MEAN .07 | MAX 18 | MIN .00 | AC-FT 53 | | | | | | | |

ARKANSAS RIVER BASIN

07126390 LOCKWOOD CANYON CREEK NEAR THATCHER, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1983 to current year.

WATER TEMPERATURE: June 1983 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing, of poor quality, or during periods of no flow.
Daily maximum and minimum specific conductance data are available in the district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,830 microsiemens Dec. 6, 21, 1986; minimum, 190 microsiemens May 22, 1987.

WATER TEMPERATURE: Maximum, 30.5°C July 9-10, 1983; minimum, 0.0°C on many days during the winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 3,580 microsiemens Dec. 3-4; minimum, 450 microsiemens June 30.

WATER TEMPERATURE: Maximum 27.2°C July 14; minimum, 0.0°C Jan. 12, 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|
| NOV 05... | 1320 | 0.01 | 3450 | 8.0 | 12.0 | 11.2 | 1500 | 320 | 180 |
| FEB 18... | 1345 | 0.06 | 2850 | 8.0 | 5.0 | 10.8 | 1300 | 310 | 120 |
| MAY 26... | 1235 | 0.01 | 2900 | 8.1 | 20.5 | -- | 1500 | 350 | 160 |
| JUN 30... | 1215 | 4.3 | 630 | 7.9 | 16.5 | 6.6 | 270 | 88 | 13 |

| DATE | SODIUM, DIS- SOLVED (MG/L AS NA) | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | ALKA- LINEITY 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) |
|--------------|--|---|---|--|---|---|--|---|
| NOV 05... | 250 | 3 | 7.8 | 189 | 2000 | 39 | 0.70 | 7.0 |
| FEB 18... | 220 | 3 | 7.9 | 263 | 1600 | 44 | 0.60 | 12 |
| MAY 26... | 220 | 3 | 10 | 181 | 1600 | 31 | 0.60 | 4.6 |
| JUN 30... | 21 | 0.6 | 6.9 | 73 | 260 | 4.4 | 0.30 | 7.1 |

| DATE | 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) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
|--------------|--|--|---|---|---|--|--|--|
| NOV 05... | 3300 | 2920 | 4.49 | 0.09 | <0.10 | <0.01 | 20 | 10 |
| FEB 18... | 2660 | 2470 | 3.62 | 0.43 | <0.10 | 0.01 | 30 | 80 |
| MAY 26... | 2640 | 2480 | 3.59 | 0.07 | <0.10 | 0.01 | 50 | 10 |
| JUN 30... | 411 | 447 | 0.56 | 4.77 | 0.55 | 0.02 | 18 | 50 |

ARKANSAS RIVER BASIN

303

07126390 LOCKWOOD CANYON CREEK NEAR THATCHER, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| 1 | 3530 | 3500 | 3550 | 3440 | 2910 | 3060 | 3020 | 3050 | 2970 | 909 | 3180 | --- |
| 2 | 3510 | 3490 | 3550 | 3460 | 3030 | 3110 | 2850 | 3040 | 3010 | 1050 | 3200 | --- |
| 3 | 3510 | 3490 | 3570 | 3490 | 3100 | 3130 | 2670 | 3050 | 3040 | 1120 | 3220 | --- |
| 4 | 3510 | 3490 | 3570 | 3550 | 3140 | 3120 | 2610 | 3060 | 3070 | 1200 | 3240 | --- |
| 5 | 3520 | 3480 | 3540 | 3530 | 3170 | 3150 | 2730 | 3080 | 3090 | 1300 | 3260 | --- |
| 6 | 3520 | 3480 | 3500 | 3490 | 3180 | 3110 | 2830 | 3090 | 3100 | 1390 | 3270 | --- |
| 7 | 3520 | 3480 | 3450 | 3440 | 3180 | 3110 | 2910 | 3090 | 3120 | 1530 | 3280 | --- |
| 8 | 3530 | 3480 | 3410 | 3410 | 3160 | 3130 | 2960 | 3100 | 3140 | 2000 | 3290 | --- |
| 9 | 3530 | 3470 | 3430 | 3420 | 3070 | 3100 | 3000 | 3100 | 3170 | 2020 | 3300 | --- |
| 10 | 3530 | 3470 | 3450 | 3390 | 2970 | 3180 | 3040 | 3100 | 3180 | 1920 | 3310 | --- |
| 11 | 3540 | 3470 | 3460 | 3370 | 3010 | 3230 | 3050 | 3100 | 3190 | 1930 | 3320 | --- |
| 12 | 3540 | 3470 | 3450 | 3330 | 3090 | 3200 | 3050 | 3100 | 3200 | 2000 | 3320 | --- |
| 13 | 3540 | 3470 | 3440 | 3350 | 3050 | 3180 | 3050 | 3100 | 3220 | 2080 | 3330 | --- |
| 14 | 3530 | 3470 | 3430 | 3390 | 2960 | 3170 | 3040 | 3110 | 3230 | 2190 | 3340 | --- |
| 15 | 3540 | 3460 | 3430 | 3390 | 2970 | 3160 | 3040 | 3110 | 3240 | 2260 | --- | --- |
| 16 | 3530 | 3440 | 3470 | 3370 | 2980 | 3150 | 3040 | 3120 | 3240 | 2330 | --- | --- |
| 17 | 3530 | 3450 | 3480 | 3280 | 2960 | 3150 | 3030 | 3130 | 3250 | 2400 | --- | --- |
| 18 | 3530 | 3430 | 3480 | 3260 | 2880 | 3170 | 2940 | 3140 | 3260 | 2460 | --- | --- |
| 19 | 3530 | 3450 | 3470 | 3250 | 3000 | 3140 | 2890 | 3140 | 3270 | 2550 | --- | --- |
| 20 | 3530 | 3450 | 3460 | 3250 | 3040 | 3130 | 2920 | 3110 | 3280 | 2640 | --- | --- |
| 21 | 3530 | 3450 | 3470 | 3370 | 3040 | 3120 | 2960 | 2990 | 3300 | 2690 | --- | --- |
| 22 | 3530 | 3430 | 3470 | 3310 | 3010 | 3120 | 2990 | 2950 | 3300 | 2750 | --- | --- |
| 23 | 3530 | 3450 | 3470 | 3260 | 2980 | 3130 | 3020 | 2940 | 3320 | 2820 | --- | --- |
| 24 | 3530 | 3450 | 3470 | 3230 | 3000 | 3140 | 3040 | 2940 | 3330 | 2880 | --- | --- |
| 25 | 3520 | 3460 | 3460 | 3240 | 3050 | 3160 | 3060 | 2950 | 3330 | 2930 | --- | --- |
| 26 | 3520 | 3470 | 3430 | 3280 | 3050 | 3170 | 3070 | 2920 | 3340 | 2970 | --- | --- |
| 27 | 3520 | 3470 | 3400 | 3280 | 3050 | 3180 | 3060 | 2880 | 3330 | 3000 | --- | --- |
| 28 | 3510 | 3470 | 3390 | 3260 | 3060 | 3190 | 3050 | 2890 | 3350 | 3060 | --- | --- |
| 29 | 3510 | 3490 | 3390 | 3220 | 3070 | 3190 | 3050 | 2900 | 3340 | 3110 | --- | --- |
| 30 | 3500 | 3510 | 3400 | 3180 | --- | 3180 | 3040 | 2930 | 1000 | 3130 | --- | --- |
| 31 | 3500 | --- | 3400 | 2980 | --- | 3150 | --- | 2960 | --- | 3160 | --- | --- |
| MEAN | 3520 | 3470 | 3460 | 3340 | 3040 | 3150 | 2970 | 3040 | 3140 | 2250 | --- | --- |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 16.9 | 14.2 | 10.0 | 8.6 | 3.1 | 1.8 | 1.4 | 1.0 | 1.3 | .8 | 8.2 | 5.1 |
| 2 | 16.2 | 13.6 | 11.0 | 9.1 | 3.1 | 2.1 | 1.1 | .8 | 1.1 | .8 | 7.2 | 4.8 |
| 3 | 16.2 | 13.6 | 10.2 | 8.4 | 2.6 | 1.8 | 1.2 | .8 | 1.4 | 1.0 | 6.7 | 4.1 |
| 4 | 16.4 | 13.4 | 9.6 | 7.8 | 3.7 | 2.2 | 2.6 | 1.0 | 1.3 | 1.1 | 6.7 | 3.6 |
| 5 | 15.3 | 13.1 | 9.6 | 7.6 | 3.6 | 2.7 | 1.1 | .3 | 1.4 | 1.1 | 7.0 | 4.2 |
| 6 | 14.8 | 12.3 | 10.3 | 8.7 | 4.6 | 2.9 | .5 | .3 | 1.4 | .9 | 7.3 | 4.0 |
| 7 | 14.3 | 11.9 | 9.4 | 8.1 | 4.0 | 2.9 | .4 | .3 | 1.4 | 1.0 | 6.3 | 4.1 |
| 8 | 14.4 | 12.1 | 9.1 | 7.4 | 3.8 | 2.8 | .4 | .2 | 1.9 | 1.1 | 6.3 | 3.1 |
| 9 | 14.2 | 12.1 | 7.5 | 6.0 | 3.3 | 1.8 | .4 | .1 | 2.0 | 1.3 | 7.9 | 3.1 |
| 10 | 13.4 | 11.5 | 6.4 | 4.9 | 3.9 | 1.7 | .4 | .1 | 2.0 | .9 | 7.9 | 4.7 |
| 11 | 12.4 | 10.1 | 6.2 | 4.9 | 4.4 | 3.0 | .6 | .1 | 1.4 | .6 | 7.2 | 5.5 |
| 12 | 12.2 | 9.8 | 5.9 | 4.1 | 4.2 | 2.7 | .6 | .0 | 2.2 | 1.3 | 6.4 | 4.5 |
| 13 | 12.6 | 11.1 | 5.4 | 3.9 | 3.2 | 2.3 | .6 | .2 | 2.6 | 1.6 | 6.0 | 3.9 |
| 14 | 12.4 | 11.1 | 6.5 | 4.3 | 3.5 | 3.0 | .5 | .3 | 2.7 | 1.8 | 5.8 | 3.0 |
| 15 | 12.7 | 10.0 | 5.1 | 2.5 | 3.6 | 2.0 | .8 | .4 | 3.0 | 1.7 | 6.2 | 3.2 |
| 16 | 11.7 | 9.7 | 3.6 | 1.5 | 2.3 | 1.0 | .8 | .5 | 3.4 | 2.3 | 4.3 | 3.0 |
| 17 | 11.6 | 9.1 | 4.0 | 2.3 | 2.6 | 1.7 | .8 | .7 | 3.3 | 2.7 | 3.4 | 2.0 |
| 18 | 11.0 | 8.8 | 4.4 | 3.1 | 3.1 | 2.4 | 1.0 | .7 | 3.0 | 2.0 | 5.2 | 2.0 |
| 19 | 10.5 | 8.6 | 3.9 | 2.8 | 2.9 | 2.2 | .8 | .2 | 3.3 | 2.4 | 8.3 | 3.0 |
| 20 | 10.4 | 8.4 | 4.0 | 2.6 | 3.9 | 2.2 | .4 | .2 | 3.9 | 2.5 | 10.3 | 3.4 |
| 21 | 11.2 | 7.7 | 4.3 | 2.9 | 3.0 | 1.3 | .5 | .0 | 4.6 | 3.1 | 10.2 | 5.3 |
| 22 | 9.5 | 7.6 | 4.2 | 2.0 | 2.2 | 1.8 | .8 | .5 | 4.5 | 3.5 | 9.4 | 6.4 |
| 23 | 9.0 | 7.1 | 3.8 | 2.2 | 2.9 | 1.8 | .9 | .6 | 4.6 | 3.5 | 12.3 | 7.0 |
| 24 | 9.0 | 7.0 | 4.4 | 2.8 | 2.5 | 1.8 | 1.0 | .7 | 4.8 | 3.6 | 10.5 | 8.1 |
| 25 | 10.5 | 8.3 | 4.0 | 2.7 | 2.2 | 1.8 | .7 | .3 | 5.1 | 3.6 | 11.3 | 7.5 |
| 26 | 10.3 | 8.1 | 4.0 | 2.3 | 2.1 | 1.9 | .8 | .4 | 5.5 | 3.4 | 12.2 | 7.9 |
| 27 | 9.8 | 7.9 | 4.2 | 2.9 | 1.9 | 1.7 | 1.1 | .5 | 5.7 | 3.7 | 12.8 | 9.0 |
| 28 | 9.5 | 7.3 | 3.7 | 2.2 | 1.7 | 1.5 | 1.1 | .6 | 5.9 | 3.5 | 11.1 | 8.3 |
| 29 | 9.3 | 7.4 | 3.7 | 2.1 | 1.6 | 1.2 | 1.2 | .9 | 7.1 | 5.0 | 10.0 | 7.1 |
| 30 | 10.8 | 8.4 | 3.5 | 1.9 | 1.5 | 1.2 | 1.7 | 1.0 | --- | --- | 10.3 | 6.8 |
| 31 | 9.8 | 7.9 | --- | --- | 1.6 | 1.1 | 1.6 | .5 | --- | --- | 7.7 | 4.6 |
| MONTH | 16.9 | 7.0 | 11.0 | 1.5 | 4.6 | 1.0 | 2.6 | .0 | 7.1 | .6 | 12.8 | 2.0 |

ARKANSAS RIVER BASIN

07126390 LOCKWOOD CANYON CREEK NEAR THATCHER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4.4 | .7 | 17.9 | 14.6 | 20.4 | 16.4 | 22.6 | 16.9 | 26.6 | 23.0 | --- | --- |
| 2 | 4.5 | 1.2 | 15.5 | 10.4 | 20.5 | 17.1 | 24.6 | 19.4 | 26.5 | 23.3 | --- | --- |
| 3 | 8.1 | 2.9 | 13.3 | 9.2 | 21.5 | 17.8 | 24.3 | 20.3 | 26.2 | 23.4 | --- | --- |
| 4 | 9.4 | 6.1 | 15.1 | 10.4 | 22.2 | 18.3 | 24.5 | 20.9 | 24.7 | 23.0 | --- | --- |
| 5 | 11.9 | 7.2 | 16.5 | 12.3 | 21.2 | 19.4 | 24.4 | 20.9 | 23.9 | 22.2 | --- | --- |
| 6 | 12.8 | 8.1 | 17.5 | 12.9 | 23.2 | 18.8 | 24.6 | 21.0 | 24.8 | 21.9 | --- | --- |
| 7 | 15.1 | 9.6 | 15.6 | 12.4 | 23.7 | 19.9 | 23.6 | 21.6 | 24.5 | 22.1 | --- | --- |
| 8 | 14.5 | 11.0 | 16.7 | 12.1 | 24.4 | 20.3 | 25.3 | 20.7 | 25.3 | 21.7 | --- | --- |
| 9 | 12.0 | 10.0 | 16.7 | 12.9 | 23.8 | 21.2 | 24.8 | 20.6 | 24.0 | 21.8 | --- | --- |
| 10 | 12.5 | 9.4 | 16.7 | 13.5 | 24.3 | 21.2 | 24.1 | 20.7 | 24.0 | 20.6 | --- | --- |
| 11 | 12.9 | 9.0 | 18.0 | 14.0 | 24.3 | 21.3 | 25.0 | 21.0 | 24.5 | 21.7 | --- | --- |
| 12 | 13.7 | 9.3 | 18.8 | 14.7 | 24.2 | 20.8 | 25.9 | 22.0 | 24.6 | 21.5 | --- | --- |
| 13 | 14.4 | 10.3 | 19.7 | 15.7 | 21.9 | 20.2 | 27.0 | 23.0 | 24.9 | 21.3 | --- | --- |
| 14 | 13.0 | 10.9 | 19.4 | 16.6 | 22.7 | 19.0 | 27.2 | 23.8 | 25.2 | 21.4 | --- | --- |
| 15 | 14.0 | 10.5 | 20.4 | 16.6 | 22.5 | 20.1 | 26.2 | 23.3 | --- | --- | --- | --- |
| 16 | 13.0 | 11.8 | 20.9 | 16.8 | 23.5 | 19.5 | 26.9 | 22.8 | --- | --- | --- | --- |
| 17 | 11.8 | 10.3 | 20.9 | 17.5 | 24.5 | 20.3 | 26.9 | 23.1 | --- | --- | --- | --- |
| 18 | 13.5 | 9.2 | 20.9 | 17.8 | 24.9 | 21.2 | 25.7 | 23.4 | --- | --- | --- | --- |
| 19 | 15.9 | 10.6 | 18.4 | 14.7 | 25.5 | 21.7 | 23.3 | 21.3 | --- | --- | --- | --- |
| 20 | 15.9 | 12.3 | 14.6 | 11.4 | 25.6 | 22.3 | 23.3 | 20.6 | --- | --- | --- | --- |
| 21 | 17.1 | 13.2 | 12.9 | 10.7 | 26.7 | 22.5 | 24.3 | 20.3 | --- | --- | --- | --- |
| 22 | 15.2 | 11.9 | 12.0 | 11.3 | 25.8 | 22.6 | 24.7 | 21.0 | --- | --- | --- | --- |
| 23 | 14.2 | 11.9 | 14.6 | 11.1 | 26.0 | 23.3 | 24.3 | 21.5 | --- | --- | --- | --- |
| 24 | 12.9 | 11.3 | 17.4 | 12.8 | 26.2 | 23.3 | 24.9 | 21.5 | --- | --- | --- | --- |
| 25 | 15.6 | 10.4 | 20.4 | 14.4 | 26.4 | 22.9 | 25.3 | 21.7 | --- | --- | --- | --- |
| 26 | 14.0 | 10.5 | 21.5 | 15.7 | 25.3 | 23.3 | 25.0 | 22.4 | --- | --- | --- | --- |
| 27 | 14.9 | 10.7 | 19.4 | 16.8 | 24.7 | 22.7 | 25.9 | 22.0 | --- | --- | --- | --- |
| 28 | 15.5 | 11.9 | 20.3 | 16.5 | 26.0 | 22.3 | 26.0 | 22.8 | --- | --- | --- | --- |
| 29 | 16.1 | 13.4 | 20.5 | 16.4 | 26.6 | 23.1 | 26.2 | 22.9 | --- | --- | --- | --- |
| 30 | 17.5 | 13.4 | 21.1 | 17.6 | 23.9 | 15.3 | 26.0 | 23.1 | --- | --- | --- | --- |
| 31 | --- | --- | 19.3 | 17.7 | --- | --- | 26.1 | 22.8 | --- | --- | --- | --- |
| MONTH | 17.5 | .7 | 21.5 | 9.2 | 26.7 | 15.3 | 27.2 | 16.9 | --- | --- | --- | --- |

07126415 RED ROCK CANYON CREEK AT MOUTH NEAR THATCHER, CO

LOCATION.--Lat 37°30'54", long 103°43'25", in NW¼SE¼ sec.18, T.29 S., R.56 W., Las Animas County, Hydrologic Unit 11020010, on left bank, 200 ft downstream from Welsh Canyon, 0.3 mi upstream from mouth, and 21 mi east of Thatcher.

DRAINAGE AREA.--48.8 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder, and crest-stage gage. Elevation of gage is 4,510 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records below 10 ft³/s are fair, records between 10 ft³/s, and 300 ft³/s, are poor.

AVERAGE DISCHARGE.--5 years, 0.37 ft³/s; 268 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,530 ft³/s, May 22, 1987, gage height, 10.09 ft, from floodmark, from rating curve extended above 10 ft³/s on the basis of three slope-area measurements of peak flows; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5.0 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| June 29 | 2245 | *a650 | *b8.10 | July 26 | 2000 | 55 | 6.20 |
| June 30 | 2145 | 21 | 5.89 | Aug. 11 | 1815 | 67 | 6.28 |
| July 18 | 1845 | 35 | 6.03 | | | | |

No flow most of time.

a-From rating curve extended above 10 ft³/s on the basis of three slope-area measurements of peak flows.

b-From floodmarks

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
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 | .71 | .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 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .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 | 2.1 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .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 | 2.7 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .20 | .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 | 2.5 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .12 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 35 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | 35 | .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 | 70.00 | 6.23 | 2.12 | 0.00 |
| MEAN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 2.33 | .20 | .068 | .00 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 35 | 2.7 | 2.1 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 139 | 12 | 4.2 | .0 |

CAL YR 1987 TOTAL 150.04 MEAN .41 MAX 84 MIN .00 AC-FT 298
WTR YR 1988 TOTAL 78.35 MEAN .21 MAX 35 MIN .00 AC-FT 155

ARKANSAS RIVER BASIN

07126415 RED ROCK CANYON CREEK AT MOUTH NEAR THATCHER, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1983 to current year.

WATER TEMPERATURE: May 1983 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing, of poor quality, or for periods of no flow.
Maximum and minimum specific conductance and water temperature are published only for the period of flow during the day that was recorded.

EXTREMES FOR PERIOD OF FLOW.--

SPECIFIC CONDUCTANCE: Maximum, 3,100 microsiemens June 28, 1983; minimum, 90 microsiemens Aug. 22, 1986.

WATER TEMPERATURE: Maximum, 30.5°C Aug. 13, 1983; minimum, 7.0°C May 3, 1987.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 640 microsiemens June 29; minimum, 120 microsiemens Aug 11.

WATER TEMPERATURE: Maximum, 24.1°C Aug 11; minimum, 9.2°C June 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|
| JUN 30... | 1645 | 3.2 | 535 | 8.0 | 17.0 | 7.8 | 220 | 65 | 15 |

| 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 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) |
|--------------|--|---|---|---|---|---|--|---|
| JUN 30... | 22 | 0.7 | 6.4 | 79 | 210 | 3.3 | 0.30 | 5.8 |

| DATE | 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, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
|--------------|--|---|---|---|---|--|--|--|
| JUN 30... | 361 | 377 | 0.49 | 3.12 | 0.30 | 0.08 | 36 | 25 |

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SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MAXIMUMS AND MINIMUMS ONLY FOR PERIOD OF FLOW DURING THE DAY

[illegible]

ARKANSAS RIVER BASIN

309

07126470 CHACUACO CREEK AT MOUTH NEAR TIMPAS, CO

LOCATION.--Lat 37°32'38", long 103°37'54", in SE¼SE¼ Sec. 1, T. 28 S., R. 56 W., Las Animas County, Hydrologic Unit 11020010, at Red Rocks Ranch, 1.5 mi upstream of 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, and crest-stage gage. Elevation of gage is 4,350 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: July 2, and Aug. 8. Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--5 years, 1.06 ft³/s; 768 acre-ft/yr.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft³/s, Aug. 2, 1984, gage height, 9.16 ft from rating curve based on four slope area measurements of peak flow; maximum gage height, 9.70 ft, May 2, 1986 (backwater from debris); no flow most of the time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| June 30 | 1830 | *a1,150 | *b7.92 | No other peak greater than base discharge. | | | |

No flow most of time.

a-From rating based on slope-area measurements of peak flows.

b-From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
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 | 12 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .60 | .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 | 2.6 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .10 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .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 | 100 | .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 | 100.00 | 12.60 | 2.70 | 0.00 |
| MEAN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 3.33 | .41 | .087 | .00 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 100 | 12 | 2.6 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 198 | 25 | 5.4 | .0 |

CAL YR 1987 TOTAL 509.63 MEAN 1.40 MAX 126 MIN .00 AC-FT 1010
WTR YR 1988 TOTAL 115.30 MEAN .32 MAX 100 MIN .00 AC-FT 229

ARKANSAS RIVER BASIN

07126470 CHACAUCO CREEK NEAR MOUTH NEAR TIMPAS, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1983 to current year.

WATER TEMPERATURE: June 1983 to current year.

SUSPENDED SEDIMENT: June 1983 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1983. Automatic pumping sediment sampler since June 1983.

REMARKS.--Estimated daily load and concentrations: July 2, and Aug. 8. Daily data that are not published are either missing, of poor quality, or during periods of no flow. Maximum and minimum specific conductance and water temperature are published only for the period of flow during the day that was recorded.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,210 microsiemens Aug. 13, 1984; minimum, 180 microsiemens Aug. 2, 1986.

WATER TEMPERATURE: Maximum, 27.0°C July 11, 16, 1984 and May 25, 1987; minimum, 4.0°C Oct. 4, 1984.

SEDIMENT CONCENTRATIONS: Maximum daily, 7,860 mg/l May 2, 1986; minimum daily no flow most of time.

SEDIMENT LOADS: Maximum daily, 14,900 tons May 2, 1986; minimum daily, no flow most of time.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 422 microsiemens July 1; minimum, 278 microsiemens June 30.

WATER TEMPERATURE: Maximum, 20.2°C Aug. 7; minimum, 12.8°C June 30.

SEDIMENT CONCENTRATIONS: Maximum daily, 2,080 mg/l June 30; minimum daily, no flow most of time.

SEDIMENT LOADS: Maximum daily, 3,280 tons June 30; minimum daily, no flow most of time.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | TEMPER- ATURE WATER (DEG C) | 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- LITY LAB (MG/L AS CACO3) |
|--------------|------|---|--------------------------------------|---|--|--|--|---|---|---|
| JUN 30... | 2035 | 176 | -- | 120 | 39 | 5.3 | 10 | 0.4 | 3.3 | 64 |
| JUL 01... | 0830 | 11 | 20.0 | 77 | 25 | 3.6 | 4.6 | 0.2 | 4.3 | 80 |

| 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) | SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) | SOLIDS, DIS- SOLVED (TONS PER AC-FT) | SOLIDS, DIS- SOLVED (TONS PER DAY) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|---|---|--|---|--|---|---|---|--|---|
| JUN 30... | 89 | 1.9 | 0.10 | 7.0 | 203 | 197 | 0.28 | 96.5 | 50 | 0.58 |
| JUL 01... | 54 | 2.2 | 0.20 | 5.6 | 126 | 151 | 0.17 | 3.74 | 1640 | 0.77 |

| DATE | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) |
|--------------|--|---|---|---|---|--|---|---|--|---|
| JUN 30... | 0.080 | <1 | <1 | 18 | 1000 | 65 | 14 | 360 | 16 | 60 |
| JUL 01... | 0.160 | <1 | <1 | 36 | 27000 | 6 | 28 | 1100 | 6 | 160 |

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|--------------|------|---|---|---|---|
| JUN 30... | 2000 | 268 | 5200 | 3760 | 90 |
| JUL 01... | 0830 | 11 | 360 | 11 | -- |

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SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

07126470 CHACAUCO CREEK NEAR MOUTH NEAR TIMPAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible]

ARKANSAS RIVER BASIN

313

07126470 CHACAU CO CREEK NEAR MOUTH NEAR TIMPAS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| OCTOBER | | | | NOVEMBER | | | DECEMBER | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |
| JANUARY | | | | FEBRUARY | | | MARCH | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |

ARKANSAS RIVER BASIN

07126470 CHACAUCO CREEK NEAR MOUTH NEAR TIMPAS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| APRIL | | | MAY | | | JUNE | | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | 100 | 2080 | 3280 |
| 31 | --- | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 100.00 | --- | --- |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 12 | 360 | 12 | .00 | --- | --- | .00 | --- | --- |
| 2 | .60 | --- | .06 | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | 2.6 | 127 | 12 | .00 | --- | --- |
| 8 | .00 | --- | --- | .10 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 12.60 | --- | --- | 2.70 | --- | --- | 0.00 | --- | --- |

07126480 BENT CANYON CREEK AT MOUTH NEAR TIMPAS, CO

LOCATION.-- Lat 37°35'19", long 103°38'51", in SE¼SE¼ sec.23, T.28 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 0.5 mi upstream from mouth, 0.6 mi southwest of Rourke Ranch house, 0.9 mi upstream from Iron Canyon, and 17 mi southeast of Timpas.

DRAINAGE AREA.--56.2 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder, and crest-stage gage. Elevation of gage is 4,402 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. This stream flows only from storm events.

AVERAGE DISCHARGE.--5 Years, 0.19 ft³/s; 138 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,640 ft³/s, Aug. 21, 1984, gage height, 12.56 ft, from floodmark, result of slope-area measurement of peak flow; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| May 24 | 1815 | *164 | *a6.17 | July 26 | 1915 | 157 | a6.11 |

No flow most of time.
a-From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
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 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .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 | 4.4 | .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 | 5.6 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .61 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .70 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | 1.1 | .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 | 4.40 | 1.80 | 6.21 | 0.00 | 0.00 |
| MEAN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .14 | .060 | .20 | .00 | .00 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 4.4 | 1.1 | 5.6 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 8.7 | 3.6 | 12 | .0 | .0 |

CAL YR 1987 TOTAL 0.21 MEAN .001 MAX .21 MIN .00 AC-FT .4
WTR YR 1988 TOTAL 12.41 MEAN .034 MAX 5.6 MIN .00 AC-FT 25

07126480 BENT CANYON CREEK AT MOUTH AT TIMPAS, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1983 to current year.

WATER TEMPERATURE: July 1983 to current year.

SUSPENDED SEDIMENT: May 1983 to current year.

INSTRUMENTATION.--Water-quality monitor since July 1983. Automatic pumping sampler since May 1983.

REMARKS.--Estimated daily load and concentrations: July 27. Daily data that are not published are either missing, there was no flow during the day, or of poor quality. Maximum and minimum specific conductance and water temperature are published only for periods of flow during the days that were recorded.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,640 microsiemens, June 29, 1988; minimum, 109 microsiemens, Aug. 1, 1984.

WATER TEMPERATURE: Maximum, 22.0°C, Aug. 22, 1984, Aug. 22, 1986; minimum, 8.6°C, May 24, 1988.

SEDIMENT CONCENTRATIONS: Maximum daily, 48,700 mg/l July 15, 1984; minimum daily, no flow most of time.

SEDIMENT LOADS: Maximum daily, 21,100 tons Aug. 22, 1984; minimum daily, no flow most of time.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,640 microsiemens, June 29; minimum, 120 microsiemens, July 26.

WATER TEMPERATURE: Maximum, 20.4°C, July 26; minimum, 8.6°C, May 24.

SEDIMENT CONCENTRATIONS: Maximum daily, 1,180 mg/l May 24; no flow most of time.

SEDIMENT LOADS: Maximum daily, 201 tons May 24; no flow most of time.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MAXIMUMS AND MINIMUMS ONLY FOR PERIODS OF FLOW DURING THE DAY

[illegible]

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SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

[illegible][illegible]

ARKANSAS RIVER BASIN

07126480 BENT CANYON CREEK AT MOUTH AT TIMPAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MAXIMUMS AND MINIMUMS ONLY FOR PERIODS OF FLOW DURING THE DAY

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-----|-------|-----|-----|-----|------|------|------|------|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | --- | --- | 9.0 | 8.6 | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | 20.4 | 17.3 | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | 17.3 | 16.8 | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | 20.0 | 19.6 | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | 19.5 | 18.4 | --- | --- | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| | OCTOBER | | | NOVEMBER | | | DECEMBER | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |

ARKANSAS RIVER BASIN

319

07126480 BENT CANYON CREEK AT MOUTH AT TIMPAS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | --- | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | --- | --- | --- | .00 | --- | --- |
| TOTAL | 0.00 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |
| APRIL | | | MAY | | | JUNE | | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | 4.4 | 1180 | 201 | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 27 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .70 | 459 | 13 |
| 30 | .00 | --- | --- | .00 | --- | --- | 1.1 | 311 | 3.4 |
| 31 | --- | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 0.00 | --- | --- | 4.40 | --- | --- | 1.80 | --- | --- |

ARKANSAS RIVER BASIN

07126480 BENT CANYON CREEK AT MOUTH AT TIMPAS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 2 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 3 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 4 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 5 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 6 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 7 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 8 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 11 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 12 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 16 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 17 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 18 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 19 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 20 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 21 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 22 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 23 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 24 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 25 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 26 | 5.6 | 862 | 135 | .00 | --- | --- | .00 | --- | --- |
| 27 | .61 | --- | .35 | .00 | --- | --- | .00 | --- | --- |
| 28 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 29 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 30 | .00 | --- | --- | .00 | --- | --- | .00 | --- | --- |
| 31 | .00 | --- | --- | .00 | --- | --- | --- | --- | --- |
| TOTAL | 6.21 | --- | --- | 0.00 | --- | --- | 0.00 | --- | --- |

ARKANSAS RIVER BASIN

321

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO

LOCATION.--Lat 37°37'10", long 103°35'32" in NE¼SE¼ sec.10, T.28 S., R.55 W., Las Animas County, Hydrologic Unit 11020010, at Rock Crossing, 2.1 mi upstream from Minnie Canyon, 2.4 mi downstream from Beaty Canyon, and 17 mi southeast of Timpas.

DRAINAGE AREA.--2,635 Mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORD.--WDR CO-87-1: 1984-86 (M).

GAGE.--Water-stage recorder, and crest-stage gage. Elevation of gage is 4,350 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 28-29, Dec. 16-17, and Dec. 26 to Feb. 12. Records good, except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 30,000 acres. Peak flows are regulated to some extent by Trinidad Dam, 92 mi upstream.

AVERAGE DISCHARGE.--5 years, 73.8 ft³/s; 53,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,280 ft³/s, Aug. 21, 1984, gage height 12.60 ft, from rating curve extended above 3,290 ft³/s; minimum daily, 6.6 ft³/s, May 28, 31, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,820 ft³/s at 1745 May 21, gage height, 10.27 ft; minimum daily, 13 ft³/s, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|-------|------|------|------|------|
| 1 | 36 | 39 | 35 | 35 | 85 | 39 | 47 | 30 | 76 | 178 | 60 | 27 |
| 2 | 32 | 39 | 41 | 30 | 75 | 37 | 64 | 35 | 71 | 197 | 48 | 26 |
| 3 | 36 | 39 | 43 | 30 | 70 | 40 | 60 | 34 | 65 | 97 | 36 | 25 |
| 4 | 38 | 37 | 48 | 34 | 66 | 46 | 69 | 35 | 58 | 67 | 28 | 38 |
| 5 | 37 | 34 | 48 | 33 | 64 | 49 | 133 | 57 | 49 | 58 | 26 | 38 |
| 6 | 35 | 30 | 49 | 32 | 54 | 49 | 197 | 48 | 49 | 52 | 24 | 29 |
| 7 | 33 | 32 | 48 | 18 | 56 | 47 | 169 | 121 | 47 | 52 | 64 | 25 |
| 8 | 30 | 33 | 47 | 22 | 60 | 47 | 133 | 86 | 46 | 144 | 59 | 23 |
| 9 | 31 | 35 | 44 | 23 | 65 | 47 | 111 | 57 | 42 | 111 | 47 | 24 |
| 10 | 32 | 38 | 43 | 30 | 68 | 45 | 93 | 44 | 33 | 172 | 423 | 20 |
| 11 | 32 | 40 | 43 | 35 | 50 | 44 | 82 | 42 | 29 | 113 | 176 | 13 |
| 12 | 32 | 40 | 41 | 38 | 55 | 44 | 71 | 29 | 24 | 94 | 93 | 15 |
| 13 | 32 | 40 | 40 | 34 | 60 | 43 | 62 | 23 | 33 | 64 | 73 | 20 |
| 14 | 33 | 40 | 37 | 30 | 60 | 42 | 52 | 22 | 38 | 53 | 98 | 35 |
| 15 | 35 | 42 | 32 | 32 | 51 | 40 | 47 | 20 | 46 | 43 | 62 | 59 |
| 16 | 36 | 46 | 28 | 37 | 60 | 39 | 44 | 18 | 70 | 35 | 53 | 53 |
| 17 | 44 | 46 | 35 | 36 | 59 | 50 | 45 | 16 | 77 | 32 | 39 | 51 |
| 18 | 42 | 48 | 33 | 34 | 53 | 48 | 52 | 15 | 75 | 28 | 31 | 49 |
| 19 | 41 | 47 | 51 | 30 | 56 | 43 | 69 | 15 | 69 | 49 | 59 | 46 |
| 20 | 40 | 48 | 53 | 28 | 53 | 40 | 104 | 244 | 59 | 109 | 53 | 37 |
| 21 | 38 | 45 | 54 | 27 | 49 | 42 | 101 | 1220 | 41 | 53 | 42 | 31 |
| 22 | 38 | 47 | 54 | 31 | 48 | 41 | 76 | 785 | 36 | 46 | 28 | 29 |
| 23 | 38 | 49 | 54 | 36 | 47 | 40 | 62 | 523 | 31 | 44 | 25 | 29 |
| 24 | 38 | 49 | 54 | 40 | 47 | 38 | 54 | 468 | 25 | 35 | 21 | 137 |
| 25 | 38 | 47 | 43 | 37 | 44 | 37 | 53 | 360 | 37 | 27 | 45 | 140 |
| 26 | 38 | 45 | 35 | 40 | 43 | 37 | 48 | 260 | 26 | 40 | 54 | 72 |
| 27 | 42 | 45 | 22 | 45 | 42 | 35 | 42 | 194 | 32 | 153 | 30 | 49 |
| 28 | 40 | 44 | 19 | 50 | 42 | 32 | 37 | 173 | 103 | 74 | 22 | 42 |
| 29 | 38 | 42 | 25 | 55 | 42 | 31 | 35 | 136 | 71 | 46 | 22 | 38 |
| 30 | 38 | 36 | 39 | 60 | --- | 32 | 34 | 111 | 216 | 42 | 42 | 35 |
| 31 | 39 | --- | 40 | 75 | --- | 37 | --- | 87 | --- | 68 | 40 | --- |
| TOTAL | 1132 | 1242 | 1278 | 1117 | 1624 | 1281 | 2246 | 5308 | 1674 | 2376 | 1923 | 1255 |
| MEAN | 36.5 | 41.4 | 41.2 | 36.0 | 56.0 | 41.3 | 74.9 | 171 | 55.8 | 76.6 | 62.0 | 41.8 |
| MAX | 44 | 49 | 54 | 75 | 85 | 50 | 197 | 1220 | 216 | 197 | 423 | 140 |
| MIN | 30 | 30 | 19 | 18 | 42 | 31 | 34 | 15 | 24 | 27 | 21 | 13 |
| AC-FT | 2250 | 2460 | 2530 | 2220 | 3220 | 2540 | 4450 | 10530 | 3320 | 4710 | 3810 | 2490 |

CAL YR 1987 TOTAL 43864 MEAN 119 MAX 2670 MIN 19 AC-FT 87000
WTR YR 1988 TOTAL 22456 MEAN 61.4 MAX 1220 MIN 13 AC-FT 44540

ARKANSAS RIVER BASIN

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.--October 1982 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1983 to current year.

WATER TEMPERATURE: July 1983 to current year.

SUSPENDED SEDIMENT: August 1983 to current year.

INSTRUMENTATION.--Water-quality monitor since July 1983. Automatic pumping sediment sampler since August 1983.

REMARKS.--Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance data available in district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 4,190 microsiemens Aug. 16, 1986; minimum, 351 microsiemens June 30, 1988.
WATER TEMPERATURE: Maximum, 34.5°C Aug. 13, 14, 16, 1983; minimum 0.0°C on many days during the winter in most years.

SEDIMENT CONCENTRATIONS: Maximum daily, 54,900 mg/l Aug. 16, 1986; minimum daily, 5 mg/l Mar. 22, 1988.

SEDIMENT LOADS: Maximum daily, 152,000 tons May 23, 1985; minimum daily, 0.53 tons (estimated) May 28, 31, 1986.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 4,130 microsiemens July 2; minimum, 351 microsiemens June 30.
WATER TEMPERATURE: Maximum, 31.9°C June 24; minimum, 0.0°C many days during the winter months.

SEDIMENT CONCENTRATION: Maximum daily, 15,900 mg/l Aug. 10; minimum daily, 5 mg/l Mar. 22.

SEDIMENT LOAD: Maximum daily, 49,200 tons May 21; minimum daily, 0.6 tons Mar. 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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 | POTAS- SIUM, DIS- SOLVED (MG/L AS K) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|--|--|--|---|---|
| DEC 09... | 0950 | 43 | 3400 | 8.5 | 3.0 | 11.0 | 1600 | 310 | 200 | 270 | 3 | 4.1 |
| FEB 25... | 1245 | 44 | 3310 | 8.4 | 7.0 | 11.8 | 1400 | 250 | 180 | 260 | 3 | 3.5 |
| MAY 19... | 1255 | 15 | 2320 | 8.3 | 17.5 | 8.2 | 900 | 180 | 110 | 180 | 3 | 5.3 |
| 24... | 1950 | 830 | 710 | 8.1 | 14.0 | -- | 260 | 57 | 28 | 39 | 1 | 2.9 |
| JUL 27... | 1730 | 230 | -- | 8.1 | 27.0 | 6.6 | 1400 | 260 | 180 | 180 | 2 | 5.3 |

| DATE | ALKA- LINIT 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) | RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) |
|--------------|--|---|---|--|---|--|---|---|---|--|---|--|
| DEC 09... | 206 | 1800 | 46 | 0.30 | 7.0 | 3210 | 2760 | 4.37 | 373 | -- | 0.53 | <0.01 |
| FEB 25... | 200 | 1800 | 43 | 0.40 | 7.0 | 2960 | 2660 | 4.03 | 352 | -- | 0.21 | 0.01 |
| MAY 19... | 165 | 1200 | 31 | 0.40 | 8.5 | 1990 | 1810 | 2.71 | 80.6 | -- | <0.10 | 0.01 |
| 24... | 103 | 230 | 7.0 | 0.30 | 13 | 442 | 440 | 0.60 | 991 | 376 | 0.28 | 0.05 |
| JUL 27... | 129 | 1400 | 23 | 0.40 | 6.0 | 2250 | 2130 | 3.06 | 1400 | 1680 | 0.29 | 0.03 |

| DATE | 1ADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) | CHRO- MIUM, DIS- SOLVED (UG/L AS CR) | COPPER, TOTAL RECOV- ERABLE (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) | MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) | CYANIDE TOTAL (MG/L AS CN) |
|--------------|---|---|---|---|--|---|---|--|---|-------------------------------------|
| DEC 09... | -- | -- | -- | -- | 20 | -- | -- | 30 | -- | <0.01 |
| FEB 25... | -- | -- | -- | -- | 30 | -- | -- | 40 | -- | -- |
| MAY 19... | -- | -- | -- | -- | 20 | -- | -- | 60 | -- | -- |
| 24... | <1 | 1 | 130 | 97000 | 22 | 38 | 1800 | 17 | 400 | <0.01 |
| JUL 27... | 1 | 2 | 56 | 59000 | 10 | 26 | 1200 | 1.01 | | |

ARKANSAS RIVER BASIN

323

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-------|------|---|---|---|---|
| OCT | | | | | |
| 05... | 1245 | 37 | 28 | 2.8 | -- |
| DEC | | | | | |
| 09... | 0945 | 43 | 16 | 1.9 | -- |
| FEB | | | | | |
| 17... | 1535 | 62 | 58 | 9.7 | -- |
| 25... | 1225 | 44 | 24 | 2.9 | -- |
| MAR | | | | | |
| 22... | 0910 | 41 | 5 | 0.55 | -- |
| APR | | | | | |
| 19... | 1415 | 67 | 74 | 13 | -- |
| MAY | | | | | |
| 19... | 1255 | 15 | 57 | 2.3 | -- |
| 24... | 1950 | 830 | 4630 | 10400 | 76 |
| 27... | 1430 | 189 | 1080 | 551 | -- |
| JUN | | | | | |
| 17... | 1310 | 85 | 118 | 27 | -- |
| 29... | 1645 | 63 | 56 | 9.5 | -- |
| JUL | | | | | |
| 03... | 1350 | 93 | 1150 | 289 | -- |
| 17... | 1525 | 33 | 124 | 11 | -- |
| 20... | 1720 | 78 | 266 | 56 | -- |
| 27... | 1730 | 230 | 3570 | 2220 | 99 |
| AUG | | | | | |
| 25... | 1635 | 84 | 114 | 26 | -- |
| SEP | | | | | |
| 09... | 1115 | 25 | 38 | 2.6 | -- |
| 21... | 1500 | 29 | 40 | 3.1 | -- |
| 25... | 1305 | 128 | 1320 | 456 | -- |

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 3130 | 3400 | 3380 | 3770 | 3300 | 3340 | 3300 | 2600 | 1490 | 1300 | 2090 | 2260 |
| 2 | 3150 | 3390 | 3340 | 3850 | 3280 | 3330 | 3190 | 2520 | 1530 | 2810 | 2370 | 2490 |
| 3 | 3340 | 3330 | 3320 | 3860 | 3200 | 3280 | 3210 | 2600 | 1680 | 1550 | 2490 | 2690 |
| 4 | 3240 | 3360 | 3310 | 3910 | 3040 | 3280 | 3220 | 2740 | 1810 | 1850 | 2410 | 2800 |
| 5 | 3130 | 3400 | 3380 | 3890 | 3020 | 3290 | 3100 | 2920 | 1990 | 1820 | 2690 | 2800 |
| 6 | 3290 | 3400 | 3440 | 3920 | 3080 | 3270 | 3270 | 3000 | 1960 | 1850 | 3050 | 2770 |
| 7 | 3270 | 3410 | 3400 | 3980 | 3170 | 3260 | 2870 | 2990 | 1960 | 2130 | 2460 | 2690 |
| 8 | 3130 | 3400 | 3360 | 3880 | 3220 | 3330 | 2380 | 2560 | 2010 | 2410 | 2210 | 2660 |
| 9 | 3350 | 3420 | 3320 | 3920 | 3180 | 3330 | 2150 | 2180 | 2160 | 1660 | 2380 | 2620 |
| 10 | 3290 | 3440 | 3310 | 3940 | 3160 | 3200 | 2150 | 1900 | 2280 | 1680 | 1990 | 2670 |
| 11 | 3180 | 3420 | 3340 | 3830 | 3230 | 3230 | 2160 | 1500 | 2330 | 1820 | 739 | 2790 |
| 12 | 3180 | 3400 | 3380 | 3690 | 3140 | 3230 | 2200 | 1350 | 2420 | 1470 | 1020 | 2840 |
| 13 | 3230 | 3620 | 3370 | 3650 | 3040 | 3230 | 2260 | 1510 | 2530 | 1900 | 1040 | 2800 |
| 14 | 3220 | 3700 | 3370 | 3580 | 2970 | 3280 | 2320 | 1740 | 2590 | 2370 | 1480 | 2830 |
| 15 | 3220 | 3640 | 3510 | 3510 | 2970 | 3260 | 2390 | 1880 | 2570 | 2380 | 2040 | 2620 |
| 16 | 3210 | 3440 | 3570 | 3480 | 2990 | 3270 | 2420 | 1990 | 2400 | 2550 | 2170 | 2750 |
| 17 | 3190 | 3330 | 3540 | 3430 | 3100 | 3290 | 2440 | 2070 | 2470 | 2610 | 2430 | 2810 |
| 18 | 3200 | 3310 | 3440 | 3370 | 3110 | 3350 | 2480 | --- | 2620 | 2580 | 2480 | 2730 |
| 19 | 3240 | 3340 | 3400 | 3390 | 3060 | 3340 | 2610 | 2270 | 2430 | 2480 | 2450 | 2690 |
| 20 | 3260 | 3380 | 3450 | 3510 | 3050 | 3310 | 2900 | 2280 | 2220 | 2340 | 2530 | 2650 |
| 21 | 3270 | 3380 | 3540 | 3570 | 3100 | 3280 | 2890 | 964 | 2590 | 2640 | 2480 | 2570 |
| 22 | 3370 | 3340 | 3650 | 3460 | 3120 | 3450 | 2640 | 665 | 2460 | 2690 | 1790 | 2600 |
| 23 | 3470 | 3340 | 3580 | 3450 | 3130 | 3530 | 2040 | 716 | 2490 | 2650 | 1330 | 2530 |
| 24 | 3450 | 3440 | 3350 | 3450 | 3140 | 3410 | 1830 | 699 | 2640 | 1610 | 1940 | 2590 |
| 25 | 3400 | 3420 | 3260 | 3510 | 3180 | 3390 | 2080 | 702 | 2570 | 1310 | 2040 | 2840 |
| 26 | 3390 | 3450 | 3420 | 3540 | 3230 | 3440 | 1990 | 720 | 2430 | 1300 | 2250 | 2560 |
| 27 | 3380 | 3440 | 3530 | 3540 | 3320 | 3490 | 2110 | 922 | 2140 | 1780 | 2710 | 2640 |
| 28 | 3380 | 3420 | 3570 | 3560 | 3350 | 3500 | 2300 | 1100 | 2400 | 2270 | 2400 | 2390 |
| 29 | 3410 | 3430 | 3600 | 3420 | 3350 | 3470 | 2410 | 1190 | 2660 | 1770 | 2530 | 2440 |
| 30 | 3420 | 3410 | 3560 | 3290 | --- | 3480 | 2600 | 1270 | 1330 | 919 | 2460 | 2660 |
| 31 | 3410 | --- | 3630 | 3220 | --- | 3450 | --- | 1300 | --- | 793 | 2020 | --- |
| MEAN | 3280 | 3420 | 3440 | 3620 | 3150 | 3340 | 2530 | --- | 2240 | 1980 | 2140 | 2660 |
| MAX | 3470 | 3700 | 3650 | 3980 | 3350 | 3530 | 3300 | --- | 2660 | 2810 | 3050 | 2840 |
| MIN | 3130 | 3310 | 3260 | 3220 | 2970 | 3200 | 1830 | --- | 1330 | 793 | 739 | 2260 |

ARKANSAS RIVER BASIN

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 21.7 | 15.3 | 14.4 | 11.0 | 2.1 | .0 | .0 | .0 | .0 | .0 | 13.2 | 7.3 |
| 2 | 20.8 | 13.8 | 15.7 | 11.2 | 3.1 | .0 | .0 | .0 | .0 | .0 | 9.4 | 4.1 |
| 3 | 21.2 | 14.0 | 14.6 | 9.8 | 5.4 | .8 | .0 | .0 | .0 | .0 | 9.7 | 2.9 |
| 4 | 21.0 | 14.4 | 14.4 | 9.2 | 6.0 | 2.0 | .0 | .0 | .1 | .0 | 10.8 | 4.2 |
| 5 | 19.1 | 13.9 | 14.1 | 8.9 | 5.5 | 3.9 | .0 | .0 | .0 | .0 | 11.1 | 4.2 |
| 6 | 19.1 | 12.1 | 14.5 | 11.0 | 7.0 | 3.2 | .0 | .0 | .1 | .0 | 12.5 | 5.3 |
| 7 | 18.3 | 11.9 | 13.4 | 9.3 | 7.1 | 3.1 | .0 | .0 | .1 | .0 | 9.2 | 4.4 |
| 8 | 18.5 | 12.7 | 12.0 | 8.1 | 6.3 | 3.3 | .0 | .0 | .3 | .0 | 9.4 | 2.2 |
| 9 | 18.1 | 12.6 | 10.0 | 5.3 | 5.5 | 2.0 | .0 | .0 | .4 | .0 | 11.7 | 3.4 |
| 10 | 16.2 | 10.7 | 9.6 | 4.6 | 5.5 | 2.0 | .0 | .0 | .0 | .0 | 11.6 | 6.4 |
| 11 | 15.7 | 8.8 | 8.9 | 5.6 | 5.7 | 2.4 | .0 | .0 | .1 | .0 | 8.1 | 4.8 |
| 12 | 16.4 | 9.5 | 9.5 | 4.6 | 3.6 | 1.7 | .0 | .0 | .5 | .0 | 8.9 | 3.2 |
| 13 | 17.2 | 13.3 | 9.6 | 5.0 | 1.6 | .0 | .0 | .0 | 1.6 | .0 | 8.0 | 2.8 |
| 14 | 16.0 | 12.3 | 9.7 | 6.2 | .2 | .0 | .1 | .0 | 4.0 | .5 | 9.5 | 1.4 |
| 15 | 16.2 | 10.3 | 7.1 | 2.1 | .0 | .0 | .1 | .0 | 5.6 | .0 | 9.9 | 3.1 |
| 16 | 15.7 | 10.4 | 5.7 | 1.4 | .1 | .0 | .0 | .0 | 6.2 | 1.3 | 5.4 | 2.7 |
| 17 | 16.1 | 9.7 | 5.4 | 1.1 | .2 | .0 | .0 | .0 | 3.3 | 1.4 | 3.7 | 1.0 |
| 18 | 15.5 | 9.7 | 5.3 | 1.5 | .4 | .0 | .0 | .0 | 4.6 | .2 | 7.6 | .0 |
| 19 | 14.3 | 9.7 | 5.4 | 1.0 | .3 | .0 | .0 | .0 | 5.6 | .4 | 11.6 | 2.5 |
| 20 | 14.6 | 9.5 | 6.6 | 1.9 | .6 | .0 | .0 | .0 | 6.5 | .6 | 14.4 | 5.2 |
| 21 | 14.3 | 8.1 | 7.2 | 2.7 | .0 | .0 | .0 | .0 | 8.2 | 1.7 | 15.9 | 7.2 |
| 22 | 13.5 | 8.6 | 7.3 | 3.4 | .6 | .0 | .0 | .0 | 7.9 | 3.5 | 14.2 | 8.8 |
| 23 | 12.6 | 7.4 | 6.5 | 2.5 | .8 | .0 | .0 | .0 | 8.5 | 2.5 | 15.9 | 8.0 |
| 24 | 10.7 | 7.9 | 6.3 | 2.8 | .0 | .0 | .0 | .0 | 8.6 | 2.3 | 13.3 | 8.6 |
| 25 | 14.6 | 8.9 | 5.1 | 1.0 | .0 | .0 | .0 | .0 | 9.7 | 2.7 | 13.5 | 6.1 |
| 26 | 15.0 | 9.6 | 2.8 | 1.7 | .0 | .0 | .0 | .0 | 10.9 | 4.4 | 16.7 | 7.5 |
| 27 | 14.0 | 9.5 | 3.1 | .3 | .0 | .0 | .0 | .0 | 11.7 | 4.4 | 17.0 | 9.4 |
| 28 | 14.3 | 8.4 | 2.3 | .0 | .0 | .0 | .0 | .0 | 12.1 | 6.4 | 12.7 | 6.7 |
| 29 | 14.7 | 9.2 | 2.1 | .0 | .0 | .0 | .0 | .0 | 12.3 | 5.8 | 13.2 | 4.7 |
| 30 | 14.7 | 11.5 | 2.1 | .0 | .0 | .0 | .1 | .0 | --- | --- | 14.5 | 6.0 |
| 31 | 14.8 | 9.6 | --- | --- | .0 | .0 | .1 | .0 | --- | --- | 9.9 | 3.5 |
| MONTH | 21.7 | 7.4 | 15.7 | .0 | 7.1 | .0 | .1 | .0 | 12.3 | .0 | 17.0 | .0 |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 3.3 | .0 | 20.5 | 14.0 | 23.1 | 15.1 | 28.2 | 17.6 | 29.2 | 21.8 | 25.6 | 19.4 |
| 2 | 7.2 | .0 | 15.3 | 5.2 | 22.0 | 16.5 | 27.5 | 21.7 | 29.4 | 22.1 | 21.9 | 19.4 |
| 3 | 13.3 | 3.4 | 15.9 | 4.9 | 25.5 | 17.0 | 27.9 | 21.1 | 30.5 | 22.8 | 24.0 | 17.4 |
| 4 | 13.2 | 7.6 | 19.9 | 9.8 | 26.0 | 18.3 | 28.0 | 21.1 | 25.2 | 21.6 | 22.8 | 16.0 |
| 5 | 14.0 | 8.1 | 20.3 | 12.8 | 23.7 | 18.0 | 27.9 | 21.4 | 26.4 | 20.7 | 24.2 | 15.9 |
| 6 | 15.6 | 9.2 | 20.3 | 13.1 | 27.2 | 17.8 | 29.0 | 20.2 | 28.3 | 20.5 | 23.6 | 16.0 |
| 7 | 16.6 | 10.5 | 17.6 | 10.5 | 28.7 | 19.6 | 28.1 | 22.4 | 26.4 | 21.4 | 23.7 | 16.9 |
| 8 | 15.8 | 11.1 | 19.4 | 11.8 | 29.1 | 20.9 | 27.5 | 21.6 | 29.1 | 21.0 | 22.8 | 17.1 |
| 9 | 13.8 | 9.6 | 21.2 | 12.0 | 27.9 | 21.1 | 27.3 | 20.8 | 27.6 | 21.5 | 23.6 | 16.8 |
| 10 | 14.7 | 9.2 | 22.1 | 13.6 | 27.9 | 20.9 | 24.9 | 20.7 | 23.4 | 19.7 | 24.0 | 16.9 |
| 11 | 15.4 | 7.8 | 23.4 | 14.0 | 28.0 | 19.9 | 27.7 | 20.9 | 22.1 | 17.4 | 22.0 | 16.7 |
| 12 | 17.4 | 8.8 | 25.0 | 15.3 | 27.1 | 19.4 | 28.8 | 21.5 | 25.0 | 18.5 | 17.8 | 14.2 |
| 13 | 18.7 | 11.0 | 25.0 | 16.5 | 23.1 | 18.3 | 30.2 | 22.4 | 26.9 | 19.8 | 17.4 | 13.5 |
| 14 | 15.7 | 11.3 | 23.9 | 16.7 | 26.4 | 16.5 | 29.9 | 23.1 | 27.6 | 21.2 | 20.1 | 15.6 |
| 15 | 18.5 | 10.4 | 24.6 | 16.7 | 26.2 | 19.3 | 29.0 | 22.4 | 27.7 | 21.4 | 21.9 | 16.3 |
| 16 | 15.7 | 12.4 | 26.1 | 16.9 | 27.6 | 18.8 | 30.6 | 21.9 | 26.2 | 20.6 | 22.9 | 15.8 |
| 17 | 13.2 | 10.7 | 25.0 | 17.2 | 28.8 | 20.3 | 30.9 | 22.5 | 25.6 | 21.0 | 22.6 | 16.3 |
| 18 | 17.9 | 9.0 | 24.1 | 16.7 | 29.1 | 21.7 | 28.5 | 22.7 | 26.2 | 20.7 | 22.5 | 17.0 |
| 19 | 19.9 | 12.0 | 18.8 | 13.4 | 30.1 | 21.8 | 22.5 | 20.0 | 26.6 | 20.0 | 20.7 | 13.7 |
| 20 | 19.5 | 12.9 | 13.2 | 11.2 | 29.3 | 22.4 | 25.0 | 19.3 | 27.9 | 20.4 | 20.2 | 13.7 |
| 21 | 20.5 | 13.6 | 11.2 | 8.8 | 30.8 | 21.9 | 27.9 | 19.4 | 28.0 | 20.6 | 22.4 | 16.0 |
| 22 | 17.4 | 10.7 | 10.4 | 8.8 | 29.8 | 22.4 | 28.8 | 20.5 | 27.7 | 21.3 | 22.5 | 15.6 |
| 23 | 18.8 | 11.0 | 13.0 | 10.1 | 30.4 | 21.6 | 27.6 | 21.6 | 28.2 | 21.6 | 19.3 | 15.4 |
| 24 | 14.6 | 11.4 | 16.5 | 11.2 | 31.9 | 18.4 | 29.1 | 20.9 | 30.0 | 21.9 | 20.0 | 13.7 |
| 25 | 18.6 | 9.4 | 19.0 | 12.7 | 29.8 | 18.4 | 29.6 | 21.0 | 29.2 | 22.5 | 20.6 | 15.2 |
| 26 | 17.5 | 9.7 | 21.1 | 15.1 | 29.9 | 19.6 | 29.0 | 14.8 | 27.3 | 21.5 | 20.2 | 15.1 |
| 27 | 19.8 | 10.3 | 21.8 | 16.8 | 27.2 | 18.1 | 26.6 | 19.1 | 22.5 | 19.2 | 21.3 | 15.4 |
| 28 | 20.0 | 12.3 | 21.6 | 16.4 | 28.8 | 21.9 | 29.5 | 22.2 | 24.2 | 16.9 | 18.1 | 14.2 |
| 29 | 20.3 | 13.8 | 23.2 | 16.4 | 30.8 | 22.5 | 28.5 | 21.7 | 25.9 | 17.0 | 14.4 | 11.9 |
| 30 | 22.7 | 13.8 | 22.3 | 17.3 | 24.9 | 16.1 | 27.6 | 21.9 | 25.5 | 18.4 | 18.2 | 11.9 |
| 31 | --- | --- | 20.8 | 17.1 | --- | --- | 27.5 | 21.0 | 26.3 | 19.3 | --- | --- |
| MONTH | 22.7 | .0 | 26.1 | 4.9 | 31.9 | 15.1 | 30.9 | 14.8 | 30.5 | 16.9 | 25.6 | 11.9 |

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| OCTOBER | | | NOVEMBER | | | DECEMBER | | | |
| 1 | 36 | 65 | 6.3 | 39 | 27 | 2.8 | 35 | --- | 3.3 |
| 2 | 32 | 63 | 5.4 | 39 | 26 | 2.7 | 41 | --- | 4.4 |
| 3 | 36 | 48 | 4.7 | 39 | 17 | 1.8 | 43 | --- | 4.6 |
| 4 | 38 | 34 | 3.5 | 37 | 18 | 1.8 | 48 | --- | 5.8 |
| 5 | 37 | 28 | 2.8 | 34 | 15 | 1.4 | 48 | --- | 5.8 |
| 6 | 35 | 24 | 2.3 | 30 | 26 | 2.1 | 49 | --- | 6.0 |
| 7 | 33 | 19 | 1.7 | 32 | 15 | 1.3 | 48 | --- | 4.5 |
| 8 | 30 | 25 | 2.0 | 33 | 22 | 2.0 | 47 | --- | 2.5 |
| 9 | 31 | 34 | 2.8 | 35 | 60 | 5.7 | 44 | 16 | 1.9 |
| 10 | 32 | 36 | 3.1 | 38 | 120 | 12 | 43 | 22 | 2.6 |
| 11 | 32 | 25 | 2.2 | 40 | 67 | 7.2 | 43 | 31 | 3.6 |
| 12 | 32 | 17 | 1.5 | 40 | 72 | 7.8 | 41 | 28 | 3.1 |
| 13 | 32 | 16 | 1.4 | 40 | 60 | 6.5 | 40 | --- | 2.7 |
| 14 | 33 | 20 | 1.8 | 40 | 58 | 6.3 | 37 | --- | 2.2 |
| 15 | 35 | 40 | 3.8 | 42 | 40 | 4.5 | 32 | --- | 1.8 |
| 16 | 36 | 35 | 3.4 | 46 | 76 | 9.4 | 28 | --- | 1.5 |
| 17 | 44 | 47 | 5.6 | 46 | 86 | 11 | 35 | 26 | 2.4 |
| 18 | 42 | 37 | 4.2 | 48 | 44 | 5.7 | 33 | --- | 2.5 |
| 19 | 41 | 43 | 4.8 | 47 | 42 | 5.3 | 51 | 30 | 4.1 |
| 20 | 40 | 37 | 4.0 | 48 | 45 | 5.8 | 53 | 41 | 5.9 |
| 21 | 38 | 25 | 2.6 | 45 | --- | 4.9 | 54 | 66 | 9.6 |
| 22 | 38 | 27 | 2.8 | 47 | --- | 5.1 | 54 | 74 | 11 |
| 23 | 38 | 29 | 3.0 | 49 | --- | 5.3 | 54 | 50 | 7.3 |
| 24 | 38 | 35 | 3.6 | 49 | --- | 5.3 | 54 | --- | 6.6 |
| 25 | 38 | 37 | 3.8 | 47 | --- | 5.1 | 43 | --- | 5.2 |
| 26 | 38 | 35 | 3.6 | 45 | --- | 4.9 | 35 | --- | 3.8 |
| 27 | 42 | 37 | 4.2 | 45 | --- | 4.9 | 22 | --- | 1.8 |
| 28 | 40 | 45 | 4.9 | 44 | --- | 4.8 | 19 | --- | 1.5 |
| 29 | 38 | 46 | 4.7 | 42 | --- | 4.2 | 25 | --- | 2.0 |
| 30 | 38 | 35 | 3.6 | 36 | --- | 3.4 | 39 | --- | 3.2 |
| 31 | 39 | 28 | 2.9 | --- | --- | --- | 40 | --- | 3.2 |
| TOTAL | 1132 | --- | 107.0 | 1242 | --- | 151.0 | 1278 | --- | 126.4 |
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | 35 | --- | 2.8 | 85 | --- | 18 | 39 | --- | 3.0 |
| 2 | 30 | --- | 2.4 | 75 | --- | 14 | 37 | 26 | 2.6 |
| 3 | 30 | --- | 2.4 | 70 | --- | 11 | 40 | 34 | 3.7 |
| 4 | 34 | --- | 2.8 | 66 | --- | 8.9 | 46 | --- | 4.2 |
| 5 | 33 | --- | 2.7 | 64 | --- | 8.6 | 49 | 25 | 3.3 |
| 6 | 32 | --- | 2.6 | 54 | --- | 7.3 | 49 | 38 | 5.0 |
| 7 | 18 | --- | 1.5 | 56 | --- | 7.6 | 47 | --- | 5.3 |
| 8 | 22 | --- | 1.8 | 60 | --- | 8.1 | 47 | 46 | 5.8 |
| 9 | 23 | --- | 1.9 | 65 | --- | 11 | 47 | 57 | 7.2 |
| 10 | 30 | --- | 2.4 | 68 | --- | 11 | 45 | --- | 6.6 |
| 11 | 35 | --- | 2.8 | 50 | --- | 6.8 | 44 | 34 | 4.0 |
| 12 | 38 | --- | 4.1 | 55 | --- | 7.4 | 44 | --- | 4.0 |
| 13 | 34 | --- | 3.7 | 60 | --- | 8.1 | 43 | --- | 5.4 |
| 14 | 30 | --- | 3.2 | 60 | --- | 8.1 | 42 | 53 | 6.0 |
| 15 | 32 | --- | 3.5 | 51 | --- | 8.3 | 40 | 29 | 3.1 |
| 16 | 37 | --- | 4.0 | 60 | --- | 9.7 | 39 | --- | 2.2 |
| 17 | 36 | --- | 3.9 | 59 | 58 | 9.2 | 50 | 35 | 4.7 |
| 18 | 34 | --- | 3.7 | 53 | --- | 7.1 | 48 | 24 | 3.1 |
| 19 | 30 | --- | 3.2 | 56 | --- | 7.3 | 43 | --- | 2.8 |
| 20 | 28 | --- | 3.0 | 53 | --- | 5.6 | 40 | 28 | 3.0 |
| 21 | 27 | --- | 2.9 | 49 | --- | 5.2 | 42 | 9 | 1.1 |
| 22 | 31 | --- | 3.3 | 48 | --- | 3.9 | 41 | 5 | .60 |
| 23 | 36 | --- | 3.9 | 47 | --- | 3.8 | 40 | 9 | 1.0 |
| 24 | 40 | --- | 4.3 | 47 | --- | 3.7 | 38 | 16 | 1.6 |
| 25 | 37 | --- | 4.0 | 44 | 28 | 3.4 | 37 | --- | 1.6 |
| 26 | 40 | --- | 4.3 | 43 | 36 | 4.2 | 37 | 15 | 1.5 |
| 27 | 45 | --- | 6.1 | 42 | --- | 3.2 | 35 | 12 | 1.1 |
| 28 | 50 | --- | 6.8 | 42 | 21 | 2.4 | 32 | --- | 1.0 |
| 29 | 55 | --- | 7.4 | 42 | 21 | 2.4 | 31 | 13 | 1.1 |
| 30 | 60 | --- | 8.1 | --- | --- | --- | 32 | 25 | 2.2 |
| 31 | 75 | --- | 12 | --- | --- | --- | 37 | --- | 2.9 |
| TOTAL | 1117 | --- | 121.5 | 1624 | --- | 215.3 | 1281 | --- | 100.70 |

ARKANSAS RIVER BASIN

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCEN- TRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|-------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|----------------------------|--------------------------------------|-------------------------------------|
| APRIL | | | MAY | | | JUNE | | | |
| 1 | 47 | 50 | 6.3 | 30 | 145 | 12 | 76 | 360 | 74 |
| 2 | 64 | 63 | 11 | 35 | 150 | 14 | 71 | --- | 61 |
| 3 | 60 | 63 | 10 | 34 | --- | 11 | 65 | 240 | 42 |
| 4 | 69 | 67 | 12 | 35 | 125 | 12 | 58 | 240 | 38 |
| 5 | 133 | 374 | 145 | 57 | 150 | 23 | 49 | --- | 21 |
| 6 | 197 | --- | 772 | 48 | --- | 18 | 49 | 120 | 16 |
| 7 | 169 | 2570 | 1270 | 121 | 251 | 92 | 47 | 120 | 15 |
| 8 | 133 | 2420 | 883 | 86 | 229 | 53 | 46 | --- | 15 |
| 9 | 111 | --- | 539 | 57 | --- | 31 | 42 | 120 | 14 |
| 10 | 93 | 1200 | 301 | 44 | 160 | 19 | 33 | 120 | 11 |
| 11 | 82 | 800 | 177 | 42 | 140 | 16 | 29 | --- | 9.4 |
| 12 | 71 | --- | 96 | 29 | --- | 8.6 | 24 | 124 | 8.0 |
| 13 | 62 | 300 | 50 | 23 | 80 | 5.0 | 33 | 112 | 10 |
| 14 | 52 | 180 | 25 | 22 | 70 | 4.2 | 38 | --- | 9.0 |
| 15 | 47 | --- | 20 | 20 | --- | 3.2 | 46 | 144 | 18 |
| 16 | 44 | 150 | 18 | 18 | 50 | 2.4 | 70 | 168 | 32 |
| 17 | 45 | 130 | 16 | 16 | --- | 2.2 | 77 | 152 | 32 |
| 18 | 52 | --- | 17 | 15 | --- | 2.0 | 75 | 160 | 32 |
| 19 | 69 | 105 | 19 | 15 | 60 | 2.4 | 69 | 112 | 21 |
| 20 | 104 | 230 | 72 | 244 | 5110 | 17300 | 59 | --- | 15 |
| 21 | 101 | --- | 74 | 1220 | 15500 | 49200 | 41 | 92 | 10 |
| 22 | 76 | 290 | 60 | 785 | --- | 31700 | 36 | 64 | 6.2 |
| 23 | 62 | 280 | 47 | 523 | --- | 9300 | 31 | --- | 3.3 |
| 24 | 54 | --- | 47 | 468 | 5300 | 7570 | 25 | 32 | 2.2 |
| 25 | 53 | 230 | 33 | 360 | 2270 | 2300 | 37 | 48 | 4.8 |
| 26 | 48 | 165 | 21 | 260 | 1600 | 1120 | 26 | --- | 2.2 |
| 27 | 42 | --- | 18 | 194 | 880 | 461 | 32 | 48 | 4.1 |
| 28 | 37 | 160 | 16 | 173 | 800 | 374 | 103 | 221 | 65 |
| 29 | 35 | 145 | 14 | 136 | 640 | 235 | 71 | 70 | 13 |
| 30 | 34 | --- | 13 | 111 | --- | 195 | 216 | 3280 | 3370 |
| 31 | --- | --- | --- | 87 | 480 | 113 | --- | --- | --- |
| TOTAL | 2246 | --- | 4802.3 | 5308 | --- | 120199.0 | 1674 | --- | 3974.2 |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 178 | 2920 | 1700 | 60 | 3140 | 523 | 27 | --- | 3.6 |
| 2 | 197 | 2430 | 1410 | 48 | --- | 27 | 26 | 46 | 3.2 |
| 3 | 97 | 1130 | 296 | 36 | 160 | 16 | 25 | 24 | 1.6 |
| 4 | 67 | 1010 | 183 | 28 | 130 | 9.8 | 38 | --- | 8.8 |
| 5 | 58 | 567 | 89 | 26 | --- | 8.1 | 38 | 39 | 4.0 |
| 6 | 52 | 486 | 68 | 24 | 90 | 5.8 | 29 | 50 | 3.9 |
| 7 | 52 | 405 | 57 | 64 | 166 | 30 | 25 | --- | 3.3 |
| 8 | 144 | 1710 | 762 | 59 | --- | 34 | 23 | 50 | 3.1 |
| 9 | 111 | 2140 | 843 | 47 | 70 | 8.9 | 24 | 38 | 2.5 |
| 10 | 172 | --- | 1320 | 423 | 15900 | 28800 | 20 | --- | 2.4 |
| 11 | 113 | 2550 | 779 | 176 | 13300 | 6610 | 13 | 50 | 1.8 |
| 12 | 94 | 1000 | 254 | 93 | 1800 | 452 | 15 | 50 | 2.0 |
| 13 | 64 | --- | 121 | 73 | 3700 | 731 | 20 | --- | 3.0 |
| 14 | 53 | 500 | 72 | 98 | --- | 483 | 35 | --- | 7.8 |
| 15 | 43 | 250 | 29 | 62 | 700 | 117 | 59 | --- | 18 |
| 16 | 35 | --- | 15 | 53 | 360 | 52 | 53 | --- | 16 |
| 17 | 32 | 145 | 13 | 39 | --- | 31 | 51 | --- | 11 |
| 18 | 28 | 105 | 7.9 | 31 | 230 | 19 | 49 | --- | 11 |
| 19 | 49 | 164 | 25 | 59 | 403 | 93 | 46 | --- | 6.8 |
| 20 | 109 | 322 | 101 | 53 | 580 | 82 | 37 | --- | 4.9 |
| 21 | 53 | --- | 34 | 42 | 330 | 37 | 31 | 47 | 3.9 |
| 22 | 46 | 175 | 22 | 28 | --- | 15 | 29 | --- | 3.0 |
| 23 | 44 | 130 | 5.0 | 25 | 160 | 11 | 29 | 33 | 2.6 |
| 24 | 35 | --- | 9.4 | 21 | 110 | 6.2 | 137 | 2000 | 1460 |
| 25 | 27 | 70 | 5.1 | 45 | 163 | 28 | 140 | 3590 | 1080 |
| 26 | 40 | 839 | 302 | 54 | --- | 26 | 72 | 7020 | 1430 |
| 27 | 153 | 2560 | 1720 | 30 | 180 | 15 | 49 | 1600 | 212 |
| 28 | 74 | 1500 | 300 | 22 | 128 | 7.6 | 42 | --- | 74 |
| 29 | 46 | 700 | 87 | 22 | --- | 7.0 | 38 | 225 | 23 |
| 30 | 42 | --- | 34 | 42 | 265 | 29 | 35 | 130 | 12 |
| 31 | 68 | 801 | 178 | 40 | 56 | 6.0 | --- | --- | --- |
| TOTAL | 2376 | --- | 10841.4 | 1923 | --- | 38320.4 | 1255 | --- | 4419.2 |

ARKANSAS RIVER BASIN

327

07126500 PURGATOIRE RIVER AT NINEMILE DAM, NEAR HIGBEE, CO

LOCATION.--Lat 37°42'53", long 103°30'38", in NW¼ 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.

REVISED RECORDS.--WSP 1311: 1934(M), 1936(M), 1941-42(M), 1948-49(M). WSP 1731: 1929(M).

GAGE.--Water-stage recorder. 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: Water year 1986, Nov. 16-29, Dec. 9-20, Dec. 23 to Feb. 3, Feb. 7-28, Mar. 2-11, Mar. 26 to Apr. 4, Apr. 6 to May 5, Aug. 17-18, 21, 23-27, and Aug. 29-31. Water year 1987, Oct. 13-24, Nov. 22 to Dec. 16, and Apr. 2-3. Records good except for estimated daily discharges, 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.

AVERAGE DISCHARGE.--52 years (water years 1925-76), 94.5 ft³/s; 68,470 acre-ft/yr, prior to completion of Trinidad Dam; 10 years (water years 1977-86), 78.9 ft³/s; 57,160 acre-ft/yr, 11 years (water years 1977-87), 82.7 ft³/s; 59,920 acre-ft/yr, subsequent to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft³/s, estimated, June 18, 1965, gage height, 19.6ft, from floodmarks; no flow at times most years.

EXTREMES FOR WATER YEAR 1986.--Maximum discharge, not determined; minimum daily, 5.0 ft³/s, Feb. 4.

EXTREMES FOR WATER YEAR 1987.--Maximum discharge, not determined; minimum daily, 6.3 ft³/s, Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|------|------|-------|--------|--------|------|------|
| 1 | 56 | 72 | 14 | 41 | 14 | 18 | 38 | 12 | 5.4 | 10 | 17 | 225 |
| 2 | 61 | 52 | 12 | 34 | 14 | 19 | 30 | 12 | 560 | 16 | 13 | 247 |
| 3 | 58 | 48 | 18 | 36 | 6.0 | 19 | 38 | 11 | 1690 | 360 | 381 | 214 |
| 4 | 55 | 44 | 13 | 42 | 5.0 | 20 | 67 | 11 | 596 | 22 | 56 | 126 |
| 5 | 43 | 41 | 29 | 34 | 9.0 | 20 | 40 | 10 | 280 | 40 | 50 | 102 |
| 6 | 43 | 39 | 24 | 39 | 9.0 | 20 | 36 | 19 | 435 | 32 | 77 | 61 |
| 7 | 43 | 38 | 23 | 39 | 9.0 | 21 | 45 | 14 | 206 | 18 | 53 | 49 |
| 8 | 49 | 38 | 24 | 34 | 9.0 | 21 | 38 | 8.2 | 308 | 26 | 85 | 40 |
| 9 | 49 | 41 | 25 | 32 | 9.0 | 21 | 34 | 7.4 | 678 | 38 | 30 | 62 |
| 10 | 61 | 41 | 25 | 34 | 15 | 21 | 26 | 6.7 | 493 | 22 | 64 | 62 |
| 11 | 166 | 41 | 25 | 36 | 15 | 21 | 21 | 6.8 | 295 | 19 | 45 | 50 |
| 12 | 285 | 41 | 26 | 33 | 14 | 21 | 21 | 5.4 | 182 | 17 | 34 | 47 |
| 13 | 156 | 39 | 27 | 34 | 14 | 21 | 19 | 7.7 | 100 | 18 | 34 | 46 |
| 14 | 100 | 41 | 26 | 35 | 14 | 22 | 18 | 7.3 | 67 | 15 | 24 | 49 |
| 15 | 264 | 42 | 25 | 39 | 14 | 24 | 17 | 12 | 54 | 46 | 54 | 45 |
| 16 | 128 | 42 | 24 | 38 | 16 | 24 | 15 | 14 | 60 | 29 | 609 | 38 |
| 17 | 103 | 42 | 24 | 39 | 17 | 24 | 14 | 11 | 60 | 24 | 153 | 40 |
| 18 | 87 | 42 | 21 | 36 | 14 | 24 | 12 | 9.1 | 53 | 32 | 103 | 46 |
| 19 | 74 | 43 | 22 | 34 | 14 | 26 | 12 | 7.4 | 32 | 8.2 | 84 | 43 |
| 20 | 70 | 34 | 24 | 33 | 10 | 24 | 12 | 16 | 23 | 934 | 63 | 45 |
| 21 | 62 | 37 | 28 | 30 | 10 | 26 | 15 | 36 | 22 | 1100 | 60 | 43 |
| 22 | 57 | 34 | 30 | 29 | 10 | 26 | 18 | 24 | 18 | 731 | 256 | 43 |
| 23 | 54 | 33 | 38 | 31 | 11 | 24 | 26 | 16 | 36 | 162 | 981 | 46 |
| 24 | 48 | 35 | 38 | 29 | 10 | 24 | 21 | 12 | 30 | 101 | 579 | 46 |
| 25 | 46 | 34 | 32 | 30 | 12 | 24 | 15 | 9.8 | 58 | 85 | 257 | 48 |
| 26 | 44 | 31 | 28 | 29 | 14 | 24 | 15 | 8.7 | 61 | 67 | 96 | 43 |
| 27 | 41 | 31 | 31 | 30 | 16 | 29 | 15 | 7.1 | 30 | 155 | 66 | 42 |
| 28 | 43 | 31 | 27 | 27 | 18 | 31 | 14 | 7.1 | 30 | 93 | 93 | 43 |
| 29 | 45 | 25 | 28 | 26 | --- | 35 | 14 | 7.8 | 34 | 57 | 93 | 42 |
| 30 | 45 | 22 | 29 | 25 | --- | 38 | 13 | 8.5 | 13 | 32 | 94 | 41 |
| 31 | 42 | --- | 39 | 14 | --- | 40 | --- | 5.1 | --- | 22 | 151 | --- |
| TOTAL | 2478 | 1174 | 799 | 1022 | 342.0 | 752 | 719 | 350.1 | 6509.4 | 4331.2 | 4755 | 2074 |
| MEAN | 79.9 | 39.1 | 25.8 | 33.0 | 12.2 | 24.3 | 24.0 | 11.3 | 217 | 140 | 153 | 69.1 |
| MAX | 285 | 72 | 39 | 42 | 18 | 40 | 67 | 36 | 1690 | 1100 | 981 | 247 |
| MIN | 41 | 22 | 12 | 14 | 5.0 | 18 | 12 | 5.1 | 5.4 | 8.2 | 13 | 38 |
| AC-FT | 4920 | 2330 | 1580 | 2030 | 678 | 1490 | 1430 | 694 | 12910 | 8590 | 9430 | 4110 |

CAL YR 1985 TOTAL 15213.6 MEAN 41.7 MAX 829 MIN 5.0 AC-FT 30180
WTR YR 1986 TOTAL 25305.7 MEAN 69.3 MAX 1690 MIN 5.0 AC-FT 50190

ARKANSAS RIVER BASIN

07126500 PURGATOIRE RIVER AT NINEMILE DAM, NEAR HIGBEE, CO--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-----------|----------|---------|-------------|------|-------|-------|------|------|------|--------|
| 1 | 56 | 45 | 30 | 17 | 67 | 33 | 86 | 223 | 115 | 96 | 46 | 64 |
| 2 | 75 | 46 | 42 | 28 | 67 | 26 | 93 | 153 | 100 | 106 | 40 | 42 |
| 3 | 69 | 50 | 36 | 36 | 73 | 21 | 265 | 173 | 98 | 171 | 58 | 36 |
| 4 | 114 | 64 | 32 | 32 | 73 | 21 | 212 | 540 | 129 | 88 | 500 | 41 |
| 5 | 94 | 60 | 40 | 34 | 67 | 22 | 227 | 1040 | 139 | 66 | 294 | 35 |
| 6 | 65 | 110 | 38 | 32 | 32 | 32 | 178 | 1230 | 140 | 54 | 124 | 28 |
| 7 | 54 | 76 | 34 | 32 | 21 | 77 | 150 | 2410 | 127 | 46 | 114 | 33 |
| 8 | 50 | 73 | 34 | 32 | 20 | 130 | 124 | 1360 | 117 | 41 | 88 | 66 |
| 9 | 50 | 57 | 34 | 32 | 17 | 174 | 106 | 786 | 107 | 41 | 95 | 63 |
| 10 | 50 | 45 | 40 | 32 | 16 | 144 | 124 | 624 | 125 | 36 | 224 | 47 |
| 11 | 60 | 48 | 40 | 27 | 15 | 115 | 186 | 561 | 143 | 35 | 117 | 22 |
| 12 | 60 | 36 | 39 | 25 | 15 | 93 | 232 | 593 | 141 | 31 | 143 | 18 |
| 13 | 66 | 36 | 38 | 21 | 15 | 93 | 270 | 437 | 117 | 32 | 178 | 41 |
| 14 | 68 | 38 | 37 | 20 | 22 | 86 | 257 | 406 | 108 | 29 | 584 | 23 |
| 15 | 71 | 38 | 37 | 22 | 36 | 70 | 232 | 408 | 103 | 27 | 278 | 16 |
| 16 | 75 | 40 | 36 | 21 | 30 | 70 | 261 | 372 | 120 | 32 | 120 | 16 |
| 17 | 82 | 42 | 30 | 21 | 36 | 64 | 320 | 325 | 96 | 28 | 93 | 246 |
| 18 | 86 | 34 | 30 | 19 | 32 | 82 | 425 | 284 | 85 | 30 | 75 | 48 |
| 19 | 92 | 34 | 45 | 15 | 32 | 91 | 535 | 214 | 63 | 27 | 65 | 104 |
| 20 | 96 | 32 | 43 | 17 | 28 | 108 | 578 | 188 | 61 | 27 | 57 | 38 |
| 21 | 105 | 32 | 33 | 20 | 28 | 201 | 575 | 298 | 112 | 34 | 55 | 19 |
| 22 | 105 | 32 | 40 | 21 | 24 | 146 | 395 | 316 | 56 | 33 | 47 | 12 |
| 23 | 108 | 32 | 36 | 22 | 18 | 106 | 348 | 666 | 42 | 29 | 40 | 6.3 |
| 24 | 97 | 31 | 34 | 22 | 18 | 106 | 330 | 298 | 41 | 22 | 51 | 7.8 |
| 25 | 73 | 31 | 189 | 22 | 21 | 121 | 333 | 285 | 92 | 22 | 72 | 12 |
| 26 | 77 | 30 | 34 | 26 | 20 | 123 | 401 | 218 | 114 | 22 | 60 | 12 |
| 27 | 63 | 30 | 36 | 30 | 22 | 112 | 408 | 145 | 125 | 22 | 63 | 8.7 |
| 28 | 51 | 30 | 25 | 51 | 19 | 152 | 313 | 183 | 80 | 22 | 539 | 12 |
| 29 | 49 | 30 | 29 | 91 | --- | 120 | 285 | 130 | 66 | 41 | 384 | 15 |
| 30 | 51 | 30 | 27 | 73 | --- | 76 | 307 | 143 | 80 | 62 | 165 | 19 |
| 31 | 43 | --- | 23 | 67 | --- | 80 | --- | 136 | --- | 50 | 117 | --- |
| TOTAL | 2255 | 1312 | 1241 | 960 | 884 | 2895 | 8556 | 15145 | 3042 | 1402 | 4886 | 1150.8 |
| MEAN | 72.7 | 43.7 | 40.0 | 31.0 | 31.6 | 93.4 | 285 | 489 | 101 | 45.2 | 158 | 38.4 |
| MAX | 114 | 110 | 189 | 91 | 73 | 201 | 578 | 2410 | 143 | 171 | 584 | 246 |
| MIN | 43 | 30 | 23 | 15 | 15 | 21 | 86 | 130 | 41 | 22 | 40 | 6.3 |
| AC-FT | 4470 | 2600 | 2460 | 1900 | 1750 | 5740 | 16970 | 30040 | 6030 | 2780 | 9690 | 2280 |
| CAL YR 1986 | TOTAL 25324.7 | MEAN 69.4 | MAX 1690 | MIN 5.0 | AC-FT 50230 | | | | | | | |
| WTR YR 1987 | TOTAL 43728.8 | MEAN 120 | MAX 2410 | MIN 6.3 | AC-FT 86740 | | | | | | | |

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°02'02", long 103°12'00", in NE¼SW¼ 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.

REVISED RECORDS.--WSP 1241: 1927(M); WDR CO-84-1: Drainage area.

GAGE.--Water-stage recorder. 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: Dec. 17 to Jan. 14, Jan. 19-26 and Feb. 2-12. Records good 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.

AVERAGE DISCHARGE.--37 years (water years 1923-31, 1949-76), 116 ft³/s; 84,040 acre-ft/yr, prior to completion of Trinidad Lake; 11 years (water years 1978-88), 75.5 ft³/s; 54,700 acre-ft/yr, subsequent to completion of Trinidad Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft³/s, May 20, 1955, gage height, 20.00 ft, different datum, from rating curve extended above 38,000 ft³/s; no flow at times in 1924-25, 1927, 1949, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1860 occurred Oct. 1, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,460 ft³/s at 0630 May 22, gage height, 6.58 ft; minimum daily, 2.4 ft³/s, Aug. 26-27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|--------|-------|-------|-------|-------|
| 1 | 20 | 42 | 44 | 30 | 43 | 44 | 27 | 9.7 | 74 | 69 | 6.6 | 9.2 |
| 2 | 15 | 42 | 40 | 26 | 40 | 40 | 36 | 33 | 72 | 105 | 4.8 | 50 |
| 3 | 18 | 46 | 41 | 24 | 40 | 44 | 82 | 84 | 59 | 123 | 3.8 | 12 |
| 4 | 12 | 41 | 45 | 24 | 45 | 44 | 67 | 59 | 53 | 44 | 4.9 | 6.3 |
| 5 | 11 | 42 | 49 | 26 | 50 | 45 | 69 | 31 | 54 | 23 | 6.2 | 4.7 |
| 6 | 20 | 37 | 49 | 28 | 49 | 50 | 132 | 23 | 34 | 14 | 5.4 | 3.9 |
| 7 | 15 | 35 | 48 | 26 | 48 | 49 | 166 | 32 | 24 | 8.2 | 5.4 | 5.3 |
| 8 | 11 | 37 | 49 | 23 | 53 | 46 | 148 | 43 | 19 | 7.8 | 7.1 | 5.6 |
| 9 | 14 | 31 | 47 | 23 | 55 | 46 | 124 | 77 | 15 | 54 | 18 | 4.1 |
| 10 | 16 | 36 | 47 | 25 | 56 | 45 | 101 | 42 | 35 | 35 | 46 | 3.7 |
| 11 | 16 | 42 | 47 | 29 | 57 | 44 | 93 | 21 | 9.3 | 85 | 218 | 2.9 |
| 12 | 15 | 46 | 45 | 26 | 59 | 44 | 73 | 14 | 6.9 | 61 | 109 | 2.8 |
| 13 | 15 | 42 | 43 | 25 | 71 | 45 | 57 | 10 | 6.6 | 32 | 39 | 5.4 |
| 14 | 17 | 36 | 38 | 26 | 77 | 45 | 43 | 9.2 | 8.9 | 15 | 14 | 6.2 |
| 15 | 15 | 37 | 17 | 26 | 69 | 60 | 35 | 8.5 | 10 | 8.7 | 21 | 24 |
| 16 | 14 | 41 | 28 | 27 | 85 | 82 | 30 | 7.9 | 10 | 7.3 | 14 | 44 |
| 17 | 18 | 43 | 35 | 29 | 77 | 78 | 30 | 6.9 | 9.6 | 16 | 9.5 | 19 |
| 18 | 28 | 43 | 37 | 28 | 67 | 76 | 28 | 6.8 | 27 | 9.3 | 8.6 | 9.9 |
| 19 | 37 | 43 | 37 | 25 | 65 | 51 | 25 | 7.1 | 21 | 9.6 | 17 | 6.3 |
| 20 | 33 | 45 | 36 | 25 | 56 | 44 | 26 | 11 | 9.1 | 7.8 | 9.6 | 6.3 |
| 21 | 35 | 46 | 35 | 26 | 61 | 67 | 47 | 336 | 7.5 | 19 | 21 | 6.3 |
| 22 | 33 | 46 | 38 | 25 | 58 | 64 | 63 | 1050 | 8.0 | 12 | 11 | 5.2 |
| 23 | 34 | 45 | 40 | 25 | 56 | 60 | 45 | 604 | 6.8 | 9.2 | 8.2 | 8.7 |
| 24 | 40 | 46 | 36 | 23 | 52 | 51 | 27 | 439 | 5.0 | 7.9 | 5.0 | 13 |
| 25 | 44 | 46 | 33 | 23 | 51 | 35 | 21 | 423 | 4.6 | 6.3 | 2.9 | 42 |
| 26 | 51 | 48 | 16 | 23 | 51 | 20 | 17 | 317 | 4.9 | 6.1 | 2.4 | 155 |
| 27 | 44 | 48 | 22 | 24 | 49 | 15 | 14 | 258 | 33 | 5.9 | 2.4 | 65 |
| 28 | 41 | 47 | 30 | 26 | 45 | 21 | 13 | 168 | 12 | 29 | 4.2 | 36 |
| 29 | 47 | 45 | 35 | 25 | 44 | 24 | 12 | 140 | 13 | 34 | 4.0 | 26 |
| 30 | 50 | 48 | 35 | 32 | --- | 17 | 10 | 93 | 18 | 9.1 | 2.9 | 24 |
| 31 | 45 | --- | 30 | 40 | --- | 16 | --- | 80 | --- | 6.0 | 3.5 | --- |
| TOTAL | 824 | 1272 | 1172 | 813 | 1629 | 1412 | 1661 | 4444.1 | 670.2 | 879.2 | 635.4 | 612.8 |
| MEAN | 26.6 | 42.4 | 37.8 | 26.2 | 56.2 | 45.5 | 55.4 | 143 | 22.3 | 28.4 | 20.5 | 20.4 |
| MAX | 51 | 48 | 49 | 40 | 85 | 82 | 166 | 1050 | 74 | 123 | 218 | 155 |
| MIN | 11 | 31 | 16 | 23 | 40 | 15 | 10 | 6.8 | 4.6 | 5.9 | 2.4 | 2.8 |
| AC-FT | 1630 | 2520 | 2320 | 1610 | 3230 | 2800 | 3290 | 8810 | 1330 | 1740 | 1260 | 1220 |

CAL YR 1987 TOTAL 43662.5 MEAN 120 MAX 2430 MIN 2.6 AC-FT 83600
WTR YR 1988 TOTAL 16024.7 MEAN 43.8 MAX 1050 MIN 2.4 AC-FT 31780

ARKANSAS RIVER BASIN

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1985 to current year.

WATER TEMPERATURE: December 1985 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing or of poor quality. Records are good. Daily maximum and minimum specific conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 5,730 microsiemens May 4, 1987; minimum, 420 microsiemens Sept. 2, 1986.

WATER TEMPERATURE: Maximum, 34.°C July 23, 29, 1987; minimum, 0.0°C many days during winter months.

EXTREMES FOR CURRENT YEAR.

SPECIFIC CONDUCTANCE: Maximum, 5,170 microsiemens May 17; minimum, 1,380 microsiemens June 3.

WATER TEMPERATURE: Maximum 33.8°C June 21; minimum, 0.0°C many days during winter.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | OXYGEN, DIS- SOLVED (MG/L) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-------|------|---|---|--------------------------------|-------------------------------------|--|--|
| OCT | | | | | | | |
| 06... | 1215 | 21 | 3520 | 8.3 | 10.8 | 0.20 | 0.06 |
| NOV | | | | | | | |
| 03... | 1345 | 50 | 3490 | 8.4 | 12.4 | 0.30 | 0.07 |
| DEC | | | | | | | |
| 08... | 1500 | 49 | 3600 | 8.4 | 11.0 | 0.20 | <0.01 |
| JAN | | | | | | | |
| 12... | 1215 | 30 | 4210 | 8.2 | 12.8 | 0.80 | 0.12 |
| FEB | | | | | | | |
| 11... | 0815 | 32 | 3400 | 8.3 | 13.2 | 0.60 | 0.09 |
| MAR | | | | | | | |
| 17... | 0800 | 77 | 2960 | 8.3 | 12.6 | 1.50 | 0.08 |
| APR | | | | | | | |
| 21... | 1015 | 42 | 2940 | 8.3 | 9.9 | 0.34 | 0.05 |
| MAY | | | | | | | |
| 17... | 1415 | 6.1 | 4730 | 8.0 | 9.7 | 0.10 | 0.08 |
| JUN | | | | | | | |
| 15... | 0945 | 10 | 3390 | 8.0 | 8.6 | 0.50 | 0.95 |
| JUL | | | | | | | |
| 15... | 0910 | 9.7 | 3100 | 8.1 | 7.8 | 0.20 | 0.14 |
| AUG | | | | | | | |
| 17... | 0800 | 10 | 2620 | 8.0 | 7.2 | 0.60 | 0.06 |
| SEP | | | | | | | |
| 13... | 1500 | 6.6 | 4550 | 8.2 | 9.3 | 0.30 | 0.06 |

ARKANSAS RIVER BASIN

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07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 3190 | 3350 | 3700 | 3780 | 3410 | 3590 | 3200 | 3950 | 1550 | 2800 | --- | 4010 |
| 2 | 3160 | 3300 | 3700 | 3870 | 3390 | 3640 | 2780 | 3330 | 1460 | 2230 | 4020 | 2650 |
| 3 | 3370 | 3370 | 3700 | 4190 | 3370 | 3640 | --- | 2520 | 1410 | 2110 | 3910 | 2740 |
| 4 | 3240 | 3410 | 3720 | 4300 | 3370 | 3650 | --- | 2380 | 1460 | 1890 | 3890 | 3270 |
| 5 | 3640 | 3420 | 3660 | --- | 3290 | 3610 | 3100 | 2520 | --- | 1860 | 3920 | 3590 |
| 6 | 3500 | 3530 | 3600 | --- | 3340 | 3580 | 2710 | 2580 | --- | 1870 | 4170 | 4010 |
| 7 | 3310 | 3540 | 3560 | --- | 3340 | 3560 | --- | 2600 | --- | 1970 | 4160 | 4350 |
| 8 | 3040 | 3420 | 3540 | --- | 3190 | 3570 | --- | 2660 | 3220 | 2160 | 4120 | 4030 |
| 9 | 2950 | 3660 | 3600 | --- | 3080 | 3610 | --- | 2480 | 3300 | 2220 | 3820 | 3970 |
| 10 | 2950 | 3560 | 3690 | --- | 3000 | 3600 | --- | 3400 | 2310 | 2210 | 2440 | 4010 |
| 11 | 2920 | 3520 | 3690 | --- | 3130 | 3540 | --- | 3590 | 3230 | 2220 | --- | 4150 |
| 12 | 3040 | 3460 | 3660 | 3960 | 3170 | 3560 | --- | 3900 | 3930 | 2200 | --- | 4240 |
| 13 | 3390 | 3520 | 3650 | 3960 | 3090 | 3520 | --- | 4200 | 4180 | 2380 | --- | 4370 |
| 14 | 3410 | 3700 | 3640 | 3950 | 2930 | 3490 | --- | 4440 | 4090 | --- | --- | 4250 |
| 15 | 3160 | 3740 | 3800 | 3890 | 2910 | 3550 | --- | 4640 | 4150 | 3420 | --- | 3900 |
| 16 | 3460 | 3650 | 3990 | 3710 | 2800 | 3150 | --- | 4700 | 3930 | 3420 | --- | 2760 |
| 17 | 3550 | 3590 | 4000 | 3570 | 2760 | 2960 | --- | 4730 | 4020 | 3030 | 2730 | --- |
| 18 | 3580 | 3750 | 3950 | 3500 | 2920 | 2690 | --- | 4730 | 3510 | 3190 | 3020 | --- |
| 19 | 3430 | 3740 | 3850 | 3480 | 3090 | 3350 | 3130 | 4660 | 3030 | 3320 | 2950 | --- |
| 20 | 3450 | 3720 | 3730 | 3530 | 3210 | 3460 | 3260 | 4420 | 3520 | 3650 | 2710 | 3680 |
| 21 | 3390 | 3600 | 3690 | 3630 | 3300 | 2870 | 2970 | 3640 | 3860 | 3640 | 2720 | 3840 |
| 22 | 3460 | 3580 | 3580 | 3600 | 3340 | 2740 | 3510 | --- | 3760 | 3200 | 2800 | 3930 |
| 23 | 3430 | 3590 | 3470 | 3570 | 3330 | 2750 | 3500 | --- | 3820 | 3370 | 3030 | 3800 |
| 24 | 3410 | 3640 | 3510 | 3580 | 3340 | 2750 | 3510 | --- | 3990 | 3350 | 3120 | 3610 |
| 25 | 3330 | 3660 | 3680 | 3610 | 3390 | 2950 | 3660 | --- | 4000 | 3350 | 3350 | 3460 |
| 26 | 3230 | 3590 | 3840 | 3660 | 3440 | 3320 | 3760 | --- | 4030 | 3440 | 3340 | 2180 |
| 27 | 3360 | 3520 | 3950 | 3610 | 3470 | --- | 3900 | --- | 3340 | 3700 | --- | --- |
| 28 | 3480 | 3590 | 3990 | 3550 | 3510 | 3070 | 3790 | --- | 2770 | --- | 3970 | 3240 |
| 29 | 3500 | 3630 | 4010 | 3530 | 3520 | 3070 | 3690 | --- | 3130 | --- | 3960 | 3220 |
| 30 | 3430 | 3640 | 3870 | 3460 | --- | 3220 | 3940 | --- | 2900 | --- | --- | 3180 |
| 31 | 3390 | --- | 3940 | 3370 | --- | 3400 | --- | 1520 | --- | --- | 4270 | --- |
| MEAN | 3330 | 3570 | 3740 | --- | 3220 | --- | --- | --- | --- | --- | --- | --- |
| MAX | 3640 | 3750 | 4010 | --- | 3520 | --- | --- | --- | --- | --- | --- | --- |
| MIN | 2920 | 3300 | 3470 | --- | 2760 | --- | --- | --- | --- | --- | --- | --- |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 22.5 | 13.0 | 15.5 | 11.5 | 3.8 | .5 | .4 | .1 | .5 | .5 | 15.1 | 6.6 |
| 2 | 21.7 | 12.7 | 16.9 | 12.1 | 4.4 | .5 | .2 | .1 | .5 | .5 | 9.1 | 3.5 |
| 3 | 22.3 | 11.8 | 15.4 | 10.3 | 7.1 | 2.0 | .2 | .1 | 1.5 | .5 | 10.2 | 2.2 |
| 4 | 22.7 | 12.7 | 15.2 | 9.5 | 6.4 | 3.0 | .2 | .1 | 1.6 | .5 | 11.7 | 3.3 |
| 5 | 20.2 | 11.9 | 15.1 | 9.6 | 8.0 | 4.5 | .1 | .1 | .5 | .5 | 12.2 | 3.5 |
| 6 | 19.4 | 10.3 | 15.0 | 11.2 | 9.3 | 5.4 | .1 | .1 | 1.4 | .5 | 13.6 | 4.7 |
| 7 | 19.0 | 10.6 | 15.0 | 10.3 | 8.8 | 4.1 | .1 | .1 | 2.5 | .5 | 8.9 | 3.7 |
| 8 | 19.4 | 11.0 | 12.8 | 8.4 | 7.7 | 4.5 | .1 | .0 | 3.4 | .5 | 9.2 | 1.8 |
| 9 | 19.1 | 11.4 | 10.6 | 5.1 | 6.7 | 2.7 | .0 | .0 | 4.4 | .5 | 12.6 | 2.2 |
| 10 | 15.6 | 9.3 | 9.8 | 4.2 | 6.7 | 2.4 | .0 | .0 | .8 | .5 | 12.4 | 5.0 |
| 11 | 16.9 | 7.8 | 9.6 | 5.5 | 7.3 | 3.5 | .1 | .0 | 2.4 | .5 | 7.0 | 2.6 |
| 12 | 18.1 | 7.9 | 10.6 | 5.0 | 5.2 | 3.2 | .1 | .0 | 4.2 | .5 | 8.0 | .1 |
| 13 | 17.8 | 11.8 | 11.2 | 5.8 | 3.0 | 1.0 | .2 | .0 | 4.7 | .5 | 8.2 | .9 |
| 14 | 17.0 | 11.4 | 11.7 | 6.9 | 1.3 | .4 | .3 | .1 | 4.9 | .5 | 10.5 | .9 |
| 15 | 18.6 | 9.6 | 8.0 | 3.5 | 1.7 | .4 | .3 | .1 | 6.0 | .5 | 9.4 | 1.4 |
| 16 | 17.6 | 9.7 | 6.3 | 2.4 | 1.0 | .4 | .2 | .1 | 5.2 | .5 | 4.0 | 1.2 |
| 17 | 17.9 | 8.8 | 6.2 | 1.0 | 1.1 | .4 | .8 | .2 | 5.2 | .8 | 4.3 | .5 |
| 18 | 15.9 | 8.9 | 6.8 | 2.6 | 1.6 | .3 | .5 | .2 | 5.7 | .5 | 7.3 | .6 |
| 19 | 14.5 | 8.9 | 6.7 | 1.0 | 1.6 | .3 | .4 | .2 | 6.7 | .6 | 13.4 | 2.7 |
| 20 | 15.1 | 9.4 | 7.7 | 2.2 | 2.9 | .3 | .9 | .3 | 8.5 | 1.5 | 16.4 | 5.0 |
| 21 | 15.0 | 7.8 | 8.4 | 2.8 | .6 | .3 | .4 | .3 | 10.4 | 2.6 | 16.2 | 6.9 |
| 22 | 14.2 | 7.9 | 9.1 | 4.6 | 2.2 | .3 | 1.4 | .3 | 9.2 | 4.2 | 15.4 | 9.8 |
| 23 | 13.9 | 7.5 | 7.6 | 3.2 | 2.9 | .3 | 1.1 | .4 | 9.4 | 3.8 | 16.1 | 8.7 |
| 24 | 10.2 | 9.1 | 7.8 | 3.9 | .9 | .3 | 2.1 | .4 | 9.5 | 2.0 | 12.8 | 7.8 |
| 25 | 15.7 | 9.3 | 6.1 | 1.4 | .3 | .2 | 1.5 | .4 | 11.1 | 2.6 | 15.4 | 4.1 |
| 26 | 15.7 | 9.7 | 3.7 | 2.0 | .2 | .2 | 2.4 | .5 | 12.5 | 4.1 | --- | --- |
| 27 | 14.7 | 9.3 | 5.2 | 2.1 | .2 | .2 | 2.9 | .5 | 13.1 | 4.5 | --- | --- |
| 28 | 14.6 | 8.1 | 4.3 | .5 | .7 | .2 | 4.1 | .5 | 13.1 | 6.2 | --- | --- |
| 29 | 14.7 | 8.7 | 3.9 | .5 | .4 | .2 | 3.4 | .5 | 12.8 | 5.2 | 14.5 | --- |
| 30 | 15.2 | 11.3 | 4.0 | .5 | .9 | .2 | 5.5 | .5 | --- | --- | 17.2 | 5.0 |
| 31 | 16.6 | 11.1 | --- | --- | .4 | .2 | .8 | .5 | --- | --- | 8.7 | 4.2 |
| MONTH | 22.7 | 7.5 | 16.9 | .5 | 9.3 | .2 | 5.5 | .0 | 13.1 | .5 | --- | --- |

ARKANSAS RIVER BASIN

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4.1 | .3 | 21.9 | 12.9 | 23.7 | 13.8 | 29.4 | 18.9 | --- | --- | 28.0 | 17.8 |
| 2 | 8.6 | .2 | 14.5 | 6.3 | 22.0 | 16.2 | 26.9 | 23.2 | 28.6 | --- | 22.7 | 18.9 |
| 3 | 10.6 | .2 | 15.2 | 4.8 | 26.7 | 15.7 | 26.1 | 23.3 | 29.4 | 20.0 | 25.8 | 16.9 |
| 4 | 13.8 | 6.0 | 21.1 | 9.5 | 26.8 | 17.5 | 25.4 | 21.8 | 22.8 | 19.1 | 26.5 | 14.6 |
| 5 | 15.8 | .0 | 23.2 | 10.9 | 26.3 | 17.6 | 22.8 | 19.2 | 24.6 | 19.7 | 28.7 | 14.6 |
| 6 | 16.6 | 9.0 | 22.9 | 12.0 | 24.4 | 17.0 | 23.4 | 18.3 | 28.3 | 19.0 | 26.7 | 14.9 |
| 7 | 18.2 | 12.1 | 21.0 | 9.0 | 27.3 | 13.2 | 21.9 | 19.2 | 28.0 | 19.4 | 27.5 | 15.7 |
| 8 | 15.9 | 13.6 | 19.5 | 9.5 | 32.2 | 12.6 | 22.0 | 17.6 | 29.3 | 19.4 | 25.6 | 15.5 |
| 9 | 13.4 | 10.8 | 21.0 | 10.5 | 28.2 | 18.3 | 24.0 | 17.2 | 30.7 | 19.7 | 27.3 | 14.4 |
| 10 | 13.2 | 9.5 | 24.3 | 12.0 | 26.6 | 20.1 | 23.4 | 19.9 | 30.7 | 20.1 | 27.8 | 15.3 |
| 11 | 14.7 | 8.7 | 26.0 | 13.0 | 28.1 | 18.4 | 24.8 | 19.2 | 26.7 | 21.3 | 23.9 | 15.7 |
| 12 | 17.3 | 10.0 | 27.8 | 14.5 | 28.8 | 18.0 | 26.2 | 20.6 | 28.9 | 22.3 | 16.5 | 13.9 |
| 13 | 21.3 | 11.9 | 26.9 | 15.4 | 22.5 | 16.8 | 32.9 | 21.7 | 29.6 | 20.8 | 17.8 | 13.2 |
| 14 | 16.7 | 11.1 | 26.2 | 14.9 | 27.3 | 15.1 | 33.4 | 21.0 | 30.7 | 19.3 | 22.2 | 14.6 |
| 15 | 19.7 | 9.6 | 25.8 | 15.5 | 28.9 | 17.6 | 33.4 | 20.9 | 28.4 | 20.0 | 25.8 | 15.6 |
| 16 | 17.9 | 11.3 | 27.2 | 15.1 | 30.6 | 16.4 | 31.7 | 20.9 | 29.3 | 19.3 | 24.3 | 15.6 |
| 17 | 16.1 | 11.9 | 28.0 | 15.7 | 32.8 | 18.2 | 32.5 | 20.4 | 29.0 | 19.4 | --- | 14.8 |
| 18 | 21.5 | 10.0 | 25.5 | 15.7 | 30.8 | 19.2 | 32.2 | 21.1 | 30.8 | 19.8 | --- | --- |
| 19 | 23.4 | 11.9 | 18.0 | 12.3 | 32.5 | 19.8 | 23.1 | 19.2 | 29.4 | 20.1 | --- | --- |
| 20 | 23.1 | 12.6 | 12.2 | 9.6 | 33.0 | 20.2 | 28.5 | 19.1 | 31.1 | 19.1 | 24.3 | --- |
| 21 | 24.0 | 13.7 | 12.7 | 9.0 | 33.8 | 19.6 | 31.1 | 18.1 | 30.3 | 17.9 | 24.4 | 16.0 |
| 22 | 20.9 | 11.9 | 12.1 | 10.2 | 32.2 | 20.3 | 31.8 | 19.1 | 30.6 | 21.0 | 25.6 | 15.2 |
| 23 | 20.6 | 10.9 | 12.8 | 9.9 | 33.4 | 21.0 | 32.5 | 19.7 | 30.9 | 21.7 | 21.7 | 14.7 |
| 24 | 14.3 | 10.7 | 15.1 | 11.7 | 33.6 | 20.9 | 31.0 | 20.0 | 33.4 | 20.0 | 23.9 | 13.1 |
| 25 | 21.0 | 8.0 | 15.3 | 14.4 | 31.4 | 19.6 | 30.6 | 20.2 | 31.9 | 20.7 | 26.8 | 14.3 |
| 26 | 20.2 | 8.0 | 18.2 | 15.3 | 28.6 | 20.6 | 28.6 | 20.3 | 29.9 | 19.2 | 22.1 | 16.9 |
| 27 | 22.1 | 8.2 | 23.7 | 17.2 | 29.2 | 19.0 | 29.0 | 18.5 | 25.1 | 18.0 | 22.9 | 16.7 |
| 28 | 21.3 | 10.0 | 21.2 | 18.4 | 30.3 | 20.4 | 29.2 | 19.6 | 26.4 | 15.3 | 19.0 | 13.8 |
| 29 | 22.8 | 12.9 | 20.6 | 18.2 | 33.7 | 20.0 | --- | --- | 29.1 | 14.6 | 13.6 | 11.4 |
| 30 | 24.5 | 12.5 | 20.0 | 18.2 | 28.4 | 21.3 | --- | --- | 29.7 | 16.1 | 19.0 | 11.4 |
| 31 | --- | --- | 21.2 | 16.4 | --- | --- | --- | --- | 30.4 | 17.7 | --- | --- |
| MONTH | 24.5 | .0 | 28.0 | 4.8 | 33.8 | 12.6 | --- | --- | --- | --- | --- | --- |

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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. Monthend contents only prior to November 1943, published in WSP 1311.

GAGE.--Water-stage recorder 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 below 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 1980 resurvey used Aug. 12, 1981 to Jan. 31, 1988), 615,500 acre-ft, at elevation 3,870.00 ft, top of spillway gates, of which 345,300 acre-ft between elevations 3,774.12 ft, elevation of no contents, and 3,851.00 ft, is for irrigation, and 270,200 acre-ft between elevations 3,851.00 ft, and 3,870.00 ft, is reserved for flood control. Capacity (based on 1986 resurvey used 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.

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

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 429,600 acre-ft, Aug. 25, 1965, elevation, 3,856.16 ft; no contents at times many years.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 310,000 acre-ft, Apr. 11, elevation, 3,848.46 ft;
minimum contents, 81,700 acre-ft, Sept. 30, elevation, 3,818.48 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

| | | | |
|---------|--------|---------|---------|
| 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 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|------------|--------|------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 1 | 261000 | 246000 | 255000 | 270000 | 282000 | 301000 | 304000 | 282000 | 255000 | 209000 | 148000 | 95500 |
| 2 | 261000 | 246000 | 255000 | 271000 | 282000 | 301000 | 305000 | 281000 | 254000 | 206000 | 146000 | 94700 |
| 3 | 261000 | 246000 | 256000 | 271000 | 283000 | 302000 | 307000 | 280000 | 254000 | 204000 | 143000 | 93800 |
| 4 | 260000 | 246000 | 257000 | 272000 | 284000 | 302000 | 308000 | 279000 | 253000 | 202000 | 142000 | 92800 |
| 5 | 260000 | 246000 | 257000 | 272000 | 285000 | 303000 | 309000 | 278000 | 253000 | 199000 | 140000 | 91900 |
| 6 | 260000 | 246000 | 258000 | 273000 | 285000 | 303000 | 309000 | 277000 | 253000 | 197000 | 138000 | 91200 |
| 7 | 260000 | 246000 | 258000 | 273000 | 286000 | 303000 | 310000 | 276000 | 253000 | 195000 | 137000 | 90400 |
| 8 | 260000 | 246000 | 259000 | 274000 | 287000 | 304000 | 310000 | 275000 | 251000 | 193000 | 134000 | 89600 |
| 9 | 258000 | 246000 | 259000 | 274000 | 288000 | 304000 | 310000 | 274000 | 251000 | 191000 | 132000 | 88800 |
| 10 | 257000 | 246000 | 260000 | 274000 | 289000 | 305000 | 310000 | 273000 | 250000 | 189000 | 130000 | 87900 |
| 11 | 256000 | 246000 | 260000 | 275000 | 289000 | 305000 | 310000 | 272000 | 249000 | 188000 | 129000 | 86900 |
| 12 | 255000 | 246000 | 261000 | 275000 | 290000 | 305000 | 310000 | 271000 | 248000 | 186000 | 127000 | 86100 |
| 13 | 254000 | 246000 | 261000 | 276000 | 291000 | 305000 | 310000 | 269000 | 247000 | 185000 | 125000 | 85400 |
| 14 | 253000 | 246000 | 262000 | 276000 | 291000 | 305000 | 308000 | 268000 | 246000 | 183000 | 123000 | 85300 |
| 15 | 252000 | 246000 | 262000 | 277000 | 292000 | 305000 | 307000 | 267000 | 246000 | 181000 | 121000 | 84800 |
| 16 | 251000 | 246000 | 262000 | 278000 | 293000 | 305000 | 306000 | 266000 | 244000 | 179000 | 119000 | 84400 |
| 17 | 250000 | 247000 | 262000 | 278000 | 293000 | 306000 | 305000 | 264000 | 243000 | 177000 | 117000 | 84000 |
| 18 | 249000 | 247000 | 263000 | 279000 | 294000 | 306000 | 304000 | 263000 | 242000 | 175000 | 115000 | 83500 |
| 19 | 249000 | 247000 | 264000 | 280000 | 295000 | 306000 | 302000 | 262000 | 241000 | 172000 | 113000 | 83000 |
| 20 | 248000 | 248000 | 265000 | 280000 | 296000 | 306000 | 301000 | 260000 | 240000 | 170000 | 111000 | 82600 |
| 21 | 248000 | 248000 | 265000 | 281000 | 297000 | 307000 | 300000 | 258000 | 238000 | 169000 | 110000 | 82300 |
| 22 | 248000 | 249000 | 266000 | 282000 | 297000 | 307000 | 297000 | 258000 | 235000 | 167000 | 108000 | 81900 |
| 23 | 248000 | 249000 | 267000 | 282000 | 298000 | 307000 | 294000 | 259000 | 232000 | 165000 | 106000 | 82200 |
| 24 | 248000 | 250000 | 267000 | 283000 | 298000 | 307000 | 292000 | 259000 | 229000 | 164000 | 104000 | 82100 |
| 25 | 247000 | 250000 | 267000 | 283000 | 298000 | 306000 | 289000 | 259000 | 226000 | 162000 | 102000 | 82000 |
| 26 | 247000 | 251000 | 268000 | 284000 | 299000 | 306000 | 288000 | 259000 | 223000 | 160000 | 101000 | 82100 |
| 27 | 247000 | 252000 | 268000 | 284000 | 299000 | 306000 | 286000 | 258000 | 220000 | 159000 | 99800 | 82200 |
| 28 | 247000 | 253000 | 269000 | 285000 | 300000 | 306000 | 286000 | 258000 | 217000 | 156000 | 98800 | 82100 |
| 29 | 246000 | 253000 | 269000 | 286000 | 300000 | 305000 | 284000 | 256000 | 214000 | 154000 | 97800 | 81900 |
| 30 | 246000 | 254000 | 269000 | 286000 | --- | 304000 | 283000 | 256000 | 212000 | 152000 | 97200 | 81700 |
| 31 | 246000 | --- | 270000 | 287000 | --- | 304000 | --- | 256000 | --- | 150000 | 96100 | --- |
| MAX | 261000 | 254000 | 270000 | 287000 | 300000 | 307000 | 310000 | 282000 | 255000 | 209000 | 148000 | 95500 |
| MIN | 246000 | 246000 | 255000 | 270000 | 282000 | 301000 | 283000 | 256000 | 212000 | 150000 | 96100 | 81700 |
| CAL YR 1987 | MAX 417000 | | MIN 246000 | | | | | | | | | |
| WTR YR 1988 | MAX 310000 | | MIN 81700 | | | | | | | | | |

ARKANSAS RIVER BASIN

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June to October 1988.

REMARKS.--Water-quality samples and field measurements were collected at various depths at a number of sites on transects located along the length of the reservoir. Data are published as a set to represent the complete seasonal cycle of lake dynamics.

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| DATE | TIME | SAM- DEPTH (FEET) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TRANS- PAR- ENCY (SECCHI DISK) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|---|------|-------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 380359102561301 JOHN MARTIN RESERVOIR SITE JMRO.1 (LAT 38 03 59N LONG 102 56 13W) | | | | | | | |
| JUN 1988 | | | | | | | |
| 03... | 0924 | -- | -- | -- | -- | 1.90 | -- |
| 03... | 0925 | 0.0 | 2050 | 8.5 | 17.5 | -- | 7.7 |
| 03... | 0926 | 3.0 | 2060 | 8.5 | 17.5 | -- | 7.6 |
| 03... | 0927 | 6.0 | 2060 | 8.4 | 17.0 | -- | 7.1 |
| 03... | 0928 | 9.0 | 2060 | 8.4 | 17.0 | -- | 7.0 |
| 03... | 0929 | 12.0 | 2060 | 8.4 | 17.0 | -- | 6.9 |
| 03... | 0930 | 15.0 | 2060 | 8.4 | 17.0 | -- | 6.9 |
| 03... | 0931 | 18.0 | 2060 | 8.4 | 17.0 | -- | 6.9 |
| 03... | 0932 | 21.0 | 2060 | 8.4 | 17.0 | -- | 6.9 |
| 03... | 0933 | 24.0 | 2070 | 8.4 | 17.0 | -- | 6.8 |
| 03... | 0934 | 27.0 | 2070 | 8.4 | 17.0 | -- | 6.9 |
| 03... | 0935 | 30.0 | 2070 | 8.5 | 17.0 | -- | 6.8 |
| 03... | 0936 | 33.0 | 2070 | 8.5 | 17.0 | -- | 6.8 |
| 03... | 0937 | 36.0 | 2070 | 8.5 | 17.0 | -- | 6.7 |
| 03... | 0938 | 39.0 | 2070 | 8.5 | 16.5 | -- | 6.6 |
| 03... | 0939 | 42.0 | 2070 | 8.5 | 16.5 | -- | 6.5 |
| 03... | 0940 | 45.0 | 2070 | 8.5 | 16.5 | -- | 6.3 |
| 03... | 0941 | 48.0 | 2070 | 8.5 | 16.5 | -- | 6.2 |
| 03... | 0942 | 51.0 | 2080 | 8.5 | 16.0 | -- | 6.2 |
| 03... | 0943 | 54.0 | 2080 | 8.4 | 16.0 | -- | 5.6 |
| 03... | 0944 | 57.0 | 2080 | 8.4 | 15.5 | -- | 4.7 |
| 03... | 0945 | 60.0 | 2080 | 8.4 | 15.5 | -- | 4.0 |
| AUG | | | | | | | |
| 03... | 1354 | -- | -- | -- | -- | 1.90 | -- |
| 03... | 1355 | 0.0 | 2140 | 8.4 | 26.5 | -- | 7.8 |
| 03... | 1356 | 3.0 | 2130 | 8.3 | 24.5 | -- | 7.5 |
| 03... | 1357 | 6.0 | 2140 | 8.2 | 23.5 | -- | 6.8 |
| 03... | 1358 | 9.0 | 2150 | 8.2 | 23.0 | -- | 6.3 |
| 03... | 1359 | 12.0 | 2150 | 8.1 | 23.0 | -- | 6.0 |
| 03... | 1400 | 15.0 | 2150 | 8.1 | 22.5 | -- | 5.7 |
| 03... | 1401 | 18.0 | 2150 | 8.1 | 22.5 | -- | 5.4 |
| 03... | 1402 | 21.0 | 2150 | 8.1 | 22.5 | -- | 5.6 |
| 03... | 1403 | 24.0 | 2150 | 8.1 | 22.5 | -- | 5.6 |
| 03... | 1404 | 27.0 | 2160 | 8.1 | 22.5 | -- | 6.0 |
| 03... | 1405 | 30.0 | 2160 | 8.1 | 22.5 | -- | 5.8 |
| 03... | 1406 | 33.0 | 2160 | 8.1 | 22.5 | -- | 5.9 |
| 03... | 1407 | 36.0 | 2170 | 8.1 | 22.5 | -- | 5.7 |
| 03... | 1408 | 39.0 | 2170 | 8.1 | 22.5 | -- | 5.3 |
| 03... | 1409 | 42.0 | 2160 | 8.1 | 22.5 | -- | 5.3 |
| 03... | 1410 | 45.0 | 2160 | 8.0 | 22.0 | -- | 4.9 |
| 03... | 1411 | 48.0 | 2160 | 8.0 | 22.0 | -- | 5.2 |
| 31... | 1214 | -- | -- | -- | -- | 0.90 | -- |
| 31... | 1215 | 0.0 | 2160 | 8.4 | 24.0 | -- | 8.6 |
| 31... | 1216 | 3.0 | 2160 | 8.4 | 22.5 | -- | 8.6 |
| 31... | 1217 | 6.0 | 2160 | 8.4 | 22.0 | -- | 7.7 |
| 31... | 1218 | 9.0 | 2170 | 8.2 | 21.5 | -- | 6.2 |
| 31... | 1219 | 12.0 | 2170 | 8.2 | 21.5 | -- | 5.5 |
| 31... | 1220 | 15.0 | 2170 | 8.1 | 21.5 | -- | 5.3 |
| 31... | 1221 | 18.0 | 2180 | 8.1 | 21.0 | -- | 4.9 |
| 31... | 1222 | 21.0 | 2180 | 8.1 | 21.0 | -- | 4.9 |
| 31... | 1223 | 24.0 | 2180 | 8.1 | 21.0 | -- | 4.8 |
| 31... | 1224 | 27.0 | 2180 | 8.1 | 21.0 | -- | 4.8 |
| 31... | 1225 | 30.0 | 2180 | 8.1 | 21.0 | -- | 4.8 |
| 31... | 1226 | 33.0 | 2180 | 8.1 | 21.0 | -- | 4.7 |
| 31... | 1227 | 36.0 | 2180 | 8.1 | 21.0 | -- | 4.7 |
| 31... | 1228 | 39.0 | 2180 | 8.1 | 21.0 | -- | 4.5 |
| 31... | 1229 | 42.0 | 2180 | 8.0 | 21.0 | -- | 4.2 |
| OCT | | | | | | | |
| 12... | 1244 | -- | -- | -- | -- | 0.80 | -- |
| 12... | 1245 | 0.0 | 2220 | 8.4 | 15.5 | -- | 8.4 |
| 12... | 1246 | 3.0 | 2230 | 8.6 | 13.5 | -- | 9.4 |
| 12... | 1247 | 6.0 | 2240 | 8.5 | 13.0 | -- | 8.6 |
| 12... | 1248 | 9.0 | 2250 | 8.4 | 12.5 | -- | 8.2 |
| 12... | 1249 | 12.0 | 2250 | 8.4 | 12.5 | -- | 7.9 |
| 12... | 1250 | 15.0 | 2260 | 8.4 | 12.5 | -- | 7.8 |
| 12... | 1251 | 18.0 | 2260 | 8.4 | 12.5 | -- | 7.8 |
| 12... | 1252 | 21.0 | 2260 | 8.4 | 12.5 | -- | 7.8 |
| 12... | 1253 | 24.0 | 2260 | 8.4 | 12.5 | -- | 7.8 |
| 12... | 1254 | 27.0 | 2260 | 8.4 | 12.5 | -- | 7.8 |
| 12... | 1255 | 30.0 | 2260 | 8.4 | 12.5 | -- | 7.8 |
| 12... | 1256 | 33.0 | 2260 | 8.4 | 12.5 | -- | 7.8 |
| 12... | 1257 | 36.0 | 2260 | 8.4 | 12.5 | -- | 7.6 |
| 12... | 1258 | 38.0 | 2260 | 8.4 | 12.0 | -- | 7.4 |

ARKANSAS RIVER BASIN

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07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 380424102562601 JOHN MARTIN RESERVOIR SITE JMRO.1N (LAT 38 04 24N LONG 102 56 26W) | | | | | | | |
| AUG 1988 | | | | | | | |
| 03... | 1415 | -- | -- | -- | -- | 2.20 | -- |
| 03... | 1416 | 0.0 | 2150 | 8.3 | 24.0 | -- | 8.8 |
| 03... | 1417 | 3.0 | 2150 | 8.3 | 24.0 | -- | 8.1 |
| 03... | 1418 | 6.0 | 2150 | 8.3 | 24.0 | -- | 8.0 |
| 03... | 1419 | 9.0 | 2150 | 8.3 | 24.0 | -- | 7.8 |
| 03... | 1420 | 12.0 | 2160 | 8.2 | 23.0 | -- | 6.8 |
| 03... | 1421 | 15.0 | 2160 | 8.2 | 23.0 | -- | 6.6 |
| 03... | 1422 | 18.0 | 2160 | 8.2 | 22.5 | -- | 6.8 |
| 03... | 1423 | 21.0 | 2160 | 8.2 | 22.5 | -- | 6.6 |
| 03... | 1424 | 24.0 | 2160 | 8.2 | 22.5 | -- | 6.6 |
| 03... | 1425 | 27.0 | 2160 | 8.2 | 22.5 | -- | 6.5 |
| 03... | 1426 | 30.0 | 2160 | 8.1 | 22.5 | -- | 6.3 |
| 03... | 1427 | 33.0 | 2160 | 8.1 | 22.5 | -- | 6.1 |
| 03... | 1428 | 36.0 | 2160 | 8.1 | 22.5 | -- | 6.1 |
| 03... | 1429 | 39.0 | 2160 | 8.1 | 22.0 | -- | 5.9 |
| 03... | 1430 | 42.0 | 2160 | 8.0 | 22.0 | -- | 5.5 |
| 03... | 1431 | 45.0 | 2160 | 8.0 | 22.0 | -- | 5.2 |
| 03... | 1432 | 48.0 | 2160 | 8.0 | 22.0 | -- | 5.3 |
| 03... | 1433 | 50.0 | 2160 | 8.0 | 22.0 | -- | 5.1 |
| 31... | 1304 | -- | -- | -- | -- | 1.00 | -- |
| 31... | 1305 | 0.0 | 2170 | 8.6 | 24.5 | -- | 9.2 |
| 31... | 1306 | 3.0 | 2180 | 8.2 | 22.0 | -- | 5.8 |
| 31... | 1307 | 6.0 | 2180 | 8.2 | 21.5 | -- | 5.6 |
| 31... | 1308 | 9.0 | 2180 | 8.1 | 21.5 | -- | 5.1 |
| 31... | 1309 | 12.0 | 2180 | 8.1 | 21.5 | -- | 5.0 |
| 31... | 1310 | 15.0 | 2180 | 8.1 | 21.5 | -- | 5.0 |
| 31... | 1311 | 18.0 | 2180 | 8.1 | 21.0 | -- | 5.0 |
| 31... | 1312 | 21.0 | 2180 | 8.1 | 21.0 | -- | 5.0 |
| 31... | 1313 | 24.0 | 2180 | 8.1 | 21.0 | -- | 4.9 |
| 31... | 1314 | 27.0 | 2180 | 8.1 | 21.0 | -- | 4.9 |
| 31... | 1315 | 30.0 | 2180 | 8.1 | 21.0 | -- | 4.8 |
| 31... | 1316 | 33.0 | 2180 | 8.1 | 21.0 | -- | 4.7 |
| 31... | 1317 | 36.0 | 2180 | 8.1 | 21.0 | -- | 4.7 |
| 31... | 1318 | 39.0 | 2180 | 8.1 | 21.0 | -- | 4.6 |
| 31... | 1319 | 41.0 | 2180 | 8.0 | 21.0 | -- | 4.5 |
| OCT | | | | | | | |
| 12... | 1334 | -- | -- | -- | -- | 0.70 | -- |
| 12... | 1335 | 0.0 | 2240 | 8.4 | 16.0 | -- | 8.4 |
| 12... | 1336 | 3.0 | 2250 | 8.5 | 14.0 | -- | 9.3 |
| 12... | 1337 | 6.0 | 2250 | 8.5 | 13.0 | -- | 8.6 |
| 12... | 1338 | 9.0 | 2260 | 8.4 | 12.5 | -- | 8.0 |
| 12... | 1339 | 12.0 | 2260 | 8.4 | 12.5 | -- | 7.6 |
| 12... | 1340 | 15.0 | 2260 | 8.4 | 12.5 | -- | 7.5 |
| 12... | 1341 | 18.0 | 2260 | 8.3 | 12.5 | -- | 7.4 |
| 12... | 1342 | 21.0 | 2260 | 8.3 | 12.5 | -- | 7.4 |
| 12... | 1343 | 24.0 | 2260 | 8.3 | 12.5 | -- | 7.3 |
| 12... | 1344 | 27.0 | 2260 | 8.3 | 12.5 | -- | 7.3 |
| 12... | 1345 | 30.0 | 2260 | 8.3 | 12.5 | -- | 7.2 |
| 12... | 1346 | 33.0 | 2260 | 8.3 | 12.5 | -- | 7.1 |
| 12... | 1347 | 36.0 | 2260 | 8.3 | 12.5 | -- | 6.7 |

ARKANSAS RIVER BASIN

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 380334102561301 JOHN MARTIN RESERVOIR SITE JMRO.1S (LAT 38 03 34N LONG 102 56 13W) | | | | | | | |
| AUG 1988 | | | | | | | |
| 03... | 1444 | -- | -- | -- | -- | 2.40 | -- |
| 03... | 1445 | 0.0 | 2150 | 8.3 | 26.5 | -- | 8.2 |
| 03... | 1446 | 3.0 | 2150 | 8.3 | 26.5 | -- | 8.1 |
| 03... | 1447 | 6.0 | 2150 | 8.3 | 23.5 | -- | 7.8 |
| 03... | 1448 | 9.0 | 2150 | 8.2 | 23.5 | -- | 7.2 |
| 03... | 1449 | 12.0 | 2160 | 8.2 | 23.0 | -- | 6.5 |
| 03... | 1450 | 15.0 | 2150 | 8.2 | 22.5 | -- | 6.2 |
| 03... | 1451 | 18.0 | 2160 | 8.1 | 22.5 | -- | 5.8 |
| 03... | 1452 | 21.0 | 2160 | 8.1 | 22.5 | -- | 5.7 |
| 03... | 1453 | 24.0 | 2160 | 8.1 | 22.5 | -- | 5.7 |
| 03... | 1454 | 27.0 | 2160 | 8.1 | 22.5 | -- | 5.6 |
| 03... | 1455 | 30.0 | 2160 | 8.1 | 22.5 | -- | 6.0 |
| 03... | 1456 | 33.0 | 2160 | 8.1 | 22.5 | -- | 5.7 |
| 03... | 1457 | 36.0 | 2160 | 8.1 | 22.5 | -- | 5.6 |
| 03... | 1458 | 39.0 | 2160 | 8.1 | 22.5 | -- | 5.7 |
| 03... | 1459 | 42.0 | 2160 | 8.1 | 22.5 | -- | 5.3 |
| 03... | 1500 | 45.0 | 2160 | 8.1 | 22.0 | -- | 5.2 |
| 03... | 1501 | 48.0 | 2160 | 8.0 | 22.0 | -- | 5.1 |
| 31... | 1409 | -- | -- | -- | -- | 1.00 | -- |
| 31... | 1410 | 0.0 | 2160 | 8.5 | 24.5 | -- | 8.7 |
| 31... | 1411 | 3.0 | 2160 | 8.5 | 24.5 | -- | 8.6 |
| 31... | 1412 | 6.0 | 2160 | 8.5 | 23.5 | -- | 8.4 |
| 31... | 1413 | 9.0 | 2160 | 8.3 | 21.5 | -- | 6.6 |
| 31... | 1414 | 12.0 | 2170 | 8.2 | 21.5 | -- | 6.1 |
| 31... | 1415 | 15.0 | 2170 | 8.2 | 21.5 | -- | 5.9 |
| 31... | 1416 | 17.0 | 2170 | 8.2 | 21.5 | -- | 5.5 |
| OCT | | | | | | | |
| 12... | 1404 | -- | -- | -- | -- | 0.80 | -- |
| 12... | 1405 | 0.0 | 2250 | 8.5 | 15.0 | -- | 9.3 |
| 12... | 1406 | 3.0 | 2260 | 8.5 | 14.0 | -- | 9.6 |
| 12... | 1407 | 6.0 | 2260 | 8.5 | 13.5 | -- | 9.3 |
| 12... | 1408 | 9.0 | 2260 | 8.5 | 13.0 | -- | 9.0 |
| 12... | 1409 | 12.0 | 2260 | 8.5 | 13.0 | -- | 8.7 |
| 12... | 1410 | 15.0 | 2260 | 8.5 | 12.5 | -- | 8.6 |
| 12... | 1411 | 18.0 | 2260 | 8.4 | 12.5 | -- | 8.0 |

ARKANSAS RIVER BASIN

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07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|---|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 380340102581401 JOHN MARTIN RESERVOIR SITE JMR1.9 (LAT 38 03 40N LONG 102 58 14W) | | | | | | | |
| JUN 1988 | | | | | | | |
| 03... | 1419 | -- | -- | -- | -- | 1.70 | -- |
| 03... | 1420 | 0.0 | 2030 | 8.5 | 21.0 | -- | 8.1 |
| 03... | 1421 | 3.0 | 2040 | 8.6 | 18.0 | -- | 8.8 |
| 03... | 1422 | 6.0 | 2040 | 8.7 | 17.5 | -- | 9.2 |
| 03... | 1423 | 9.0 | 2040 | 8.6 | 17.5 | -- | 8.2 |
| 03... | 1424 | 12.0 | 2050 | 8.5 | 17.5 | -- | 7.4 |
| 03... | 1425 | 15.0 | 2060 | 8.5 | 17.5 | -- | 6.7 |
| 03... | 1426 | 18.0 | 2060 | 8.5 | 17.0 | -- | 7.0 |
| 03... | 1427 | 21.0 | 2060 | 8.5 | 17.0 | -- | 6.9 |
| 03... | 1428 | 24.0 | 2070 | 8.5 | 17.0 | -- | 6.8 |
| 03... | 1429 | 27.0 | 2070 | 8.5 | 17.0 | -- | 6.6 |
| 03... | 1430 | 30.0 | 2080 | 8.5 | 17.0 | -- | 6.9 |
| 03... | 1431 | 33.0 | 2080 | 8.5 | 16.5 | -- | 6.8 |
| 03... | 1432 | 36.0 | 2080 | 8.5 | 16.5 | -- | 6.7 |
| 03... | 1433 | 39.0 | 2080 | 8.4 | 16.5 | -- | 6.3 |
| 03... | 1434 | 42.0 | 2080 | 8.4 | 16.5 | -- | 6.1 |
| 03... | 1435 | 45.0 | 2080 | 8.4 | 16.0 | -- | 5.6 |
| 03... | 1436 | 48.0 | 2080 | 8.3 | 15.5 | -- | 4.4 |
| 03... | 1437 | 51.0 | 2090 | 8.3 | 15.5 | -- | 3.3 |
| 03... | 1438 | 52.0 | 2090 | 8.3 | 15.5 | -- | 2.8 |
| AUG | | | | | | | |
| 03... | 1537 | -- | -- | -- | -- | 1.90 | -- |
| 03... | 1538 | 0.0 | 2140 | 8.4 | 26.5 | -- | 8.6 |
| 03... | 1539 | 3.0 | 2140 | 8.4 | 26.0 | -- | 8.9 |
| 03... | 1540 | 6.0 | 2140 | 8.4 | 24.0 | -- | 8.8 |
| 03... | 1541 | 9.0 | 2140 | 8.3 | 23.5 | -- | 8.0 |
| 03... | 1542 | 12.0 | 2140 | 8.2 | 23.5 | -- | 6.8 |
| 03... | 1543 | 15.0 | 2150 | 8.2 | 23.0 | -- | 6.6 |
| 03... | 1544 | 18.0 | 2150 | 8.2 | 23.0 | -- | 6.5 |
| 03... | 1545 | 21.0 | 2150 | 8.2 | 23.0 | -- | 6.3 |
| 03... | 1546 | 24.0 | 2160 | 8.2 | 23.0 | -- | 6.1 |
| 03... | 1547 | 27.0 | 2160 | 8.2 | 23.0 | -- | 6.0 |
| 03... | 1548 | 30.0 | 2160 | 8.2 | 22.5 | -- | 5.7 |
| 03... | 1549 | 33.0 | 2160 | 8.1 | 22.5 | -- | 5.4 |
| 03... | 1550 | 36.0 | 2160 | 8.2 | 22.5 | -- | 6.2 |
| 03... | 1551 | 39.0 | 2160 | 8.2 | 22.5 | -- | 6.2 |
| 03... | 1552 | 42.0 | 2160 | 8.2 | 22.5 | -- | 6.1 |
| 31... | 1439 | -- | -- | -- | -- | 1.00 | -- |
| 31... | 1440 | 0.0 | 2170 | 8.6 | 24.5 | -- | 10.1 |
| 31... | 1441 | 3.0 | 2170 | 8.6 | 22.5 | -- | 9.3 |
| 31... | 1442 | 6.0 | 2170 | 8.4 | 22.0 | -- | 6.9 |
| 31... | 1443 | 9.0 | 2170 | 8.2 | 21.5 | -- | 6.2 |
| 31... | 1444 | 12.0 | 2170 | 8.2 | 21.5 | -- | 5.7 |
| 31... | 1445 | 15.0 | 2180 | 8.2 | 21.5 | -- | 5.5 |
| 31... | 1446 | 18.0 | 2180 | 8.2 | 21.0 | -- | 5.3 |
| 31... | 1447 | 21.0 | 2190 | 8.1 | 21.0 | -- | 5.1 |
| 31... | 1448 | 24.0 | 2200 | 8.1 | 21.0 | -- | 4.6 |
| 31... | 1449 | 27.0 | 2200 | 8.0 | 20.5 | -- | 4.3 |
| 31... | 1450 | 30.0 | 2200 | 8.0 | 20.5 | -- | 3.5 |
| 31... | 1451 | 32.0 | 2200 | 8.0 | 20.5 | -- | 3.4 |
| OCT | | | | | | | |
| 12... | 1434 | -- | -- | -- | -- | 0.80 | -- |
| 12... | 1435 | 0.0 | 2260 | 8.5 | 15.5 | -- | 10.0 |
| 12... | 1436 | 3.0 | 2260 | 8.7 | 13.0 | -- | 10.6 |
| 12... | 1437 | 6.0 | 2270 | 8.5 | 12.5 | -- | 8.5 |
| 12... | 1438 | 9.0 | 2270 | 8.4 | 12.0 | -- | 8.1 |
| 12... | 1439 | 12.0 | 2270 | 8.4 | 12.0 | -- | 8.0 |
| 12... | 1440 | 15.0 | 2270 | 8.4 | 12.0 | -- | 7.5 |
| 12... | 1441 | 18.0 | 2280 | 8.4 | 12.0 | -- | 7.5 |
| 12... | 1442 | 21.0 | 2280 | 8.4 | 12.0 | -- | 7.4 |
| 12... | 1443 | 24.0 | 2280 | 8.4 | 12.0 | -- | 7.4 |
| 12... | 1444 | 27.0 | 2280 | 8.4 | 11.5 | -- | 7.2 |
| 12... | 1445 | 30.0 | 2280 | 8.4 | 11.5 | -- | 7.2 |

ARKANSAS RIVER BASIN

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|---|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 380411103000401 JOHN MARTIN RESERVOIR SITE JMR3.6 (LAT 38 04 11N LONG 103 00 04W) | | | | | | | |
| JUN 1988 | | | | | | | |
| 03... | 1104 | -- | -- | -- | -- | 1.80 | -- |
| 03... | 1105 | 0.0 | 2060 | 8.5 | 18.0 | -- | 7.4 |
| 03... | 1106 | 3.0 | 2060 | 8.5 | 17.0 | -- | 7.5 |
| 03... | 1107 | 6.0 | 2060 | 8.6 | 16.5 | -- | 7.3 |
| 03... | 1108 | 9.0 | 2060 | 8.5 | 16.5 | -- | 7.1 |
| 03... | 1109 | 12.0 | 2060 | 8.5 | 16.5 | -- | 7.1 |
| 03... | 1110 | 15.0 | 2070 | 8.5 | 16.0 | -- | 6.8 |
| 03... | 1111 | 18.0 | 2070 | 8.5 | 16.0 | -- | 6.6 |
| 03... | 1112 | 21.0 | 2070 | 8.5 | 16.0 | -- | 6.2 |
| 03... | 1113 | 24.0 | 2070 | 8.5 | 16.0 | -- | 6.5 |
| 03... | 1114 | 27.0 | 2070 | 8.5 | 16.0 | -- | 6.1 |
| 03... | 1115 | 30.0 | 2080 | 8.5 | 16.0 | -- | 6.0 |
| 03... | 1116 | 33.0 | 2070 | 8.5 | 16.0 | -- | 5.9 |
| 03... | 1117 | 36.0 | 2070 | 8.5 | 16.0 | -- | 5.9 |
| 03... | 1118 | 39.0 | 2070 | 8.5 | 16.0 | -- | 5.8 |
| 03... | 1119 | 42.0 | 2070 | 8.5 | 16.0 | -- | 5.9 |
| 03... | 1120 | 45.0 | 2080 | 8.5 | 16.0 | -- | 6.0 |
| AUG | | | | | | | |
| 05... | 1026 | -- | -- | -- | -- | 0.90 | -- |
| 05... | 1027 | 0.0 | 2110 | 8.1 | 23.0 | -- | 5.5 |
| 05... | 1028 | 3.0 | 2110 | 8.1 | 23.0 | -- | 5.5 |
| 05... | 1029 | 6.0 | 2110 | 8.1 | 23.0 | -- | 5.3 |
| 05... | 1030 | 9.0 | 2110 | 8.1 | 23.0 | -- | 5.3 |
| 05... | 1031 | 12.0 | 2110 | 8.1 | 23.0 | -- | 5.3 |
| 05... | 1032 | 15.0 | 2110 | 8.1 | 23.0 | -- | 5.2 |
| 05... | 1033 | 18.0 | 2110 | 8.1 | 22.5 | -- | 5.3 |
| 05... | 1034 | 21.0 | 2110 | 8.1 | 22.5 | -- | 5.4 |
| 05... | 1035 | 24.0 | 2100 | 8.2 | 22.5 | -- | 5.6 |
| 05... | 1036 | 27.0 | 2100 | 8.2 | 22.5 | -- | 5.7 |
| 05... | 1037 | 30.0 | 2100 | 8.1 | 22.5 | -- | 4.9 |
| 05... | 1038 | 32.0 | 2100 | 8.1 | 22.5 | -- | 4.8 |
| SEP 1988 | | | | | | | |
| 01... | 1129 | -- | -- | -- | -- | 0.80 | -- |
| 01... | 1130 | 0.0 | 2170 | 8.4 | 22.0 | -- | 8.4 |
| 01... | 1131 | 3.0 | 2180 | 8.5 | 22.0 | -- | 8.3 |
| 01... | 1132 | 6.0 | 2180 | 8.5 | 22.0 | -- | 8.1 |
| 01... | 1133 | 9.0 | 2180 | 8.4 | 21.5 | -- | 7.6 |
| 01... | 1134 | 12.0 | 2180 | 8.4 | 21.5 | -- | 7.4 |
| 01... | 1135 | 15.0 | 2190 | 8.4 | 21.5 | -- | 7.2 |
| 01... | 1136 | 18.0 | 2190 | 8.4 | 21.5 | -- | 6.9 |
| 01... | 1137 | 21.0 | 2190 | 8.4 | 21.5 | -- | 6.7 |
| 01... | 1138 | 24.0 | 2220 | 8.3 | 21.0 | -- | 5.8 |
| OCT | | | | | | | |
| 13... | 1024 | -- | -- | -- | -- | 0.70 | -- |
| 13... | 1025 | 0.0 | 2260 | 8.6 | 12.5 | -- | 10.7 |
| 13... | 1026 | 3.0 | 2260 | 8.6 | 12.5 | -- | 10.3 |
| 13... | 1027 | 6.0 | 2260 | 8.6 | 12.5 | -- | 10.3 |
| 13... | 1028 | 9.0 | 2260 | 8.6 | 12.0 | -- | 10.0 |
| 13... | 1029 | 12.0 | 2260 | 8.6 | 12.0 | -- | 9.8 |
| 13... | 1030 | 15.0 | 2260 | 8.6 | 12.0 | -- | 9.4 |
| 13... | 1031 | 18.0 | 2280 | 8.5 | 11.5 | -- | 8.1 |
| 13... | 1032 | 21.0 | 2310 | 8.4 | 11.0 | -- | 7.2 |
| 13... | 1033 | 23.0 | 2310 | 8.4 | 11.0 | -- | 7.0 |

ARKANSAS RIVER BASIN

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07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|--|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| 380444103000401 JOHN MARTIN RESERVOIR SITE JMR3.6N (LAT 38 04 44N LONG 103 00 04W) | | | | | | | |
| JUN 1988 | | | | | | | |
| 03... | 1249 | -- | -- | -- | -- | 1.80 | -- |
| 03... | 1250 | 0.0 | 2060 | 8.5 | 18.5 | -- | 7.3 |
| 03... | 1251 | 3.0 | 2070 | 8.5 | 18.0 | -- | 7.1 |
| 03... | 1252 | 6.0 | 2070 | 8.6 | 17.0 | -- | 7.2 |
| 03... | 1253 | 9.0 | 2070 | 8.6 | 16.5 | -- | 7.6 |
| 03... | 1254 | 12.0 | 2070 | 8.6 | 16.5 | -- | 7.0 |
| 03... | 1255 | 15.0 | 2070 | 8.6 | 16.5 | -- | 7.1 |
| 03... | 1256 | 19.0 | 2070 | 8.6 | 16.5 | -- | 6.7 |
| AUG | | | | | | | |
| 05... | 1059 | -- | -- | -- | -- | 0.90 | -- |
| 05... | 1100 | 0.0 | 2100 | 8.1 | 23.0 | -- | 6.1 |
| 05... | 1101 | 2.0 | 2110 | 8.1 | 23.0 | -- | 6.5 |
| 05... | 1102 | 4.0 | 2110 | 8.1 | 23.0 | -- | 6.4 |
| 05... | 1103 | 6.0 | 2110 | 8.1 | 23.0 | -- | 6.4 |
| 05... | 1104 | 8.0 | 2110 | 8.1 | 23.0 | -- | 6.5 |
| 05... | 1105 | 10.0 | 2100 | 8.1 | 23.0 | -- | 6.5 |
| 05... | 1106 | 12.0 | 2100 | 8.1 | 23.0 | -- | 6.5 |
| 05... | 1107 | 14.0 | 2100 | 8.1 | 23.0 | -- | 6.6 |
| 05... | 1108 | 16.0 | 2100 | 8.1 | 23.0 | -- | 6.7 |
| SEP | | | | | | | |
| 01... | 1159 | -- | -- | -- | -- | 0.80 | -- |
| 01... | 1200 | 0.0 | 2180 | 8.5 | 22.0 | -- | 8.4 |
| 01... | 1201 | 3.0 | 2180 | 8.5 | 22.0 | -- | 8.3 |
| 01... | 1202 | 6.0 | 2180 | 8.5 | 22.0 | -- | 8.1 |
| 01... | 1203 | 9.0 | 2180 | 8.4 | 21.5 | -- | 7.0 |
| 01... | 1204 | 12.0 | 2180 | 8.4 | 21.5 | -- | 6.7 |
| 01... | 1205 | 15.0 | 2180 | 8.4 | 21.5 | -- | 6.6 |
| 01... | 1206 | 18.0 | 2180 | 8.3 | 21.5 | -- | 6.4 |
| 01... | 1207 | 21.0 | 2180 | 8.2 | 21.0 | -- | 5.9 |
| 01... | 1208 | 24.0 | 2190 | 8.2 | 21.0 | -- | 4.8 |
| 01... | 1209 | 26.0 | 2200 | 8.1 | 21.0 | -- | 4.7 |
| OCT | | | | | | | |
| 13... | 1129 | -- | -- | -- | -- | 0.70 | -- |
| 13... | 1130 | 0.0 | 2240 | 8.7 | 12.5 | -- | 10.4 |
| 13... | 1131 | 3.0 | 2240 | 8.7 | 12.5 | -- | 10.2 |
| 13... | 1132 | 6.0 | 2240 | 8.7 | 12.0 | -- | 10.1 |
| 13... | 1133 | 9.0 | 2240 | 8.6 | 12.0 | -- | 9.6 |
| 13... | 1134 | 12.0 | 2250 | 8.6 | 12.0 | -- | 9.2 |
| 13... | 1135 | 15.0 | 2250 | 8.5 | 11.5 | -- | 8.7 |
| 13... | 1136 | 18.0 | 2260 | 8.5 | 11.0 | -- | 8.0 |
| 13... | 1137 | 21.0 | 2260 | 8.5 | 11.0 | -- | 7.5 |

380338103000401 JOHN MARTIN RESERVOIR SITE JMR3.6S (LAT 38 03 38N LONG 103 00 04W)

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|----------|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
| JUN 1988 | | | | | | | |
| 03... | 1224 | -- | -- | -- | -- | 1.70 | -- |
| 03... | 1225 | 0.0 | 2030 | 8.5 | 20.5 | -- | 8.3 |
| 03... | 1226 | 3.0 | 2040 | 8.6 | 18.0 | -- | 8.5 |
| 03... | 1227 | 6.0 | 2050 | 8.6 | 17.5 | -- | 7.9 |
| 03... | 1228 | 9.0 | 2050 | 8.6 | 17.0 | -- | 7.4 |
| 03... | 1229 | 12.0 | 2050 | 8.5 | 17.0 | -- | 6.9 |
| 03... | 1230 | 15.0 | 2050 | 8.5 | 17.0 | -- | 6.7 |
| 03... | 1231 | 18.0 | 2050 | 8.5 | 17.0 | -- | 6.5 |
| 03... | 1232 | 21.0 | 2060 | 8.5 | 16.5 | -- | 6.4 |
| 03... | 1233 | 24.0 | 2070 | 8.5 | 16.5 | -- | 6.4 |
| 03... | 1234 | 36.0 | 2080 | 8.5 | 16.0 | -- | 5.5 |
| 03... | 1235 | 45.0 | 2080 | 8.4 | 16.0 | -- | 5.1 |
| AUG | | | | | | | |
| 05... | 1119 | -- | -- | -- | -- | 0.90 | -- |
| 05... | 1120 | 0.0 | 2100 | 8.2 | 23.0 | -- | 6.6 |
| 05... | 1121 | 3.0 | 2100 | 8.2 | 23.0 | -- | 6.4 |
| 05... | 1122 | 6.0 | 2100 | 8.2 | 23.0 | -- | 6.4 |
| 05... | 1123 | 9.0 | 2100 | 8.2 | 23.0 | -- | 6.1 |
| 05... | 1124 | 12.0 | 2100 | 8.2 | 23.0 | -- | 6.1 |
| 05... | 1125 | 15.0 | 2100 | 8.2 | 23.0 | -- | 6.0 |
| 05... | 1126 | 18.0 | 2100 | 8.2 | 23.0 | -- | 5.9 |
| 05... | 1127 | 21.0 | 2100 | 8.2 | 23.0 | -- | 5.8 |
| 05... | 1128 | 24.0 | 2100 | 8.2 | 23.0 | -- | 5.8 |
| 05... | 1129 | 27.0 | 2100 | 8.2 | 23.0 | -- | 6.0 |
| 05... | 1130 | 30.0 | 2100 | 8.2 | 22.5 | -- | 5.8 |
| SEP | | | | | | | |
| 01... | 1239 | -- | -- | -- | -- | 0.90 | -- |
| 01... | 1240 | 0.0 | 2180 | 8.5 | 22.0 | -- | 8.1 |
| 01... | 1241 | 3.0 | 2180 | 8.5 | 22.0 | -- | 8.0 |
| 01... | 1242 | 6.0 | 2180 | 8.5 | 22.0 | -- | 7.9 |
| 01... | 1243 | 9.0 | 2180 | 8.4 | 21.5 | -- | 7.6 |
| 01... | 1244 | 12.0 | 2190 | 8.4 | 21.5 | -- | 6.8 |
| 01... | 1245 | 15.0 | 2200 | 8.3 | 21.0 | -- | 6.2 |
| 01... | 1246 | 18.0 | 2200 | 8.3 | 21.0 | -- | 6.1 |
| 01... | 1247 | 21.0 | 2200 | 8.3 | 21.0 | -- | 6.1 |
| 01... | 1248 | 24.0 | 2220 | 8.2 | 20.5 | -- | 5.4 |
| 01... | 1249 | 26.0 | 2220 | 8.2 | 20.5 | -- | 5.3 |

ARKANSAS RIVER BASIN

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| 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) (M) | OXYGEN, DIS- SOLVED (MG/L) |
|------|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|
|------|------|----------------------------------|---|--------------------------------|--------------------------------------|---|-------------------------------------|

380338103000401 JOHN MARTIN RESERVOIR SITE JMR3.6S (LAT 38 03 38N LONG 103 00 04W)--Continued

OCT 1988

| | | | | | | | |
|-------|------|------|------|-----|------|------|------|
| 13... | 1059 | -- | -- | -- | -- | 0.70 | -- |
| 13... | 1100 | 0.0 | 2250 | 8.7 | 13.0 | -- | 11.0 |
| 13... | 1101 | 3.0 | 2250 | 8.7 | 12.5 | -- | 10.6 |
| 13... | 1102 | 6.0 | 2250 | 8.7 | 12.5 | -- | 10.2 |
| 13... | 1103 | 9.0 | 2250 | 8.6 | 12.5 | -- | 9.6 |
| 13... | 1104 | 12.0 | 2250 | 8.5 | 12.0 | -- | 8.8 |
| 13... | 1105 | 15.0 | 2250 | 8.5 | 12.0 | -- | 8.5 |
| 13... | 1106 | 18.0 | 2250 | 8.5 | 12.0 | -- | 8.3 |
| 13... | 1107 | 21.0 | 2250 | 8.5 | 12.0 | -- | 8.2 |

380452103031001 JOHN MARTIN RESERVOIR SITE JMR6.4 (LAT 38 04 52N LONG 103 03 10W)

JUN 1988

| | | | | | | | |
|-------|------|------|------|-----|------|------|-----|
| 01... | 1814 | -- | -- | -- | -- | 0.50 | -- |
| 01... | 1815 | 0.0 | 2060 | 8.5 | 19.0 | -- | 8.8 |
| 01... | 1816 | 3.0 | 2060 | 8.6 | 19.0 | -- | 8.3 |
| 01... | 1817 | 6.0 | 2070 | 8.6 | 18.5 | -- | 7.4 |
| 01... | 1818 | 9.0 | 2080 | 8.6 | 18.5 | -- | 7.0 |
| 01... | 1819 | 12.0 | 2080 | 8.6 | 18.0 | -- | 7.0 |
| 01... | 1820 | 15.0 | 2080 | 8.6 | 18.0 | -- | 6.9 |
| 01... | 1821 | 18.0 | 2080 | 8.5 | 17.5 | -- | 6.0 |
| 01... | 1822 | 21.0 | 2090 | 8.5 | 17.5 | -- | 6.1 |
| 01... | 1823 | 24.0 | 2090 | 8.4 | 17.5 | -- | 4.7 |
| 01... | 1824 | 26.0 | 2100 | 8.4 | 17.0 | -- | 3.8 |
| 03... | 1329 | -- | -- | -- | -- | 0.90 | -- |
| 03... | 1330 | 0.0 | 2010 | 8.7 | 20.0 | -- | 9.4 |
| 03... | 1331 | 3.0 | 2030 | 8.6 | 18.0 | -- | 8.3 |
| 03... | 1332 | 6.0 | 2040 | 8.5 | 18.0 | -- | 7.6 |
| 03... | 1333 | 9.0 | 2050 | 8.5 | 17.5 | -- | 6.7 |
| 03... | 1334 | 12.0 | 2050 | 8.5 | 17.5 | -- | 6.3 |
| 03... | 1335 | 15.0 | 2050 | 8.5 | 17.5 | -- | 6.2 |
| 03... | 1336 | 18.0 | 2060 | 8.4 | 17.0 | -- | 6.1 |
| 03... | 1337 | 21.0 | 2070 | 8.4 | 16.5 | -- | 5.8 |
| 03... | 1338 | 24.0 | 2070 | 8.4 | 16.5 | -- | 5.5 |
| 03... | 1339 | 25.0 | 2070 | 8.3 | 16.5 | -- | 5.3 |

AUG

| | | | | | | | |
|-------|------|------|------|------|------|------|------|
| 05... | 1319 | -- | -- | -- | -- | 0.50 | -- |
| 05... | 1320 | 0.0 | 2110 | 8.3 | 23.5 | -- | 9.0 |
| 05... | 1321 | 2.0 | 2110 | 8.3 | 23.5 | -- | 8.7 |
| 05... | 1322 | 4.0 | 2110 | 8.2 | 23.5 | -- | 8.7 |
| 05... | 1323 | 6.0 | 2110 | 8.2 | 23.5 | -- | 8.5 |
| 05... | 1324 | 8.0 | 2110 | 8.2 | 23.5 | -- | 8.5 |
| 05... | 1325 | 10.0 | 2110 | 8.2 | 23.0 | -- | 8.3 |
| 05... | 1326 | 12.0 | 2110 | 8.0 | 23.0 | -- | 6.0 |
| 31... | 1519 | -- | -- | -- | -- | 0.40 | -- |
| 31... | 1520 | 0.0 | 2250 | 8.9 | 25.0 | -- | 13.4 |
| 31... | 1521 | 1.0 | 2250 | 8.9 | 25.0 | -- | 13.3 |
| 31... | 1522 | 2.0 | 2260 | 8.9 | 24.5 | -- | 13.3 |
| 31... | 1523 | 3.0 | 2290 | 8.76 | 23.5 | -- | 11.2 |
| 31... | 1524 | 4.0 | 2290 | 8.6 | 22.5 | -- | 9.5 |

OCT

| | | | | | | | |
|-------|------|-----|------|-----|------|------|------|
| 13... | 1204 | -- | -- | -- | -- | 0.30 | -- |
| 13... | 1205 | 0.0 | 2450 | 8.6 | 13.5 | -- | 11.7 |
| 13... | 1206 | 1.0 | 2450 | 8.6 | 13.5 | -- | 11.5 |
| 13... | 1207 | 2.0 | 2450 | 8.6 | 13.5 | -- | 11.5 |
| 13... | 1208 | 3.0 | 2450 | 8.6 | 13.5 | -- | 11.5 |

380504103053401 JOHN MARTIN RESERVOIR SITE JMR8.6 (LAT 38 05 04N LONG 103 05 34W)

JUN 1988

| | | | | | | | |
|-------|------|-----|------|-----|------|------|-----|
| 01... | 1539 | -- | -- | -- | -- | 0.40 | -- |
| 01... | 1540 | 0.0 | 2040 | 8.6 | 19.0 | -- | 8.8 |
| 01... | 1541 | 3.0 | 2050 | 8.6 | 18.5 | -- | 8.4 |
| 01... | 1542 | 6.0 | 2080 | 8.5 | 18.0 | -- | 5.8 |
| 01... | 1543 | 7.0 | 2080 | 8.4 | 17.5 | -- | 5.3 |

380516103053401 JOHN MARTIN RESERVOIR SITE JMR8.6N (LAT 38 05 16N LONG 103 05 34W)

JUN 1988

| | | | | | | | |
|-------|------|-----|------|-----|------|----|------|
| 01... | 1725 | 0.0 | 1980 | 8.6 | 19.5 | -- | 10.5 |
| 01... | 1726 | 3.0 | 2050 | 8.6 | 18.0 | -- | 7.7 |
| 01... | 1727 | 6.0 | 2040 | 8.4 | 17.5 | -- | 5.6 |
| 01... | 1728 | 8.0 | 2040 | 8.4 | 17.5 | -- | 5.4 |

ARKANSAS RIVER BASIN

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07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| | | 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) | | |
|--|------|---|--|---|---|---|---|--|--|---|--|
| 380452103053401 JOHN MARTIN RESERVOIR SITE JMR8.6S (LAT 38 04 52N LONG 103 05 34W) | | | | | | | | | | | |
| JUN 1988 | | | | | | | | | | | |
| | | 01... | 1715 | | 0.0 | 2030 | 8.6 | 19.5 | 10.6 | | |
| | | 01... | 1716 | | 3.0 | 2030 | 8.6 | 19.0 | 9.6 | | |
| | | 01... | 1717 | | 6.0 | 2050 | 8.5 | 18.0 | 6.5 | | |
| | | 01... | 1718 | | 8.0 | 2060 | 8.4 | 17.5 | 5.5 | | |
| DATE | TIME | SAM- PLING DEPTH (FEET) | 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) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | FLUO- RIDE, DIS- SOLVED (MG/L AS F) |
| 380359102561301 JOHN MARTIN RESERVOIR SITE JMR0.1 (LAT 38 03 59N LONG 102 56 13W) | | | | | | | | | | | |
| JUN 1988 | | | | | | | | | | | |
| 03... | 0915 | 5.0 | 820 | 180 | 90 | 190 | 3 | 5.8 | 940 | 57 | 0.90 |
| 03... | 1045 | 50.0 | 750 | 160 | 85 | 190 | 3 | 5.9 | 940 | 57 | 0.90 |
| AUG | | | | | | | | | | | |
| 03... | 1350 | 6.0 | 780 | 160 | 92 | 210 | 3 | 6.1 | 1000 | 58 | 0.70 |
| 03... | 1430 | 48.0 | 780 | 160 | 93 | 210 | 3 | 6.2 | 990 | 58 | 0.80 |
| 31... | 1210 | 3.0 | 800 | 170 | 91 | 230 | 4 | 6.5 | 1100 | 60 | 0.80 |
| 31... | 1250 | 36.0 | 820 | 170 | 95 | 230 | 4 | 6.6 | 1100 | 60 | 0.80 |
| OCT | | | | | | | | | | | |
| 12... | 1210 | 3.0 | 860 | 180 | 100 | 210 | 3 | 6.5 | 1100 | 63 | 0.80 |
| 12... | 1220 | 35.0 | 840 | 180 | 95 | 210 | 3 | 6.6 | 1100 | 63 | 0.80 |
| 380411103000401 JOHN MARTIN RESERVOIR SITE JMR3.6 (LAT 38 04 11N LONG 103 00 04W) | | | | | | | | | | | |
| JUN 1988 | | | | | | | | | | | |
| 03... | 1100 | 5.0 | 820 | 180 | 90 | 190 | 3 | 5.8 | 940 | 56 | 0.90 |
| 03... | 1205 | 45.0 | 780 | 170 | 87 | 190 | 3 | 5.8 | 930 | 57 | 0.90 |
| AUG | | | | | | | | | | | |
| 05... | 1015 | 30.0 | 770 | 160 | 90 | 200 | 3 | 6.1 | 990 | 58 | 0.80 |
| 05... | 1020 | 3.0 | 780 | 160 | 93 | 210 | 3 | 6.2 | 990 | 59 | 0.90 |
| SEP | | | | | | | | | | | |
| 01... | 1050 | 3.0 | 770 | 160 | 89 | 230 | 4 | 6.6 | 1100 | 61 | 0.80 |
| 01... | 1120 | 23.0 | 800 | 170 | 91 | 220 | 3 | 6.5 | 1100 | 61 | 0.80 |
| OCT | | | | | | | | | | | |
| 13... | 1015 | 2.0 | 860 | 180 | 100 | 220 | 3 | 6.6 | 1100 | 65 | 0.80 |
| 13... | 1020 | 20.0 | 820 | 170 | 96 | 230 | 4 | 6.5 | 1100 | 66 | 0.80 |
| 380504103053401 JOHN MARTIN RESERVOIR SITE JMR8.6 (LAT 38 05 04N LONG 103 05 34W) | | | | | | | | | | | |
| JUN 1988 | | | | | | | | | | | |
| 01... | 1625 | 1.0 | 740 | 160 | 83 | 170 | 3 | 5.5 | 910 | 51 | 0.90 |
| 01... | 1700 | 6.0 | 750 | 160 | 84 | 180 | 3 | 5.6 | 920 | 54 | 0.90 |
| DATE | | 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) | 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- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
| 380359102561301 JOHN MARTIN RESERVOIR SITE JMR0.1 (LAT 38 03 59N LONG 102 56 13W) | | | | | | | | | | | |
| JUN 1988 | | | | | | | | | | | |
| 03... | | 2.8 | 1690 | 1560 | <0.01 | <0.10 | 0.11 | <0.01 | <0.01 | 20 | <10 |
| 03... | | 2.7 | 1680 | 1540 | <0.01 | <0.10 | 0.11 | 0.06 | <0.01 | 5 | 16 |
| AUG | | | | | | | | | | | |
| 03... | | 6.4 | 1720 | 1620 | 0.01 | <0.10 | 0.07 | 0.03 | <0.01 | 20 | <10 |
| 03... | | 6.7 | 1740 | 1610 | 0.02 | <0.10 | 0.15 | 0.03 | 0.01 | 20 | 30 |
| 31... | | 8.9 | 1750 | 1750 | <0.01 | <0.10 | 0.04 | 0.01 | <0.01 | 20 | 10 |
| 31... | | 8.7 | 1750 | 1750 | <0.01 | <0.10 | 0.11 | 0.02 | <0.01 | 30 | 10 |
| OCT | | | | | | | | | | | |
| 12... | | 8.1 | 1860 | 1750 | <0.01 | <0.10 | 0.04 | 0.03 | <0.01 | 10 | <10 |
| 12... | | 8.0 | 1860 | 1740 | <0.01 | <0.10 | 0.08 | 0.01 | <0.01 | 10 | 20 |

ARKANSAS RIVER BASIN

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO--Continued

WATER-QUALITY DATA, JUNE TO OCTOBER 1988

| DATE | SILICA, DIS- SOLVED (MG/L AS SI02) | SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) | SOLIDS, SUM OF CONSTI- TUENTS, 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- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) | IRON, DIS- SOLVED (UG/L AS FE) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) |
|---|---|--|---|---|---|---|--|--|--|--|
| 380411103000401 JOHN MARTIN RESERVOIR SITE JMR3.6 (LAT 38 04 11N LONG 103 00 04W) | | | | | | | | | | |
| JUN 1988 | | | | | | | | | | |
| 03... | 2.9 | 1680 | 1560 | <0.01 | <0.10 | 0.06 | 0.07 | <0.01 | 10 | <10 |
| 03... | 3.0 | 1690 | 1540 | <0.01 | <0.10 | 0.04 | 0.06 | <0.01 | 20 | 20 |
| AUG | | | | | | | | | | |
| 05... | 7.2 | 1710 | 1600 | 0.01 | <0.10 | 0.10 | 0.03 | <0.01 | 11 | 7 |
| 05... | 7.5 | 1720 | 1610 | 0.01 | <0.10 | 0.11 | 0.02 | <0.01 | 20 | <10 |
| SEP | | | | | | | | | | |
| 01... | 8.4 | 1760 | 1730 | <0.01 | <0.10 | 0.04 | 0.01 | <0.01 | 30 | <10 |
| 01... | 8.3 | 1770 | 1740 | <0.01 | <0.10 | 0.03 | 0.01 | <0.01 | 30 | <10 |
| OCT | | | | | | | | | | |
| 13... | 8.1 | 1880 | 1760 | <0.01 | <0.10 | 0.04 | 0.02 | <0.01 | <10 | <10 |
| 13... | 8.3 | 1950 | 1760 | <0.01 | <0.10 | 0.04 | 0.01 | <0.01 | 10 | 30 |

| | | | | | | | | | | |
|---|-----|------|------|-------|-------|------|------|-------|----|----|
| 380504103053401 JOHN MARTIN RESERVOIR SITE JMR8.6 (LAT 38 05 04N LONG 103 05 34W) | | | | | | | | | | |
| JUN 1988 | | | | | | | | | | |
| 01... | 5.0 | 1600 | 1470 | <0.01 | <0.10 | 0.04 | 0.64 | <0.01 | 23 | 4 |
| 01... | 3.7 | 1650 | 1500 | <0.01 | <0.10 | 0.07 | 0.11 | <0.01 | 5 | 30 |

343

LOCATION.--Lat 38°03'59", long 102°55'55", in NW¼NE¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, on right bank 0.2 mi downstream from John Martin Dam, 2.6 mi upstream from Caddoa Creek, and 3.5 mi southeast of Hasty.

DRAINAGE AREA.--18,915 mi², of which 785 mi² is probably noncontributing.

PERIOD OF RECORD.--March 1938 to current year. Published as "at Caddoa" prior to October 1947.

REVISED RECORDS.--WSP 1241: 1942(M). WSP 1341: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,737.40 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 22, 1940, at site 3 mi upstream at datum 22.83 ft, higher. Feb. 22, 1940, to Feb. 4, 1943, at site 700 ft upstream at datum 3.64 ft, higher, Feb. 5, 1943, to Apr. 8, 1975, at site 1.5 mi downstream at datum approximately 27.5 ft, lower.

REMARKS.--Estimated daily discharges: Jan. 2-21, and Aug. 1. Records good except for estimated daily discharges, which are fair. Storage diversions upstream from station for irrigation of about 438,000 acres and for flood control. Flow completely regulated by John Martin Dam (station 07130000) 0.2 mi upstream since Oct. 1948.

AVERAGE DISCHARGE.--5 years (water years 1939-43), 628 ft³/s, unadjusted; 455,000 acre-ft/yr, during construction of John Martin Dam: 40 years (water years 1949-88), 258 ft³/s; 186,900 acre-ft/yr, adjusted for storage in John Martin Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s, Apr. 24, 1942, gage height, 10.46 ft, site and datum then in use, from rating curve extended above 12,000 ft³/s, on basis of flow-over-dam and critical-depth measurement of peak flow; no flow at times in 1945-47; minimum daily prior to construction of John Martin Reservoir, 5 ft³/s, July 16, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,560 ft³/s at 1400 June 24, gage height, 4.70 ft; minimum daily, 4.0 ft³/s, Dec. 18-20, Jan. 1.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|--------|-------|-------|-------|--------|---------|-------|-------|-------|-------|-------|
| 1 | 158 | 182 | 8.3 | 4.0 | 6.8 | 6.3 | 162 | 630 | 353 | 1330 | 1050 | 503 |
| 2 | 158 | 163 | 8.3 | 4.2 | 6.8 | 6.3 | 95 | 620 | 325 | 1330 | 1040 | 511 |
| 3 | 158 | 147 | 7.9 | 4.5 | 6.8 | 6.3 | 6.3 | 623 | 300 | 1330 | 1190 | 510 |
| 4 | 158 | 146 | 7.0 | 5.2 | 6.8 | 6.3 | 6.2 | 562 | 277 | 1330 | 1190 | 509 |
| 5 | 137 | 151 | 5.7 | 5.5 | 6.8 | 6.3 | 5.5 | 625 | 277 | 1270 | 1080 | 511 |
| 6 | 110 | 152 | 5.3 | 6.0 | 6.8 | 6.3 | 16 | 623 | 272 | 1270 | 998 | 474 |
| 7 | 104 | 150 | 5.8 | 5.5 | 6.8 | 6.3 | 48 | 626 | 273 | 1300 | 993 | 446 |
| 8 | 104 | 146 | 5.5 | 5.5 | 6.8 | 6.3 | 95 | 623 | 354 | 1160 | 1080 | 455 |
| 9 | 436 | 137 | 5.3 | 6.0 | 6.8 | 7.4 | 109 | 625 | 425 | 1050 | 1140 | 458 |
| 10 | 653 | 134 | 5.1 | 6.0 | 6.8 | 7.3 | 116 | 640 | 488 | 1050 | 1100 | 457 |
| 11 | 649 | 134 | 4.8 | 6.5 | 6.8 | 6.3 | 215 | 662 | 523 | 993 | 1060 | 453 |
| 12 | 649 | 142 | 4.8 | 6.5 | 6.8 | 5.8 | 152 | 643 | 542 | 980 | 1060 | 449 |
| 13 | 613 | 143 | 4.8 | 6.6 | 6.7 | 5.8 | 451 | 625 | 581 | 1050 | 1050 | 418 |
| 14 | 567 | 143 | 4.8 | 6.6 | 5.8 | 5.8 | 699 | 630 | 586 | 1090 | 1050 | 374 |
| 15 | 535 | 143 | 4.8 | 6.6 | 5.8 | 72 | 713 | 627 | 582 | 1100 | 1040 | 289 |
| 16 | 514 | 134 | 4.7 | 6.6 | 5.8 | 113 | 704 | 628 | 569 | 1150 | 1040 | 249 |
| 17 | 512 | 55 | 4.2 | 6.4 | 5.8 | 113 | 693 | 645 | 599 | 1160 | 1050 | 247 |
| 18 | 512 | 9.8 | 4.0 | 6.0 | 5.8 | 110 | 767 | 653 | 622 | 1160 | 1080 | 249 |
| 19 | 400 | 9.3 | 4.0 | 6.0 | 5.8 | 107 | 779 | 963 | 618 | 1160 | 990 | 203 |
| 20 | 240 | 7.4 | 4.0 | 6.0 | 5.8 | 107 | 747 | 1130 | 616 | 1110 | 853 | 184 |
| 21 | 232 | 7.3 | 4.6 | 6.0 | 5.8 | 107 | 1000 | 1090 | 1120 | 997 | 845 | 181 |
| 22 | 238 | 7.3 | 4.7 | 6.3 | 5.8 | 107 | 1360 | 765 | 1480 | 902 | 911 | 184 |
| 23 | 241 | 7.3 | 4.4 | 6.7 | 5.8 | 108 | 1350 | 465 | 1500 | 877 | 1020 | 172 |
| 24 | 241 | 7.3 | 4.4 | 6.8 | 5.8 | 107 | 1340 | 405 | 1520 | 880 | 1010 | 140 |
| 25 | 241 | 7.3 | 4.4 | 6.8 | 5.8 | 118 | 1320 | 403 | 1530 | 879 | 1000 | 138 |
| 26 | 241 | 7.3 | 4.7 | 6.8 | 6.1 | 128 | 956 | 438 | 1520 | 879 | 799 | 137 |
| 27 | 241 | 7.3 | 4.8 | 6.8 | 6.3 | 129 | 644 | 484 | 1440 | 1050 | 572 | 138 |
| 28 | 234 | 8.2 | 4.8 | 6.8 | 6.3 | 131 | 628 | 513 | 1400 | 1160 | 566 | 135 |
| 29 | 227 | 8.3 | 4.8 | 6.8 | 6.3 | 357 | 637 | 522 | 1400 | 1170 | 518 | 134 |
| 30 | 205 | 8.3 | 4.5 | 6.8 | --- | 662 | 635 | 536 | 1360 | 1170 | 392 | 134 |
| 31 | 190 | --- | 4.2 | 6.8 | --- | 511 | --- | 450 | --- | 1150 | 500 | --- |
| TOTAL | 9898 | 2504.4 | 159.4 | 189.6 | 182.9 | 3175.8 | 16449.0 | 19474 | 23452 | 34487 | 29267 | 9442 |
| MEAN | 319 | 83.5 | 5.14 | 6.12 | 6.31 | 102 | 548 | 628 | 782 | 1112 | 944 | 315 |
| MAX | 653 | 182 | 8.3 | 6.8 | 6.8 | 662 | 1360 | 1130 | 1530 | 1330 | 1190 | 511 |
| MIN | 104 | 7.3 | 4.0 | 4.0 | 5.8 | 5.8 | 5.5 | 403 | 272 | 877 | 392 | 134 |
| AC-FT | 19630 | 4970 | 316 | 376 | 363 | 6300 | 32630 | 38630 | 46520 | 68400 | 58050 | 18730 |

| | | | | | |
|-------------|----------------|----------|----------|---------|--------------|
| CAL YR 1987 | TOTAL 278250.3 | MEAN 762 | MAX 3100 | MIN 4.0 | AC-FT 551900 |
| WTR YR 1988 | TOTAL 148681.1 | MEAN 406 | MAX 1530 | MIN 4.0 | AC-FT 294900 |

ARKANSAS RIVER BASIN

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1985 to current year.

WATER TEMPERATURE: December 1985 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Daily data that are not published are either missing or of poor quality. Daily maximum and minimum specific conductance data available in district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,540 microsiemens Feb. 26, 1986; minimum, 1,180 microsiemens July 31 to Aug. 1, 1987.

WATER TEMPERATURE: Maximum, 25.9°C Aug. 30, 1988; minimum, 0.0°C Jan. 1-3, 1988.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,820 microsiemens Apr. 4; minimum, 1,210 microsiemens Oct. 23-24.

WATER TEMPERATURE: Maximum, 25.9°C Aug. 30; minimum, 0.0°C Jan. 1-3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | OXYGEN, DIS- SOLVED (MG/L) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-------|------|---|---|--------------------------------|-------------------------------------|--|--|
| OCT | | | | | | | |
| 07... | 0830 | 104 | 1550 | 8.4 | 9.4 | <0.10 | 0.05 |
| NOV | | | | | | | |
| 06... | 0915 | 145 | 1650 | 8.4 | 9.1 | <0.10 | 0.11 |
| DEC | | | | | | | |
| 10... | 1315 | 5.4 | 2230 | 8.0 | 11.2 | 0.10 | 0.44 |
| JAN | | | | | | | |
| 07... | 1245 | 5.7 | 2260 | 7.9 | 10.8 | 0.20 | 0.44 |
| FEB | | | | | | | |
| 11... | 1340 | 6.7 | 2260 | 7.8 | 11.3 | 0.30 | 0.41 |
| MAR | | | | | | | |
| 17... | 1130 | 115 | 2000 | 8.4 | 12.2 | 0.30 | 0.08 |
| APR | | | | | | | |
| 21... | 1145 | 842 | 1930 | 8.4 | 11.8 | 0.27 | 0.09 |
| MAY | | | | | | | |
| 18... | 0830 | 649 | 2010 | 8.4 | 10.6 | 0.10 | 0.09 |
| JUN | | | | | | | |
| 16... | 1600 | 542 | 2040 | -- | 9.1 | <0.10 | 0.19 |
| JUL | | | | | | | |
| 14... | 1010 | 1090 | 2090 | 8.1 | 8.5 | 0.20 | 0.12 |
| AUG | | | | | | | |
| 22... | 1100 | 1060 | 2120 | 8.2 | 8.8 | <0.10 | 0.11 |
| SEP | | | | | | | |
| 14... | 1050 | 360 | 2160 | 8.4 | 9.3 | <0.10 | 0.02 |

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 1430 | --- | 2090 | 2090 | 2290 | 2330 | 1910 | 1990 | 2080 | 2150 | 2010 | 1950 |
| 2 | 1470 | --- | 2060 | 2140 | 2300 | 2300 | 1950 | 1970 | 2090 | 2150 | 2030 | 1830 |
| 3 | 1450 | --- | 2070 | 2120 | 2290 | 2300 | 2390 | 1970 | 2080 | 2150 | 2020 | 1920 |
| 4 | 1600 | --- | 2100 | --- | 2290 | 2280 | 2550 | 1980 | 2100 | 2150 | 1970 | 1950 |
| 5 | 1600 | --- | 2110 | --- | 2300 | 2330 | 2340 | 1990 | 2100 | 2140 | 1950 | 1950 |
| 6 | 1560 | 1630 | 2200 | --- | 2280 | 2290 | 2280 | 1990 | 2080 | 2150 | 2050 | 2060 |
| 7 | 1540 | 1620 | 2210 | --- | 2270 | 2340 | 2100 | 2010 | 2090 | 2150 | 2110 | 2140 |
| 8 | 1510 | 1620 | 2300 | --- | 2280 | 2340 | 2000 | 2010 | 2080 | 2170 | 2160 | 2140 |
| 9 | 1480 | 1610 | 2340 | --- | 2290 | 2300 | 1990 | 2000 | 2070 | 2100 | 2190 | 2150 |
| 10 | 1400 | 1610 | 2280 | --- | 2280 | 2300 | 2000 | 2000 | 2080 | 1990 | 2220 | 2160 |
| 11 | 1370 | 1620 | 2190 | --- | 2270 | 2310 | 2010 | 2010 | 2080 | 1960 | --- | 2160 |
| 12 | 1340 | 1620 | 2190 | --- | 2250 | 2320 | 2020 | 2030 | 2060 | 1990 | --- | 2150 |
| 13 | 1320 | 1600 | 2210 | 2260 | 2250 | 2310 | 2020 | 1990 | 2060 | 1990 | --- | 2060 |
| 14 | 1350 | 1610 | 2210 | 2230 | 2410 | 2340 | 2030 | 1990 | 2060 | 2040 | --- | 2060 |
| 15 | 1360 | 1680 | 2260 | 2220 | 2310 | 2230 | 2020 | 1990 | 2050 | 2000 | --- | 2060 |
| 16 | 1360 | 1610 | 2170 | 2260 | 2270 | 2020 | 2000 | 2010 | 2040 | 2000 | --- | 2080 |
| 17 | 1310 | 1640 | 2150 | 2250 | 2240 | 1960 | 2000 | 2010 | 2040 | 2000 | 2060 | 2110 |
| 18 | 1280 | 1740 | 2160 | 2240 | 2220 | 1960 | 2010 | 2050 | 2010 | 2000 | --- | 2120 |
| 19 | 1260 | 1790 | 2210 | 2340 | 2260 | 1970 | 2010 | 2070 | 1980 | 2000 | --- | 2130 |
| 20 | 1270 | 1880 | 2230 | 2340 | 2290 | 1970 | 2020 | 2060 | 1980 | 2000 | --- | 2140 |
| 21 | 1280 | 1950 | 2250 | 2260 | 2270 | 1970 | 2000 | 2060 | 1970 | 1990 | --- | 2150 |
| 22 | 1260 | 1960 | 2320 | 2250 | 2270 | 1970 | 1990 | 2060 | 2000 | 1960 | --- | 2170 |
| 23 | 1230 | 2040 | 2520 | 2230 | 2280 | 1980 | 1980 | 2060 | 1980 | 1980 | --- | 2170 |
| 24 | 1240 | 2020 | 2560 | 2260 | 2220 | 1970 | 1970 | 2070 | 1960 | 1990 | --- | 2180 |
| 25 | 1360 | 2080 | 2510 | 2270 | 2260 | 1980 | 1960 | 2130 | 1910 | 1980 | --- | 2190 |
| 26 | 1480 | 2100 | 2420 | 2270 | 2300 | 1970 | 1980 | 2130 | 1930 | 2060 | --- | 2210 |
| 27 | --- | 2070 | 2240 | 2250 | 2320 | 1970 | 1990 | 2140 | 1970 | 2090 | --- | 2210 |
| 28 | --- | 2050 | 2230 | 2240 | 2320 | 1970 | 1990 | 2140 | 2020 | 2060 | --- | 2210 |
| 29 | --- | 2050 | 2220 | 2240 | 2330 | 1940 | 1990 | 2130 | 2080 | 2080 | --- | 2200 |
| 30 | --- | 2070 | 2250 | 2230 | --- | 1900 | 1990 | 2100 | 2130 | 2040 | 2060 | 2200 |
| 31 | --- | --- | 2260 | 2270 | --- | 1900 | --- | 2090 | --- | 2010 | 2020 | --- |
| MEAN | --- | --- | 2240 | --- | 2280 | 2130 | 2050 | 2040 | 2040 | 2050 | --- | 2110 |
| MAX | --- | --- | 2560 | --- | 2410 | 2340 | 2550 | 2140 | 2130 | 2170 | --- | 2210 |
| MIN | --- | --- | 2060 | --- | 2220 | 1900 | 1910 | 1970 | 1910 | 1960 | --- | 1830 |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 18.9 | 17.9 | 13.6 | 13.0 | 5.2 | 2.1 | .5 | .0 | 3.6 | 3.0 | 10.5 | 6.9 |
| 2 | 18.7 | 17.8 | 13.8 | 13.1 | 6.1 | 3.2 | .3 | .0 | 3.9 | 2.9 | 7.7 | 5.6 |
| 3 | 18.6 | 17.5 | 13.7 | 13.0 | 7.0 | 3.8 | .0 | .0 | 5.2 | 2.8 | 8.7 | 4.6 |
| 4 | 18.5 | 17.3 | 13.7 | 12.9 | 7.3 | 5.0 | --- | --- | 4.8 | 2.4 | 9.2 | 4.2 |
| 5 | 18.1 | 17.3 | 13.6 | 12.8 | 8.4 | 5.6 | --- | --- | 3.9 | 3.2 | 10.0 | 5.6 |
| 6 | 18.1 | 17.1 | 13.1 | 12.6 | 8.8 | 6.2 | --- | --- | 5.4 | 2.8 | 11.0 | 5.1 |
| 7 | 17.6 | 16.9 | 13.1 | 12.4 | 8.9 | 5.7 | --- | --- | 5.5 | 2.2 | 7.5 | 4.9 |
| 8 | 17.6 | 16.6 | 12.6 | 12.0 | 7.0 | 5.5 | --- | --- | 5.7 | 2.3 | 8.3 | 4.3 |
| 9 | 17.2 | 16.5 | 12.5 | 11.5 | 7.2 | 4.3 | --- | --- | 6.5 | 3.0 | 9.5 | 4.4 |
| 10 | 16.9 | 16.2 | 12.2 | 11.3 | 7.3 | 4.4 | --- | --- | 4.3 | 2.6 | 9.8 | 5.2 |
| 11 | 16.6 | 16.1 | 11.9 | 11.2 | 7.3 | 4.4 | --- | --- | 6.0 | 2.6 | 6.9 | 4.3 |
| 12 | 16.3 | 15.8 | 11.8 | 11.1 | 5.8 | 4.3 | --- | --- | 6.8 | 2.7 | 7.1 | 2.5 |
| 13 | 16.1 | 15.7 | 11.6 | 10.9 | 4.3 | 3.2 | 1.9 | --- | 7.3 | 3.2 | 6.8 | 3.3 |
| 14 | 15.6 | 14.8 | 11.6 | 10.8 | 3.6 | 1.6 | 3.0 | .7 | 6.8 | 3.0 | 8.6 | 2.5 |
| 15 | 14.9 | 14.3 | 10.8 | 9.9 | 2.6 | 1.0 | 2.9 | 1.5 | 7.5 | 2.7 | 5.4 | 3.4 |
| 16 | 15.1 | 14.2 | 10.2 | 9.6 | 1.2 | .4 | 3.8 | 2.1 | 7.4 | 3.3 | 4.0 | 3.6 |
| 17 | 15.0 | 14.1 | 10.5 | 8.6 | .7 | .4 | 3.7 | 2.0 | 6.5 | 3.8 | 3.8 | 2.4 |
| 18 | 15.1 | 14.4 | 9.5 | 7.6 | .8 | .4 | 3.5 | 2.4 | 7.1 | 3.0 | 3.4 | 2.1 |
| 19 | 14.9 | 14.3 | 9.6 | 6.4 | 1.9 | .7 | 3.7 | 2.5 | 6.9 | 2.6 | 4.4 | 2.2 |
| 20 | 14.8 | 14.2 | 9.6 | 6.4 | 4.0 | 1.8 | 4.2 | 2.2 | 7.3 | 3.7 | 5.3 | 3.0 |
| 21 | 14.6 | 13.9 | 9.6 | 6.5 | 4.7 | 2.7 | 3.2 | 1.8 | 8.3 | 3.9 | 5.1 | 3.0 |
| 22 | 14.3 | 13.6 | 9.7 | 6.5 | 6.3 | 2.2 | 4.3 | 2.3 | 7.8 | 4.1 | 5.1 | 3.6 |
| 23 | 14.2 | 13.5 | 9.0 | 6.1 | 5.8 | 3.6 | 4.3 | 2.6 | 8.1 | 4.7 | 5.7 | 3.6 |
| 24 | 13.5 | 13.3 | 8.7 | 6.3 | 4.4 | 2.2 | 4.6 | 2.5 | 8.5 | 3.0 | 5.0 | 4.1 |
| 25 | 14.0 | 13.2 | 7.8 | 5.5 | 2.4 | .4 | 4.9 | 2.2 | 9.5 | 4.4 | 5.7 | 3.9 |
| 26 | 13.9 | 13.2 | 6.1 | 5.0 | .7 | .2 | 5.0 | 2.3 | 10.1 | 4.7 | 5.9 | 4.3 |
| 27 | 13.7 | 13.0 | 6.9 | 4.5 | .6 | .2 | 5.1 | 3.1 | 11.0 | 5.4 | 6.7 | 4.8 |
| 28 | 13.7 | 13.0 | 6.0 | 3.4 | .7 | .5 | 5.2 | 3.0 | 10.1 | 5.7 | 5.6 | 4.9 |
| 29 | 13.6 | 12.9 | 5.3 | 2.5 | .8 | .4 | 5.1 | 3.3 | 10.3 | 5.8 | 6.3 | 4.6 |
| 30 | 13.6 | 13.1 | 5.3 | 2.6 | .7 | .3 | 5.3 | 3.0 | --- | --- | 5.4 | 5.0 |
| 31 | 13.7 | 13.0 | --- | --- | .7 | .2 | 4.0 | 3.4 | --- | --- | 5.1 | 4.9 |
| MONTH | 18.9 | 12.9 | 13.8 | 2.5 | 8.9 | .2 | --- | --- | 11.0 | 2.2 | 11.0 | 2.1 |

ARKANSAS RIVER BASIN

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4.9 | 4.1 | 11.3 | 10.2 | 16.4 | 15.0 | 19.8 | 19.5 | 24.0 | 23.5 | 22.3 | 21.5 |
| 2 | 5.9 | 4.1 | 10.9 | 10.2 | 16.1 | 15.2 | 20.0 | 19.5 | 24.4 | 23.6 | 21.7 | 21.5 |
| 3 | 11.1 | 3.4 | 10.7 | 10.1 | 16.6 | 15.3 | 20.1 | 19.5 | 24.2 | 23.8 | 22.0 | 21.4 |
| 4 | 11.1 | 5.8 | 10.9 | 10.4 | 16.8 | 15.3 | 20.9 | 19.7 | 24.2 | 23.9 | 21.6 | 21.1 |
| 5 | 12.5 | 6.9 | 11.0 | 10.3 | 17.0 | 15.6 | 22.5 | 20.1 | 24.2 | 23.9 | 21.4 | 20.8 |
| 6 | 12.8 | 6.6 | 11.7 | 10.7 | 17.1 | 15.8 | 22.5 | 21.4 | 24.5 | 23.8 | 21.6 | 20.9 |
| 7 | 9.7 | 7.0 | 11.9 | 10.9 | 17.2 | 16.0 | 21.9 | 21.3 | 24.5 | 24.1 | 21.5 | 20.8 |
| 8 | 7.3 | 6.1 | 11.9 | 11.3 | 17.0 | 16.0 | 22.0 | 21.6 | 24.6 | 24.2 | 21.4 | 20.7 |
| 9 | 7.3 | 5.8 | 12.0 | 11.3 | 17.3 | 16.2 | 22.3 | 21.6 | 24.2 | 22.8 | 21.1 | 20.5 |
| 10 | 7.3 | 5.9 | 11.9 | 11.3 | 17.5 | 16.5 | 22.5 | 22.2 | 23.2 | 22.8 | 21.1 | 20.4 |
| 11 | 7.3 | 6.0 | 12.9 | 11.8 | 17.5 | 16.6 | 22.6 | 22.2 | --- | --- | 20.9 | 20.4 |
| 12 | 7.5 | 6.0 | 12.6 | 12.0 | 17.4 | 16.9 | 22.7 | 22.1 | --- | --- | 20.8 | 20.0 |
| 13 | 7.0 | 6.2 | 12.5 | 11.9 | 18.3 | 16.9 | 22.7 | 22.2 | --- | --- | 20.0 | 19.7 |
| 14 | 7.4 | 6.5 | 12.6 | 11.8 | 18.4 | 17.4 | 22.6 | 22.1 | --- | --- | 19.7 | 18.0 |
| 15 | 7.3 | 6.8 | 12.8 | 12.1 | 18.3 | 17.3 | 22.7 | 22.2 | --- | --- | 19.4 | 18.5 |
| 16 | 8.0 | 6.7 | 12.9 | 12.1 | 18.9 | 18.1 | 22.6 | 22.2 | --- | --- | 19.1 | 18.1 |
| 17 | 7.9 | 7.6 | 13.3 | 12.2 | 19.0 | 18.1 | 22.7 | 22.2 | 24.1 | --- | 18.8 | 18.0 |
| 18 | 8.2 | 7.6 | 14.9 | 13.2 | 19.2 | 18.4 | 22.7 | 22.2 | --- | --- | 19.2 | 18.2 |
| 19 | 8.4 | 7.9 | 15.1 | 14.5 | 19.1 | 18.4 | 22.7 | 22.3 | --- | --- | 19.2 | 18.1 |
| 20 | 9.2 | 8.0 | 15.2 | 14.8 | 19.1 | 18.5 | 22.9 | 22.4 | --- | --- | 18.7 | 17.7 |
| 21 | 9.4 | 8.2 | 14.8 | 14.3 | 19.1 | 18.5 | 23.4 | 22.6 | --- | --- | 18.7 | 17.7 |
| 22 | 9.4 | 8.7 | 14.3 | 13.8 | 19.1 | 18.6 | 23.3 | 22.8 | --- | --- | 19.2 | 17.8 |
| 23 | 9.2 | 8.8 | 14.1 | 13.6 | 19.2 | 18.7 | 23.4 | 22.9 | --- | --- | 18.7 | 18.0 |
| 24 | 9.3 | 8.8 | 14.4 | 13.5 | 19.2 | 18.8 | 23.4 | 23.1 | --- | --- | 18.8 | 17.8 |
| 25 | 9.9 | 9.3 | 14.4 | 13.4 | 19.1 | 18.8 | 23.7 | 23.2 | --- | --- | 18.7 | 17.6 |
| 26 | 10.2 | 9.5 | 14.3 | 13.5 | 19.3 | 18.8 | 23.4 | 23.1 | --- | --- | 18.7 | 17.4 |
| 27 | 10.2 | 9.4 | 14.2 | 13.4 | 19.3 | 18.9 | 23.5 | 23.2 | --- | --- | 18.5 | 15.8 |
| 28 | 10.0 | 9.3 | 14.1 | 13.4 | 19.5 | 18.9 | 23.9 | 23.2 | --- | --- | 18.1 | 15.6 |
| 29 | 10.1 | 9.4 | 14.5 | 13.4 | 20.1 | 19.0 | 24.2 | 23.7 | --- | --- | 17.5 | 16.8 |
| 30 | 10.5 | 9.7 | 15.5 | 14.5 | 20.4 | 19.4 | 24.3 | 23.8 | 25.9 | --- | 17.5 | 16.6 |
| 31 | --- | --- | 15.7 | 15.0 | --- | --- | 23.9 | 23.5 | 22.8 | 22.0 | --- | --- |
| MONTH | 12.8 | 3.4 | 15.7 | 10.1 | 20.4 | 15.0 | 24.3 | 19.5 | --- | --- | 22.3 | 15.6 |

ARKANSAS RIVER BASIN

347

07133000 ARKANSAS RIVER AT LAMAR, CO

LOCATION.--Lat 38°06'21", long 102°37'05", in NE¼SE¼ sec.30, T.22 S., R.46 W., Prowers County, Hydrologic Unit 11020009, on left bank at downstream side of 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 noncontributing.

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. 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; WRD CO-86-1: 1985 (daily discharges).

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: Dec. 28 to Jan. 10, 13, 14, 20-23, Feb. 7, and May 12-17. Records good except for periods of estimated daily discharges, which are fair. 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 observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years (water years 1914-43), 298 ft³/s; 215,900 acre-ft/yr, prior to and during construction of John Martin Dam, 36 years (water years 1949-55, 1960-88), 113 ft³/s, unadjusted; 81,870 acre-ft/yr, subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft³/s, June 5, 1921, gage height, 14.55 ft, datum then in use, from rating curve extended above 10,000 ft³/s; maximum gage height, 16.48 ft, June 18, 1965, datum then in use, from floodmarks; no flow at times in 1913-15, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft³/s at 0930 Sept. 15, gage height, 8.82 ft; minimum daily, 11 ft³/s, June 12, and Sept. 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|------|-------|------|-------|--------|-------|------|
| 1 | 18 | 30 | 47 | 37 | 39 | 34 | 181 | 58 | 13 | 796 | 538 | 32 |
| 2 | 18 | 28 | 45 | 37 | 42 | 35 | 175 | 86 | 12 | 807 | 561 | 30 |
| 3 | 18 | 15 | 47 | 37 | 38 | 35 | 113 | 186 | 12 | 809 | 651 | 32 |
| 4 | 18 | 15 | 47 | 35 | 37 | 35 | 74 | 54 | 12 | 805 | 691 | 31 |
| 5 | 17 | 15 | 45 | 35 | 35 | 34 | 34 | 51 | 12 | 774 | 652 | 26 |
| 6 | 17 | 15 | 44 | 35 | 36 | 33 | 17 | 36 | 12 | 728 | 574 | 22 |
| 7 | 17 | 15 | 45 | 33 | 40 | 33 | 15 | 30 | 12 | 727 | 545 | 21 |
| 8 | 17 | 14 | 46 | 33 | 37 | 33 | 15 | 28 | 12 | 673 | 559 | 21 |
| 9 | 24 | 18 | 46 | 35 | 42 | 33 | 15 | 33 | 12 | 491 | 611 | 21 |
| 10 | 297 | 28 | 45 | 35 | 40 | 32 | 15 | 30 | 12 | 480 | 615 | 20 |
| 11 | 375 | 33 | 45 | 35 | 38 | 32 | 29 | 28 | 12 | 471 | 549 | 20 |
| 12 | 387 | 26 | 44 | 36 | 40 | 32 | 37 | 23 | 11 | 383 | 520 | 19 |
| 13 | 383 | 16 | 44 | 36 | 38 | 29 | 43 | 19 | 14 | 372 | 519 | 34 |
| 14 | 320 | 16 | 44 | 36 | 41 | 24 | 361 | 15 | 29 | 423 | 511 | 38 |
| 15 | 275 | 16 | 40 | 36 | 39 | 20 | 472 | 13 | 57 | 431 | 507 | 809 |
| 16 | 237 | 23 | 47 | 38 | 39 | 33 | 484 | 13 | 200 | 452 | 496 | 149 |
| 17 | 228 | 41 | 45 | 37 | 38 | 22 | 501 | 12 | 43 | 515 | 503 | 65 |
| 18 | 224 | 62 | 44 | 36 | 38 | 29 | 493 | 13 | 40 | 530 | 526 | 47 |
| 19 | 208 | 46 | 43 | 37 | 37 | 19 | 380 | 88 | 29 | 734 | 553 | 35 |
| 20 | 90 | 41 | 43 | 36 | 36 | 15 | 362 | 562 | 25 | 535 | 369 | 28 |
| 21 | 43 | 38 | 43 | 35 | 36 | 15 | 380 | 608 | 127 | 457 | 340 | 24 |
| 22 | 36 | 38 | 42 | 35 | 35 | 15 | 775 | 547 | 731 | 365 | 336 | 20 |
| 23 | 31 | 38 | 42 | 36 | 35 | 14 | 735 | 169 | 806 | 310 | 513 | 32 |
| 24 | 29 | 42 | 42 | 36 | 35 | 14 | 743 | 69 | 804 | 303 | 526 | 20 |
| 25 | 31 | 46 | 42 | 36 | 34 | 14 | 732 | 27 | 833 | 287 | 516 | 12 |
| 26 | 37 | 47 | 43 | 33 | 34 | 14 | 590 | 17 | 858 | 275 | 469 | 12 |
| 27 | 37 | 47 | 40 | 31 | 33 | 14 | 170 | 15 | 849 | 325 | 137 | 11 |
| 28 | 34 | 46 | 40 | 33 | 34 | 14 | 94 | 15 | 789 | 496 | 96 | 11 |
| 29 | 33 | 48 | 40 | 35 | 34 | 14 | 79 | 15 | 805 | 530 | 84 | 11 |
| 30 | 32 | 47 | 39 | 36 | --- | 282 | 71 | 14 | 808 | 549 | 55 | 11 |
| 31 | 31 | --- | 38 | 40 | --- | 416 | --- | 14 | --- | 542 | 38 | --- |
| TOTAL | 3562 | 950 | 1347 | 1101 | 1080 | 1418 | 8185 | 2888 | 7991 | 16375 | 14160 | 1664 |
| MEAN | 115 | 31.7 | 43.5 | 35.5 | 37.2 | 45.7 | 273 | 93.2 | 266 | 528 | 457 | 55.5 |
| MAX | 387 | 62 | 47 | 40 | 42 | 416 | 775 | 608 | 858 | 809 | 691 | 809 |
| MIN | 17 | 14 | 38 | 31 | 33 | 14 | 15 | 12 | 11 | 275 | 38 | 11 |
| AC-FT | 7070 | 1880 | 2670 | 2180 | 2140 | 2810 | 16230 | 5730 | 15850 | 32480 | 28090 | 3300 |
| CAL YR 1987 | TOTAL | 197842 | MEAN | 542 | MAX | 3110 | MIN | 13 | AC-FT | 392400 | | |
| WTR YR 1988 | TOTAL | 60721 | MEAN | 166 | MAX | 858 | MIN | 11 | AC-FT | 120400 | | |

07134180 ARKANSAS RIVER NEAR GRANADA, CO

LOCATION.--Lat 38°05'44", long 102°18'37", in SE¼NE¼ 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. Elevation of gage is 3,480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 5-11. 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 observation of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--7 years, 252 ft³/s; 182,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 3,460 ft³/s, May 26, 1987, gage height, 11.78 ft, from rating curve extended above 2,700 ft³/s; minimum daily, 3.3 ft³/s, May 27-28, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft³/s at 2215 Sept. 15, gage height, 8.56 ft; minimum daily, 22 ft³/s, June 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|------|-------|------|-------|--------|-------|------|
| 1 | 40 | 101 | 176 | 132 | 149 | 133 | 385 | 95 | 51 | 739 | 505 | 73 |
| 2 | 39 | 101 | 176 | 123 | 140 | 131 | 288 | 83 | 42 | 759 | 512 | 59 |
| 3 | 43 | 99 | 174 | 123 | 137 | 132 | 297 | 112 | 38 | 773 | 551 | 55 |
| 4 | 44 | 100 | 175 | 126 | 140 | 131 | 251 | 97 | 34 | 755 | 630 | 54 |
| 5 | 44 | 103 | 176 | 120 | 148 | 131 | 205 | 75 | 25 | 759 | 659 | 51 |
| 6 | 43 | 103 | 170 | 120 | 135 | 130 | 155 | 65 | 24 | 718 | 619 | 43 |
| 7 | 44 | 101 | 169 | 120 | 142 | 129 | 116 | 55 | 25 | 712 | 563 | 35 |
| 8 | 45 | 99 | 169 | 120 | 146 | 127 | 94 | 50 | 24 | 700 | 545 | 33 |
| 9 | 47 | 96 | 164 | 120 | 146 | 126 | 82 | 49 | 23 | 572 | 589 | 30 |
| 10 | 79 | 99 | 161 | 130 | 150 | 126 | 79 | 46 | 23 | 501 | 613 | 27 |
| 11 | 208 | 108 | 163 | 135 | 139 | 121 | 81 | 47 | 23 | 476 | 591 | 28 |
| 12 | 278 | 120 | 160 | 142 | 146 | 118 | 99 | 48 | 22 | 424 | 548 | 27 |
| 13 | 312 | 115 | 157 | 135 | 148 | 120 | 93 | 46 | 25 | 367 | 523 | 30 |
| 14 | 308 | 113 | 155 | 138 | 151 | 121 | 162 | 37 | 35 | 382 | 512 | 88 |
| 15 | 288 | 112 | 149 | 140 | 151 | 116 | 365 | 30 | 37 | 391 | 501 | 467 |
| 16 | 262 | 112 | 143 | 145 | 150 | 117 | 433 | 26 | 76 | 393 | 484 | 434 |
| 17 | 254 | 126 | 152 | 148 | 148 | 138 | 467 | 26 | 88 | 437 | 483 | 191 |
| 18 | 253 | 135 | 158 | 148 | 146 | 119 | 502 | 24 | 55 | 458 | 501 | 130 |
| 19 | 261 | 145 | 157 | 146 | 144 | 121 | 444 | 28 | 48 | 658 | 554 | 102 |
| 20 | 232 | 144 | 158 | 128 | 143 | 112 | 383 | 172 | 40 | 622 | 491 | 82 |
| 21 | 259 | 149 | 154 | 118 | 142 | 107 | 326 | 427 | 33 | 510 | 389 | 76 |
| 22 | 129 | 148 | 153 | 123 | 142 | 111 | 535 | 524 | 233 | 424 | 354 | 68 |
| 23 | 117 | 144 | 154 | 139 | 139 | 104 | 691 | 334 | 550 | 350 | 405 | 61 |
| 24 | 106 | 147 | 152 | 145 | 137 | 86 | 731 | 181 | 624 | 298 | 492 | 71 |
| 25 | 105 | 166 | 147 | 140 | 138 | 83 | 769 | 99 | 670 | 275 | 513 | 63 |
| 26 | 105 | 173 | 145 | 138 | 137 | 87 | 726 | 65 | 714 | 260 | 507 | 57 |
| 27 | 105 | 179 | 139 | 141 | 137 | 92 | 380 | 49 | 757 | 249 | 343 | 53 |
| 28 | 103 | 177 | 142 | 138 | 136 | 87 | 197 | 40 | 733 | 367 | 189 | 49 |
| 29 | 102 | 177 | 143 | 142 | 133 | 86 | 127 | 37 | 737 | 461 | 139 | 49 |
| 30 | 100 | 176 | 145 | 149 | --- | 138 | 109 | 35 | 751 | 498 | 116 | 49 |
| 31 | 100 | --- | 141 | 152 | --- | 362 | --- | 48 | --- | 512 | 92 | --- |
| TOTAL | 4455 | 3868 | 4877 | 4164 | 4140 | 3842 | 9572 | 3050 | 6560 | 15800 | 14513 | 2635 |
| MEAN | 144 | 129 | 157 | 134 | 143 | 124 | 319 | 98.4 | 219 | 510 | 468 | 87.8 |
| MAX | 312 | 179 | 176 | 152 | 151 | 362 | 769 | 524 | 757 | 773 | 659 | 467 |
| MIN | 39 | 96 | 139 | 118 | 133 | 83 | 79 | 24 | 22 | 249 | 92 | 27 |
| AC-FT | 8840 | 7670 | 9670 | 8260 | 8210 | 7620 | 18990 | 6050 | 13010 | 31340 | 28790 | 5230 |
| CAL YR 1987 | TOTAL | 219738 | MEAN | 602 | MAX | 3330 | MIN | 39 | AC-FT | 435800 | | |
| WTR YR 1988 | TOTAL | 77476 | MEAN | 212 | MAX | 773 | MIN | 22 | AC-FT | 153700 | | |

ARKANSAS RIVER BASIN

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07137000 FRONTIER DITCH NEAR COOLIDGE, KS

LOCATION.--Lat 38°02'18", long 102°02'19", in SW¼SE¼NE¼ sec.21, T.23 S., R.43 W., Hamilton County, Kans.,
Hydrologic Unit 11030001, on left bank 0.3 mi east of Colorado-Kansas State line, 0.5 mi downstream from
Holly drain diversion, 1.5 mi west of Coolidge, and 2.3 mi downstream from diversion from 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 3,353.14 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Sept. 11, 12, 14, and 15. Records good except for estimated daily discharges, which are poor. This ditch diverts water from Arkansas River in Colorado for use in Kansas. These records and records for Arkansas River near Coolidge (station 07137500) represent total flow of Arkansas River at the Colorado-Kansas State line.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 84 ft³/s, Aug. 1, 1975; no flow for many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|---------|------|------|------|------|--------|--------|--------|--------|--------|--------|
| 1 | .00 | 27 | .00 | .00 | .00 | .00 | .00 | 25 | .93 | 38 | 1.0 | 35 |
| 2 | 3.7 | 33 | .00 | .00 | .00 | .00 | .00 | 13 | .29 | 39 | .56 | 31 |
| 3 | 10 | 35 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 37 | .30 | 31 |
| 4 | 12 | 37 | .00 | .00 | .00 | .00 | .00 | 18 | .00 | 38 | .02 | 27 |
| 5 | 10 | 39 | .00 | .00 | .00 | .00 | .00 | 9.2 | .00 | 38 | 4.0 | 26 |
| 6 | 7.6 | 33 | .00 | .00 | .00 | .00 | .00 | 18 | .00 | 38 | 25 | 24 |
| 7 | 5.6 | 33 | .00 | .00 | .00 | .00 | .00 | 16 | .00 | 39 | 27 | 22 |
| 8 | 6.9 | 33 | .00 | .00 | .00 | .00 | .15 | 27 | .00 | 38 | 31 | 17 |
| 9 | 6.2 | 33 | .00 | .00 | .00 | .00 | .06 | 23 | .00 | 37 | 35 | 18 |
| 10 | 6.0 | 31 | .00 | .00 | .00 | .00 | .00 | 18 | .00 | 34 | 24 | 19 |
| 11 | 23 | 26 | .00 | .00 | .00 | .00 | .00 | 21 | .00 | 33 | 28 | 13 |
| 12 | 36 | 26 | .00 | .00 | .00 | .00 | .00 | 24 | .00 | 34 | 31 | 16 |
| 13 | 37 | 17 | .00 | .00 | .00 | .00 | .00 | 34 | .00 | 36 | 24 | 31 |
| 14 | 38 | .93 | .00 | .00 | .00 | .00 | .00 | 34 | .00 | 42 | 22 | 24 |
| 15 | 36 | .65 | .00 | .00 | .00 | .00 | .00 | 33 | .00 | 42 | 24 | 22 |
| 16 | 35 | .47 | .00 | .00 | .00 | .00 | .00 | 33 | .00 | 48 | 28 | .46 |
| 17 | 36 | .19 | .00 | .00 | .00 | .00 | .00 | 29 | 8.0 | 49 | 38 | .35 |
| 18 | 41 | .00 | .00 | .00 | .00 | .00 | .00 | 31 | 28 | 51 | 43 | .10 |
| 19 | 36 | .00 | .00 | .00 | .00 | .00 | .00 | 37 | 20 | 56 | 49 | .00 |
| 20 | 31 | .00 | .00 | .00 | .00 | .00 | .00 | 39 | 23 | 53 | 42 | 16 |
| 21 | 25 | .00 | .00 | .00 | .00 | .00 | .00 | 47 | 22 | 48 | 38 | 24 |
| 22 | 19 | .00 | .00 | .00 | .00 | .00 | .00 | 44 | 15 | 49 | 35 | 20 |
| 23 | 19 | .00 | .00 | .00 | .00 | .00 | 22 | 40 | 45 | 50 | 35 | 25 |
| 24 | 15 | .00 | .00 | .00 | .00 | .00 | 35 | 40 | 45 | 50 | 39 | 27 |
| 25 | 19 | .00 | .00 | .00 | .00 | .00 | 34 | 45 | 47 | 50 | 38 | 23 |
| 26 | 26 | .00 | .00 | .00 | .00 | .00 | 34 | 43 | 46 | 48 | 35 | 19 |
| 27 | 29 | .00 | .00 | .00 | .00 | .00 | 35 | 34 | 41 | 43 | 34 | 19 |
| 28 | 32 | .00 | .00 | .00 | .00 | .00 | 37 | 36 | 35 | 41 | 31 | 15 |
| 29 | 30 | .00 | .00 | .00 | .00 | .00 | 34 | 40 | 35 | 38 | 35 | 13 |
| 30 | 18 | .00 | .00 | .00 | --- | .00 | 29 | 34 | 37 | 15 | 37 | 11 |
| 31 | 29 | --- | .00 | .00 | --- | .00 | --- | 4.8 | --- | 1.5 | 34 | --- |
| TOTAL | 678.00 | 405.24 | .00 | .00 | .00 | .00 | 260.21 | 890.00 | 448.22 | 1253.5 | 867.88 | 568.91 |
| MEAN | 21.9 | 13.5 | .000 | .000 | .000 | .000 | 8.67 | 28.7 | 14.9 | 40.4 | 28.0 | 19.0 |
| MAX | 41 | 39 | .00 | .00 | .00 | .00 | 37 | 47 | 47 | 56 | 49 | 35 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 1.5 | .02 | .00 |
| AC-FT | 1340 | 804 | .00 | .00 | .00 | .00 | 516 | 1770 | 889 | 2490 | 1720 | 1130 |
| CAL YR 1987 | TOTAL | 5326.44 | MEAN | 14.6 | MAX | 52 | MIN | .00 | AC-FT | 10560 | | |
| WTR YR 1988 | TOTAL | 5371.96 | MEAN | 14.7 | MAX | 56 | MIN | .00 | AC-FT | 10660 | | |

ARKANSAS RIVER BASIN

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS

LOCATION.--Lat 38°01'34", long 102°00'41", in NW¼NE¼NW¼ sec.26, T.23 S., R.43 W., Hamilton County, KS, Hydrologic Unit 11030001, on right bank at downstream side of bridge, 1.0 mi south of Coolidge, and 1.9 mi downstream from Colorado-Kansas State line.

DRAINAGE AREA.--25,410 mi², of which 1,708 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to October 1903, March to May 1921, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: 1903, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,330.84 ft above National Geodetic Vertical Datum of 1929. May 5 to Oct. 31, 1903, nonrecording gage, and Mar. 1 to May 31, 1921, water-stage recorder at present site at different datums. Oct. 1, 1950, to Mar. 31, 1966, water-stage recorder at site 0.3 mi upstream at datum 3.00 ft, higher.

REMARKS.--Estimated daily discharges: Dec. 5-10, and Jan. 5-15. Records good except estimated daily discharges, which are poor. Combined flow of river and Frontier Ditch (station 07137000) represents entire flow that enters Kansas. Flow regulated by John Martin Reservoir (station 07130000) since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 500,000 acres, and return flow from irrigated areas.

AVERAGE DISCHARGE.--38 years (water years 1951-88), 204 ft³/s; 147,800 acre-ft/yr, subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 158,000 ft³/s, June 17, 1965, gage height, 14.8 ft, present site and datum, from floodmarks, from rating curve extended above 13,000 ft³/s, on basis of slope-area measurement of peak flow; no flow for many days in 1903, 1954, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft³/s, Sept. 15, gage height, 5.20 ft; minimum daily, 124 ft³/s, Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|---------|--------------|-------|-------|-------|-------|-------|-------|
| 1 | 206 | 237 | 239 | 193 | 214 | 196 | 464 | 234 | 507 | 732 | 664 | 228 |
| 2 | 189 | 236 | 237 | 189 | 213 | 195 | 410 | 254 | 429 | 744 | 653 | 202 |
| 3 | 184 | 237 | 233 | 188 | 205 | 195 | 401 | 290 | 373 | 743 | 699 | 188 |
| 4 | 185 | 238 | 231 | 186 | 203 | 195 | 392 | 343 | 346 | 737 | 709 | 178 |
| 5 | 185 | 239 | 230 | 184 | 206 | 195 | 358 | 295 | 350 | 759 | 725 | 169 |
| 6 | 176 | 229 | 229 | 180 | 205 | 194 | 317 | 249 | 353 | 754 | 691 | 168 |
| 7 | 167 | 235 | 228 | 170 | 205 | 197 | 288 | 249 | 300 | 733 | 652 | 162 |
| 8 | 175 | 227 | 227 | 150 | 208 | 192 | 266 | 212 | 280 | 722 | 643 | 152 |
| 9 | 177 | 265 | 226 | 147 | 210 | 191 | 243 | 206 | 254 | 680 | 841 | 145 |
| 10 | 180 | 302 | 226 | 143 | 213 | 194 | 228 | 199 | 232 | 593 | 720 | 140 |
| 11 | 259 | 251 | 222 | 147 | 204 | 189 | 233 | 201 | 219 | 557 | 705 | 136 |
| 12 | 369 | 251 | 219 | 150 | 204 | 180 | 228 | 187 | 235 | 519 | 698 | 124 |
| 13 | 419 | 253 | 218 | 164 | 211 | 178 | 251 | 170 | 264 | 460 | 633 | 136 |
| 14 | 422 | 270 | 215 | 170 | 215 | 181 | 242 | 174 | 275 | 541 | 621 | 207 |
| 15 | 417 | 283 | 211 | 200 | 214 | 180 | 382 | 181 | 243 | 474 | 607 | 767 |
| 16 | 404 | 281 | 213 | 218 | 216 | 177 | 482 | 178 | 232 | 468 | 599 | 772 |
| 17 | 399 | 295 | 206 | 214 | 213 | 188 | 513 | 173 | 266 | 471 | 572 | 517 |
| 18 | 434 | 308 | 212 | 218 | 211 | 207 | 531 | 166 | 238 | 511 | 576 | 425 |
| 19 | 438 | 319 | 215 | 211 | 209 | 204 | 531 | 166 | 222 | 595 | 680 | 390 |
| 20 | 412 | 278 | 215 | 191 | 206 | 199 | 492 | 181 | 218 | 701 | 638 | 343 |
| 21 | 347 | 260 | 216 | 189 | 206 | 192 | 501 | 407 | 217 | 578 | 534 | 305 |
| 22 | 304 | 255 | 215 | 188 | 209 | 185 | 496 | 558 | 212 | 537 | 505 | 258 |
| 23 | 294 | 246 | 217 | 206 | 202 | 189 | 658 | 561 | 400 | 490 | 499 | 235 |
| 24 | 272 | 237 | 211 | 213 | 199 | 193 | 708 | 366 | 608 | 466 | 581 | 248 |
| 25 | 258 | 234 | 204 | 213 | 198 | 195 | 724 | 260 | 557 | 456 | 594 | 241 |
| 26 | 251 | 243 | 204 | 208 | 200 | 190 | 713 | 195 | 624 | 447 | 603 | 233 |
| 27 | 252 | 246 | 200 | 207 | 199 | 201 | 608 | 165 | 688 | 446 | 574 | 230 |
| 28 | 263 | 246 | 199 | 208 | 199 | 200 | 373 | 157 | 710 | 460 | 416 | 222 |
| 29 | 281 | 242 | 203 | 212 | 195 | 198 | 295 | 155 | 703 | 601 | 344 | 218 |
| 30 | 294 | 240 | 207 | 219 | --- | 191 | 251 | 176 | 734 | 613 | 299 | 223 |
| 31 | 255 | --- | 202 | 221 | --- | 281 | --- | 529 | --- | 643 | 270 | --- |
| TOTAL | 8868 | 7683 | 6730 | 5897 | 5992 | 6042 | 12579 | 7837 | 11289 | 18231 | 18545 | 7962 |
| MEAN | 286 | 256 | 217 | 190 | 207 | 195 | 419 | 253 | 376 | 588 | 598 | 265 |
| MAX | 438 | 319 | 239 | 221 | 216 | 281 | 724 | 561 | 734 | 759 | 841 | 772 |
| MIN | 167 | 227 | 199 | 143 | 195 | 177 | 228 | 155 | 212 | 446 | 270 | 124 |
| AC-FT | 17590 | 15240 | 13350 | 11700 | 11890 | 11980 | 24950 | 15540 | 22390 | 36160 | 36780 | 15790 |
| CAL YR 1987 | TOTAL | 260670 | MEAN 714 | MAX 3290 | MIN 159 | AC-FT 517000 | | | | | | |
| WTR YR 1988 | TOTAL | 117655 | MEAN 321 | MAX 841 | MIN 124 | AC-FT 233400 | | | | | | |

ARKANSAS RIVER BASIN

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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 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (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) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|--|--|
| DEC 01... | 1130 | 234 | 4410 | 8.1 | 2.0 | 12.2 | 671 | -- | -- |
| FEB 02... | 1200 | 214 | -- | 8.0 | 1.0 | 8.2 | 679 | -- | -- |
| JUN 01... | 1400 | 504 | 3180 | 8.1 | 20.5 | -- | -- | K1700 | 3400 |
| AUG 09... | 1235 | 993 | 2170 | 7.8 | 23.5 | 6.4 | 640 | >600 | K7900 |

| DATE | TUR- BID- ITY (FTU) | 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 | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) |
|--------------|------------------------------|---|---|---|---|---|--|---|---|--|--|
| DEC 01... | 25 | 1300 | 280 | 140 | 520 | 7 | 8.3 | 320 | 380 | 2300 | 150 |
| FEB 02... | 18 | 1700 | 380 | 190 | 550 | 6 | 9.0 | -- | 35 | 2400 | 120 |
| JUN 01... | 270 | 1200 | 260 | 140 | 350 | 4 | 11 | 178 | 217 | 1600 | 110 |
| AUG 09... | 580 | 810 | 180 | 86 | 210 | 3 | 11 | 131 | 160 | 930 | 57 |

| 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, DIS- SOLVED (TONS PER AC-FT) | SOLIDS, DIS- SOLVED (TONS PER DAY) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) | 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) |
|--------------|---|---|--|---|---|--|--|--|---|--|
| DEC 01... | 1.1 | 19 | 3970 | 5.40 | 2510 | 2.50 | 0.12 | 0.07 | 0.060 | 0.090 |
| FEB 02... | 1.0 | 20 | 4090 | 5.56 | 2360 | 2.70 | 0.17 | -- | 0.140 | 0.130 |
| JUN 01... | 1.0 | 13 | 2790 | 3.79 | 3800 | 1.40 | 0.08 | 0.07 | 0.100 | 0.060 |
| AUG 09... | 0.50 | 9.2 | 1560 | 2.12 | 4180 | 0.980 | 0.08 | -- | 0.060 | 0.060 |

K Results based on colony count outside the acceptable range (non-ideal colony count).

ARKANSAS RIVER BASIN

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued
(National stream-quality accounting network station)

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) | NITRO- GEN, ORGANIC TOTAL (MG/L AS N) | PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) | PHOS- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) | PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-----------|--|---|--|---|---|--|--|--|---|---|
| DEC 01... | 0.90 | 0.020 | 0.84 | 0.03 | 0.020 | 0.010 | 0.010 | 558 | 353 | 21 |
| FEB 02... | 0.80 | <0.010 | 0.66 | 0.03 | 0.050 | 0.010 | 0.010 | 106 | 61 | 87 |
| JUN 01... | 1.0 | 0.020 | 0.90 | -- | 0.050 | 0.030 | <0.010 | 1290 | 1760 | 89 |
| AUG 09... | 0.90 | <0.010 | 0.84 | 0.18 | 0.090 | 0.080 | 0.060 | 1910 | 5120 | 90 |

| DATE | ALUM- INUM, DIS- SOLVED (UG/L AS AL) | ARSENIC DIS- SOLVED (UG/L AS AS) | BARIUM, DIS- SOLVED (UG/L AS BA) | BERYL- LIUM, DIS- SOLVED (UG/L AS BE) | 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) |
|-----------|---|--|--|--|--|---|--|--|--|--|
| DEC 01... | 10 | 1 | <100 | <10 | 1 | 3 | 2 | 3 | 30 | <5 |
| FEB 02... | <10 | <1 | 23 | <1 | <2 | 2 | <1 | <1 | 16 | <5 |
| JUN 01... | 10 | 1 | <100 | <10 | <1 | 1 | 3 | 10 | 30 | <5 |
| AUG 09... | 20 | 1 | <100 | <10 | 1 | <1 | 1 | 3 | 30 | <5 |

| DATE | LITHIUM DIS- SOLVED (UG/L AS LI) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MERCURY DIS- SOLVED (UG/L AS HG) | 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) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|-----------|--|--|--|---|--|---|--|--|--|--|
| DEC 01... | 180 | 20 | 0.1 | 7 | 4 | 22 | 6.0 | 6600 | 2 | 20 |
| FEB 02... | 210 | 29 | <0.1 | 8 | 6 | 22 | <2.0 | 6800 | 4 | 18 |
| JUN 01... | 120 | 20 | 0.2 | 8 | 9 | 13 | 1.0 | 4600 | 4 | 10 |
| AUG 09... | 80 | 20 | 0.2 | 5 | 2 | 7 | <1.0 | 2500 | 3 | 10 |

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM | SED. SUSP. FALL DIAM. % FINER THAN .125 MM | SED. SUSP. FALL DIAM. % FINER THAN .250 MM | SED. SUSP. FALL DIAM. % FINER THAN .500 MM | SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM | SED. SUSP. FALL DIAM. % FINER THAN 2.00 MM |
|-----------|------|---|--|--|--|--|--|
| DEC 01... | 1130 | 21 | 22 | 27 | 41 | 68 | 100 |
| JUN 01... | 1400 | 89 | 94 | 97 | 99 | 100 | -- |
| AUG 09... | 1235 | 90 | 94 | 97 | 100 | -- | -- |

RIO GRANDE BASIN

08213500 RIO GRANDE AT THIRTYMILE BRIDGE, NEAR CREEDE, CO

LOCATION.--Lat 37°43'29", long 107°15'18", in NE¼ 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. 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. 1, 2, 5-9, 12-16, and Nov. 1 to Apr. 19. 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.

AVERAGE DISCHARGE.--74 years (water years 1911-23, 1927-88), 215 ft³/s; 155,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft³/s, June 28, 1927, gage height, 7.03 ft, present datum, from rating curve extended above 1,200 ft³/s; minimum daily, 0.10 ft³/s, Nov. 2-4, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft³/s at 0800 June 6, gage height, 3.41 ft; minimum daily, 0.50 ft³/s, Oct. 1, 6-8, 13, 15, Nov. 2, 4-8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------|-----------|------|------|------|-------|--------|-------|-------|--------|------|------|
| 1 | .50 | 16 | 1.1 | 1.7 | 2.4 | 3.1 | 3.8 | 94 | 504 | 389 | 58 | 172 |
| 2 | 74 | .50 | 1.1 | 1.8 | 2.5 | 3.1 | 3.8 | 94 | 392 | 294 | 61 | 172 |
| 3 | 195 | 1.0 | 1.1 | 1.8 | 2.5 | 3.1 | 3.8 | 94 | 385 | 271 | 71 | 150 |
| 4 | 86 | .50 | 1.1 | 1.8 | 2.5 | 3.1 | 3.8 | 94 | 524 | 242 | 77 | 108 |
| 5 | 16 | .50 | 1.1 | 1.8 | 2.5 | 3.2 | 3.9 | 119 | 698 | 222 | 86 | 95 |
| 6 | .50 | .50 | 1.2 | 1.9 | 2.5 | 3.2 | 3.9 | 135 | 938 | 199 | 96 | 99 |
| 7 | .50 | .50 | 1.2 | 1.9 | 2.6 | 3.2 | 3.9 | 136 | 962 | 185 | 102 | 100 |
| 8 | .50 | .50 | 1.2 | 1.9 | 2.6 | 3.2 | 3.9 | 136 | 968 | 185 | 109 | 100 |
| 9 | 27 | .60 | 1.2 | 1.9 | 2.6 | 3.3 | 3.9 | 136 | 994 | 185 | 123 | 100 |
| 10 | 81 | .60 | 1.3 | 1.9 | 2.6 | 3.3 | 4.0 | 136 | 865 | 185 | 138 | 100 |
| 11 | 76 | .60 | 1.3 | 2.0 | 2.7 | 3.3 | 4.0 | 148 | 798 | 185 | 145 | 100 |
| 12 | 21 | .60 | 1.3 | 2.0 | 2.7 | 3.3 | 4.0 | 169 | 957 | 185 | 146 | 100 |
| 13 | .50 | .60 | 1.3 | 2.0 | 2.7 | 3.3 | 4.0 | 293 | 942 | 185 | 147 | 102 |
| 14 | 1.5 | .70 | 1.3 | 2.0 | 2.7 | 3.4 | 4.1 | 452 | 964 | 183 | 147 | 127 |
| 15 | .50 | .70 | 1.4 | 2.1 | 2.7 | 3.4 | 4.1 | 624 | 933 | 164 | 135 | 147 |
| 16 | 36 | .70 | 1.4 | 2.1 | 2.8 | 3.4 | 4.1 | 732 | 817 | 157 | 125 | 170 |
| 17 | 112 | .70 | 1.4 | 2.1 | 2.8 | 3.4 | 4.1 | 778 | 784 | 156 | 141 | 170 |
| 18 | 106 | .80 | 1.4 | 2.1 | 2.8 | 3.5 | 4.1 | 775 | 782 | 151 | 197 | 170 |
| 19 | 33 | .80 | 1.5 | 2.1 | 2.8 | 3.5 | 32 | 715 | 812 | 134 | 238 | 169 |
| 20 | 1.0 | .80 | 1.5 | 2.2 | 2.9 | 3.5 | 138 | 554 | 895 | 134 | 238 | 167 |
| 21 | 49 | .80 | 1.5 | 2.2 | 2.9 | 3.5 | 138 | 362 | 917 | 100 | 238 | 167 |
| 22 | 119 | .80 | 1.5 | 2.2 | 2.9 | 3.5 | 138 | 245 | 905 | 63 | 238 | 177 |
| 23 | 103 | .90 | 1.5 | 2.2 | 2.9 | 3.6 | 138 | 206 | 791 | 57 | 235 | 220 |
| 24 | 100 | .90 | 1.6 | 2.3 | 2.9 | 3.6 | 124 | 247 | 742 | 57 | 235 | 220 |
| 25 | 89 | .90 | 1.6 | 2.3 | 3.0 | 3.6 | 117 | 307 | 646 | 57 | 213 | 220 |
| 26 | 63 | .90 | 1.6 | 2.3 | 3.0 | 3.6 | 117 | 361 | 600 | 57 | 152 | 220 |
| 27 | 51 | 1.0 | 1.6 | 2.3 | 3.0 | 3.7 | 117 | 426 | 596 | 57 | 131 | 203 |
| 28 | 51 | 1.0 | 1.7 | 2.3 | 3.0 | 3.7 | 102 | 572 | 589 | 57 | 131 | 145 |
| 29 | 51 | 1.0 | 1.7 | 2.4 | 3.1 | 3.7 | 94 | 894 | 585 | 58 | 131 | 127 |
| 30 | 51 | 1.0 | 1.7 | 2.4 | --- | 3.7 | 94 | 801 | 509 | 58 | 158 | 104 |
| 31 | 51 | --- | 1.7 | 2.4 | --- | 3.7 | --- | 605 | --- | 58 | 172 | --- |
| TOTAL | 1646.50 | 37.40 | 43.1 | 64.4 | 79.6 | 105.7 | 1420.2 | 11440 | 22794 | 4670 | 4614 | 4421 |
| MEAN | 53.1 | 1.25 | 1.39 | 2.08 | 2.74 | 3.41 | 47.3 | 369 | 760 | 151 | 149 | 147 |
| MAX | 195 | 16 | 1.7 | 2.4 | 3.1 | 3.7 | 138 | 894 | 994 | 389 | 238 | 220 |
| MIN | .50 | .50 | 1.1 | 1.7 | 2.4 | 3.1 | 3.8 | 94 | 385 | 57 | 58 | 95 |
| AC-FT | 3270 | 74 | 85 | 128 | 158 | 210 | 2820 | 22690 | 45210 | 9260 | 9150 | 8770 |
| CAL YR 1987 | TOTAL | 103916.00 | MEAN | 285 | MAX | 1390 | MIN | .50 | AC-FT | 206100 | | |
| WTR YR 1988 | TOTAL | 51335.90 | MEAN | 140 | MAX | 994 | MIN | .50 | AC-FT | 101800 | | |

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LOCATION.--Lat 37°46'01", long 106°49'51", in NW¼NE¼ 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 Wagonwheel Gap.

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8,431.26 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 14 to Mar. 6, Mar. 12-19, 26-28. Records good except for estimated daily discharges, which are poor. Flow regulated by Santa Maria, Rio Grande, and Continental Reservoirs, combined capacity, 121,400 acre-ft. Diversions upstream from station for irrigation. Transmountain diversions to drainage area upstream from station from Colorado River basin (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--37 years, 540 ft³/s; 391,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,190 ft³/s, June 9, 1985, gage height, 6.10 ft; minimum daily, 46 ft³/s, Dec. 9, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,380 ft³/s at 0400 June 7, gage height, 3.90 ft; minimum daily, 80 ft³/s, Dec. 31 to Jan. 2.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|------|----------|----------|--------|--------------|-------|-------|-------|-------|-------|-------|
| 1 | 295 | 250 | 144 | 80 | 124 | 166 | 140 | 466 | 1140 | 1110 | 358 | 447 |
| 2 | 286 | 237 | 153 | 80 | 138 | 173 | 151 | 425 | 1080 | 977 | 342 | 432 |
| 3 | 388 | 203 | 160 | 81 | 150 | 180 | 167 | 402 | 1060 | 903 | 343 | 419 |
| 4 | 397 | 199 | 146 | 86 | 145 | 190 | 193 | 407 | 1410 | 901 | 344 | 385 |
| 5 | 302 | 189 | 150 | 98 | 141 | 195 | 209 | 415 | 1620 | 839 | 331 | 344 |
| 6 | 244 | 262 | 128 | 94 | 139 | 200 | 203 | 467 | 1930 | 789 | 428 | 326 |
| 7 | 245 | 257 | 146 | 92 | 136 | 205 | 252 | 423 | 2120 | 766 | 562 | 325 |
| 8 | 248 | 215 | 132 | 92 | 134 | 186 | 299 | 418 | 1960 | 713 | 503 | 314 |
| 9 | 249 | 191 | 138 | 92 | 134 | 188 | 262 | 407 | 1930 | 706 | 523 | 306 |
| 10 | 255 | 182 | 152 | 92 | 134 | 182 | 232 | 430 | 1910 | 691 | 529 | 301 |
| 11 | 266 | 177 | 130 | 92 | 134 | 158 | 232 | 481 | 1770 | 696 | 526 | 329 |
| 12 | 259 | 164 | 121 | 94 | 133 | 149 | 264 | 615 | 1840 | 661 | 526 | 432 |
| 13 | 205 | 169 | 115 | 95 | 132 | 143 | 318 | 802 | 1830 | 633 | 516 | 588 |
| 14 | 263 | 186 | 106 | 96 | 132 | 137 | 313 | 1070 | 1660 | 624 | 493 | 527 |
| 15 | 291 | 176 | 103 | 97 | 132 | 133 | 312 | 1330 | 1730 | 665 | 485 | 486 |
| 16 | 291 | 123 | 99 | 106 | 132 | 130 | 319 | 1530 | 1590 | 659 | 545 | 481 |
| 17 | 323 | 118 | 98 | 102 | 131 | 128 | 289 | 1620 | 1520 | 672 | 729 | 469 |
| 18 | 335 | 117 | 96 | 99 | 130 | 126 | 258 | 1600 | 1500 | 648 | 739 | 456 |
| 19 | 324 | 122 | 95 | 98 | 130 | 125 | 256 | 1520 | 1550 | 597 | 701 | 442 |
| 20 | 257 | 138 | 93 | 100 | 130 | 126 | 310 | 1350 | 1610 | 542 | 583 | 428 |
| 21 | 246 | 132 | 92 | 102 | 130 | 126 | 405 | 1040 | 1640 | 532 | 557 | 495 |
| 22 | 297 | 127 | 90 | 105 | 130 | 127 | 440 | 889 | 1620 | 467 | 577 | 625 |
| 23 | 311 | 123 | 89 | 107 | 132 | 149 | 428 | 771 | 1560 | 436 | 538 | 598 |
| 24 | 302 | 120 | 89 | 108 | 138 | 176 | 393 | 808 | 1500 | 436 | 544 | 573 |
| 25 | 321 | 119 | 88 | 110 | 140 | 160 | 361 | 881 | 1390 | 417 | 525 | 545 |
| 26 | 300 | 123 | 86 | 111 | 145 | 170 | 355 | 929 | 1250 | 321 | 475 | 522 |
| 27 | 274 | 116 | 84 | 112 | 150 | 190 | 353 | 1040 | 1240 | 316 | 506 | 503 |
| 28 | 259 | 123 | 83 | 112 | 155 | 200 | 361 | 1230 | 1280 | 318 | 481 | 461 |
| 29 | 258 | 142 | 82 | 113 | 160 | 171 | 350 | 1540 | 1340 | 309 | 440 | 395 |
| 30 | 266 | 155 | 81 | 114 | --- | 171 | 378 | 1670 | 1360 | 332 | 426 | 384 |
| 31 | 263 | --- | 80 | 117 | --- | 154 | --- | 1320 | --- | 337 | 463 | --- |
| TOTAL | 8820 | 4955 | 3449 | 3077 | 3971 | 5014 | 8803 | 28296 | 46940 | 19013 | 15638 | 13338 |
| MEAN | 285 | 165 | 111 | 99.3 | 137 | 162 | 293 | 913 | 1565 | 613 | 504 | 445 |
| MAX | 397 | 262 | 160 | 117 | 160 | 205 | 440 | 1670 | 2120 | 1110 | 739 | 625 |
| MIN | 205 | 116 | 80 | 80 | 124 | 125 | 140 | 402 | 1060 | 309 | 331 | 301 |
| AC-FT | 17490 | 9830 | 6840 | 6100 | 7880 | 9950 | 17460 | 56130 | 93110 | 37710 | 31020 | 26460 |
| CAL YR 1987 | TOTAL 314960 | | MEAN 863 | MAX 3920 | MIN 80 | AC-FT 624700 | | | | | | |

RIO GRANDE BASIN

08218500 GOOSE CREEK AT WAGONWHEEL GAP, CO

LOCATION.--Lat 37°45'07", long 106°49'46", in SW¼SE¼ sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on left bank 0.2 mi downstream from Pierce Creek, 1.0 mi upstream from mouth, 1.0 mi south of Wagonwheel Gap, and 8.8 mi southeast of Creede.

DRAINAGE AREA.--90 mi², approximately.

PERIOD OF RECORD.--June 1954 to current year.

REVISED RECORDS.--WSP 1712: 1955, 1956(M).

GAGE.--Water-stage recorder. Elevation of gage is 8,460 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 21 to Nov. 5, Nov. 18 to Apr. 7, and Apr. 10-12. Records good except for estimated daily discharges, which are fair. Several small diversions upstream from station for irrigation. Lake Humphreys, capacity, 842 acre-ft, with a fixed spillway and no gates has slight effect on flow. Several observations of 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.

AVERAGE DISCHARGE.--34 years, 63.2 ft³/s; 45,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 879 ft³/s, Sept. 14, 1970, gage height, 4.52 ft, from recorded range in stage, from rating curve extended above 480 ft³/s; minimum daily, 4.5 ft³/s, Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1927 exceeded all other observed floods at this location, including those of October 1911 and June 18, 1949. Flood of October 1911 probably exceeded that of June 18, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| June 6 | 2345 | *236 | *3.26 | No other peak greater than base discharge. | | | |
| Minimum daily, 14 ft ³ /s, Jan. 3. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|---------|--------|-------------|------|------|------|------|------|------|------|
| 1 | 29 | 32 | 21 | 18 | 30 | 30 | 38 | 52 | 85 | 74 | 48 | 36 |
| 2 | 29 | 40 | 22 | 16 | 28 | 30 | 47 | 39 | 79 | 66 | 37 | 34 |
| 3 | 29 | 36 | 23 | 14 | 29 | 31 | 46 | 36 | 92 | 61 | 39 | 31 |
| 4 | 28 | 34 | 25 | 17 | 24 | 29 | 47 | 37 | 144 | 58 | 44 | 30 |
| 5 | 28 | 32 | 26 | 21 | 22 | 27 | 48 | 46 | 163 | 56 | 37 | 29 |
| 6 | 28 | 49 | 26 | 24 | 21 | 30 | 46 | 48 | 197 | 52 | 46 | 28 |
| 7 | 28 | 39 | 24 | 22 | 22 | 32 | 50 | 39 | 187 | 52 | 46 | 28 |
| 8 | 28 | 32 | 25 | 18 | 23 | 26 | 54 | 39 | 172 | 49 | 36 | 26 |
| 9 | 29 | 30 | 23 | 19 | 25 | 26 | 49 | 36 | 166 | 48 | 34 | 26 |
| 10 | 26 | 30 | 24 | 18 | 25 | 30 | 44 | 44 | 166 | 49 | 31 | 26 |
| 11 | 28 | 28 | 26 | 22 | 24 | 27 | 48 | 49 | 172 | 51 | 31 | 37 |
| 12 | 30 | 29 | 22 | 23 | 24 | 24 | 50 | 63 | 166 | 46 | 37 | 53 |
| 13 | 31 | 30 | 23 | 22 | 24 | 24 | 52 | 79 | 149 | 42 | 31 | 72 |
| 14 | 39 | 30 | 20 | 22 | 27 | 23 | 46 | 92 | 126 | 41 | 28 | 56 |
| 15 | 34 | 30 | 18 | 22 | 24 | 26 | 46 | 99 | 126 | 37 | 26 | 46 |
| 16 | 31 | 28 | 19 | 24 | 24 | 29 | 51 | 103 | 113 | 36 | 32 | 44 |
| 17 | 29 | 22 | 23 | 22 | 26 | 28 | 44 | 116 | 110 | 36 | 52 | 41 |
| 18 | 29 | 20 | 25 | 24 | 24 | 25 | 39 | 146 | 113 | 35 | 46 | 39 |
| 19 | 28 | 20 | 24 | 23 | 25 | 29 | 40 | 120 | 126 | 35 | 39 | 37 |
| 20 | 25 | 21 | 22 | 21 | 26 | 30 | 40 | 99 | 120 | 34 | 34 | 36 |
| 21 | 24 | 21 | 20 | 19 | 25 | 32 | 42 | 83 | 116 | 30 | 32 | 48 |
| 22 | 28 | 21 | 21 | 21 | 26 | 38 | 35 | 74 | 113 | 29 | 35 | 61 |
| 23 | 28 | 22 | 26 | 21 | 25 | 37 | 32 | 70 | 106 | 28 | 34 | 52 |
| 24 | 30 | 21 | 22 | 22 | 27 | 44 | 31 | 70 | 101 | 29 | 35 | 48 |
| 25 | 36 | 21 | 23 | 20 | 28 | 40 | 30 | 68 | 92 | 29 | 32 | 45 |
| 26 | 32 | 24 | 21 | 21 | 27 | 42 | 29 | 72 | 85 | 26 | 31 | 42 |
| 27 | 30 | 19 | 19 | 22 | 30 | 40 | 31 | 79 | 83 | 29 | 51 | 42 |
| 28 | 28 | 18 | 16 | 23 | 32 | 40 | 34 | 96 | 83 | 30 | 40 | 40 |
| 29 | 28 | 18 | 18 | 24 | 31 | 36 | 37 | 103 | 85 | 34 | 41 | 36 |
| 30 | 30 | 20 | 19 | 26 | --- | 42 | 45 | 116 | 87 | 36 | 36 | 35 |
| 31 | 28 | --- | 19 | 25 | --- | 42 | --- | 94 | --- | 39 | 37 | --- |
| TOTAL | 908 | 817 | 685 | 656 | 748 | 989 | 1271 | 2307 | 3723 | 1297 | 1158 | 1204 |
| MEAN | 29.3 | 27.2 | 22.1 | 21.2 | 25.8 | 31.9 | 42.4 | 74.4 | 124 | 41.8 | 37.4 | 40.1 |
| MAX | 39 | 49 | 26 | 26 | 32 | 44 | 54 | 146 | 197 | 74 | 52 | 72 |
| MIN | 24 | 18 | 16 | 14 | 21 | 23 | 29 | 36 | 79 | 26 | 26 | 26 |
| AC-FT | 1800 | 1620 | 1360 | 1300 | 1480 | 1960 | 2520 | 4580 | 7380 | 2570 | 2300 | 2390 |
| CAL YR 1987 | TOTAL 39973 | MEAN 110 | MAX 694 | MIN 14 | AC-FT 79290 | | | | | | | |
| WTR YR 1988 | TOTAL 15763 | MEAN 43.1 | MAX 197 | MIN 14 | AC-FT 31270 | | | | | | | |

08219500 SOUTH FORK RIO GRANDE AT SOUTH FORK, CO

LOCATION.--Lat 37°39'25", long 106°38'55", in SW¼NE¼ sec.3, T.39 N., R.3 E., Rio Grande County, Hydrologic Unit 13010001, on left bank near U.S. Highway 160, 700 ft downstream from Church Creek, 0.8 mi southwest of village of South Fork, and 1.4 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. 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: Nov. 17 to Apr. 7. 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.

AVERAGE DISCHARGE.--64 years (water years 1911-22, 1937-88), 214 ft³/s; 155,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s, Oct. 5, 1911, gage height, 9.7 ft, from floodmarks, present site and datum, from rating curve extended above 1,500 ft³/s; minimum daily, 10 ft³/s, Jan. 6, 1977.

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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---|------|-----------------------------------|---------------------|--|------|-----------------------------------|---------------------|
| May 18 | 0015 | *972 | *4.12 | No other peak greater than base discharge. | | | |
| Minimum daily, 30 ft ³ /s, Jan. 3. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|--------|--------------|------|-------|-------|------|------|------|
| 1 | 53 | 49 | 38 | 34 | 58 | 56 | 70 | 246 | 340 | 148 | 109 | 63 |
| 2 | 52 | 67 | 40 | 32 | 54 | 56 | 90 | 219 | 319 | 137 | 94 | 59 |
| 3 | 54 | 57 | 42 | 30 | 56 | 58 | 90 | 220 | 328 | 130 | 102 | 55 |
| 4 | 53 | 56 | 44 | 34 | 46 | 54 | 100 | 231 | 441 | 118 | 100 | 52 |
| 5 | 51 | 53 | 46 | 40 | 42 | 52 | 120 | 267 | 546 | 111 | 99 | 50 |
| 6 | 50 | 83 | 46 | 44 | 40 | 56 | 140 | 271 | 672 | 119 | 99 | 49 |
| 7 | 49 | 76 | 44 | 40 | 42 | 58 | 160 | 222 | 640 | 127 | 104 | 46 |
| 8 | 41 | 61 | 44 | 36 | 44 | 50 | 169 | 222 | 578 | 133 | 87 | 35 |
| 9 | 34 | 54 | 40 | 38 | 48 | 50 | 168 | 228 | 528 | 128 | 79 | 34 |
| 10 | 34 | 55 | 42 | 36 | 48 | 56 | 160 | 254 | 512 | 128 | 76 | 33 |
| 11 | 33 | 51 | 46 | 42 | 44 | 52 | 156 | 281 | 506 | 120 | 74 | 48 |
| 12 | 33 | 46 | 40 | 46 | 46 | 48 | 178 | 330 | 489 | 109 | 73 | 68 |
| 13 | 35 | 50 | 42 | 44 | 44 | 48 | 197 | 438 | 425 | 95 | 70 | 78 |
| 14 | 54 | 52 | 36 | 44 | 50 | 46 | 203 | 578 | 361 | 74 | 66 | 75 |
| 15 | 51 | 50 | 34 | 44 | 44 | 52 | 195 | 647 | 351 | 68 | 64 | 66 |
| 16 | 46 | 44 | 36 | 48 | 44 | 56 | 206 | 704 | 320 | 68 | 66 | 76 |
| 17 | 43 | 42 | 42 | 46 | 48 | 54 | 182 | 783 | 307 | 70 | 102 | 71 |
| 18 | 41 | 38 | 44 | 50 | 44 | 48 | 161 | 861 | 302 | 65 | 94 | 73 |
| 19 | 40 | 38 | 42 | 48 | 46 | 56 | 156 | 709 | 310 | 67 | 88 | 62 |
| 20 | 39 | 42 | 38 | 44 | 48 | 58 | 163 | 539 | 273 | 65 | 78 | 44 |
| 21 | 39 | 44 | 36 | 40 | 46 | 60 | 183 | 416 | 229 | 62 | 71 | 54 |
| 22 | 44 | 44 | 38 | 44 | 48 | 68 | 168 | 367 | 208 | 57 | 66 | 84 |
| 23 | 46 | 46 | 46 | 44 | 48 | 68 | 153 | 353 | 216 | 54 | 66 | 74 |
| 24 | 47 | 44 | 42 | 46 | 52 | 88 | 140 | 376 | 198 | 54 | 72 | 61 |
| 25 | 60 | 42 | 44 | 42 | 52 | 74 | 127 | 381 | 182 | 68 | 61 | 56 |
| 26 | 55 | 46 | 40 | 44 | 52 | 76 | 121 | 398 | 165 | 86 | 59 | 52 |
| 27 | 48 | 38 | 36 | 46 | 56 | 76 | 124 | 425 | 164 | 81 | 94 | 50 |
| 28 | 45 | 36 | 32 | 46 | 58 | 76 | 137 | 486 | 166 | 71 | 74 | 48 |
| 29 | 45 | 36 | 34 | 48 | 58 | 68 | 155 | 491 | 168 | 88 | 74 | 46 |
| 30 | 48 | 38 | 36 | 50 | --- | 74 | 192 | 501 | 168 | 86 | 65 | 46 |
| 31 | 45 | --- | 36 | 48 | --- | 74 | --- | 400 | --- | 110 | 65 | --- |
| TOTAL | 1408 | 1478 | 1246 | 1318 | 1406 | 1866 | 4564 | 12844 | 10412 | 2897 | 2491 | 1708 |
| MEAN | 45.4 | 49.3 | 40.2 | 42.5 | 48.5 | 60.2 | 152 | 414 | 347 | 93.5 | 80.4 | 56.9 |
| MAX | 60 | 83 | 46 | 50 | 58 | 88 | 206 | 861 | 672 | 148 | 109 | 84 |
| MIN | 33 | 36 | 32 | 30 | 40 | 46 | 70 | 219 | 164 | 54 | 59 | 33 |
| AC-FT | 2790 | 2930 | 2470 | 2610 | 2790 | 3700 | 9050 | 25480 | 20650 | 5750 | 4940 | 3390 |
| CAL YR 1987 | TOTAL | 100173 | MEAN 274 | MAX 1840 | MIN 32 | AC-FT 198700 | | | | | | |
| WTR YR 1988 | TOTAL | 43638 | MEAN 119 | MAX 861 | MIN 30 | AC-FT 86560 | | | | | | |

LOCATION.--Lat 37°41'22", long 106°27'38", in NW¹ sec.29, T.40 N., R.5 E., Rio Grande County, Hydrologic Unit 13010001, on right bank 20 ft downstream from county highway bridge, 6.0 mi west of Del Norte, and 18 mi upstream from Pinos Creek.

REVISED RECORDS.--WSP 763: Drainage area. WSP 1312: 1889, 1901, 1913-14.

GAGE.--Water-stage recorder. 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: Nov. 18, 19, Nov. 26 to Jan. 19, and Feb. 1 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 FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s, Oct. 5, 1911, gage height, 6.80 ft, from rating curve extended above 12,900 ft³/s; minimum daily, 69 ft³/s, Aug. 21, 1902.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1873, that of Oct. 5, 1911, from information
by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,440 ft³/s at 0730 June 7, gage height, 3.53 ft; minimum daily, 140 ft³/s, Jan. 1, 2.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|-----------|----------|-------|---------|-----------------|-------|-------|--------|-------|-------|-------|
| 1 | 384 | 351 | 220 | 140 | 220 | 250 | 269 | 710 | 1590 | 1340 | 441 | 542 |
| 2 | 362 | 378 | 240 | 140 | 210 | 250 | 275 | 663 | 1500 | 1160 | 428 | 519 |
| 3 | 390 | 335 | 250 | 150 | 210 | 250 | 301 | 619 | 1460 | 1050 | 425 | 493 |
| 4 | 494 | 325 | 270 | 160 | 190 | 250 | 335 | 622 | 1860 | 1030 | 426 | 458 |
| 5 | 407 | 310 | 280 | 200 | 180 | 240 | 373 | 679 | 2300 | 965 | 412 | 412 |
| 6 | 335 | 373 | 280 | 230 | 180 | 250 | 375 | 751 | 2800 | 919 | 434 | 379 |
| 7 | 310 | 449 | 260 | 210 | 180 | 260 | 439 | 669 | 3120 | 905 | 674 | 365 |
| 8 | 315 | 368 | 260 | 190 | 190 | 230 | 529 | 644 | 2850 | 856 | 591 | 339 |
| 9 | 310 | 335 | 250 | 190 | 200 | 230 | 511 | 634 | 2740 | 843 | 570 | 327 |
| 10 | 305 | 315 | 260 | 190 | 200 | 250 | 453 | 681 | 2720 | 817 | 582 | 318 |
| 11 | 330 | 315 | 280 | 220 | 190 | 230 | 433 | 760 | 2550 | 828 | 572 | 351 |
| 12 | 325 | 286 | 270 | 220 | 200 | 220 | 466 | 933 | 2600 | 773 | 574 | 416 |
| 13 | 305 | 290 | 240 | 210 | 200 | 220 | 544 | 1210 | 2590 | 718 | 573 | 721 |
| 14 | 330 | 310 | 200 | 210 | 220 | 210 | 560 | 1610 | 2240 | 680 | 541 | 665 |
| 15 | 395 | 310 | 180 | 210 | 210 | 240 | 540 | 1980 | 2310 | 698 | 524 | 589 |
| 16 | 384 | 272 | 190 | 220 | 210 | 250 | 556 | 2290 | 2140 | 700 | 574 | 575 |
| 17 | 384 | 238 | 250 | 220 | 210 | 240 | 523 | 2530 | 1980 | 712 | 781 | 564 |
| 18 | 425 | 195 | 260 | 230 | 200 | 240 | 451 | 2630 | 1960 | 681 | 877 | 547 |
| 19 | 413 | 208 | 250 | 220 | 210 | 300 | 429 | 2430 | 2020 | 658 | 821 | 528 |
| 20 | 368 | 250 | 220 | 190 | 220 | 330 | 443 | 2090 | 2040 | 585 | 694 | 485 |
| 21 | 325 | 268 | 190 | 170 | 210 | 356 | 590 | 1630 | 2030 | 574 | 649 | 491 |
| 22 | 351 | 250 | 210 | 180 | 220 | 351 | 611 | 1400 | 1960 | 523 | 655 | 751 |
| 23 | 413 | 242 | 270 | 180 | 220 | 368 | 598 | 1220 | 1940 | 465 | 631 | 707 |
| 24 | 401 | 238 | 240 | 180 | 230 | 378 | 543 | 1240 | 1790 | 447 | 634 | 670 |
| 25 | 431 | 231 | 250 | 170 | 230 | 352 | 494 | 1320 | 1680 | 460 | 594 | 631 |
| 26 | 425 | 227 | 210 | 180 | 230 | 390 | 469 | 1390 | 1490 | 401 | 550 | 598 |
| 27 | 378 | 200 | 180 | 180 | 250 | 455 | 467 | 1500 | 1440 | 364 | 625 | 576 |
| 28 | 351 | 190 | 150 | 180 | 260 | 530 | 483 | 1720 | 1500 | 348 | 620 | 542 |
| 29 | 351 | 190 | 150 | 190 | 250 | 362 | 496 | 2030 | 1530 | 354 | 554 | 469 |
| 30 | 351 | 210 | 160 | 200 | --- | 333 | 542 | 2380 | 1630 | 368 | 520 | 438 |
| 31 | 356 | --- | 160 | 190 | --- | 320 | --- | 1880 | --- | 402 | 544 | --- |
| TOTAL | 11404 | 8459 | 7080 | 5950 | 6130 | 9135 | 14098 | 42845 | 62360 | 21624 | 18090 | 15466 |
| MEAN | 368 | 282 | 228 | 192 | 211 | 295 | 470 | 1382 | 2079 | 698 | 584 | 516 |
| MAX | 494 | 449 | 280 | 230 | 260 | 530 | 611 | 2630 | 3120 | 1340 | 877 | 751 |
| MIN | 305 | 190 | 150 | 140 | 180 | 210 | 269 | 619 | 1440 | 348 | 412 | 318 |
| AC-FT | 22620 | 16780 | 14040 | 11800 | 12160 | 18120 | 27960 | 84980 | 123700 | 42890 | 35880 | 30680 |
| CAL YR 1987 | TOTAL 512914 | MEAN 1405 | MAX 1405 | 7150 | MIN 150 | AC-FT 1017000</ | | | | | | |

08226600 NOLAND GULCH TRIBUTARY RESERVOIR INFLOW NEAR VILLA GROVE, CO

LOCATION.--Lat 38°12'34", long 105°57'40", in NW¼SE¼ sec.27, T.46 N., R.9 E., Saguache County, Hydrologic Unit 13010003, on left bank at inflow site to a small channel reservoir 500 ft upstream from dam, 1.2 mi west along Bureau of Land Management road exiting U.S. Highway 285, and 2.7 mi south of Villa Grove.

DRAINAGE AREA.--0.08 mi².

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder with crest-stage indicator and Parshall Flume. Elevation of gage is 8,000 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-29, and Apr. 10-13. Records good. One recording and two nonrecording rain gages are in basin upstream. This station is designed to evaluate rainfall runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2.1 ft³/s, Sept. 30, 1982, gage height, 3.65 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.10 ft³/s at 1745 June 23, gage height, 3.09 ft (mean daily discharge was 0.0 ft³/s). One other period of flow occurred on July 27, 0.02 ft³/s at 1545 (mean daily discharge 0.0 ft³/s); no flow most of time.

RIO GRANDE BASIN

08227400 TRACY PIT RESERVOIR INFLOW NEAR SAGUACHE, CO

LOCATION.--Lat 38°02'44", long 106°13'06", in SE¼SE¼ sec.20, T.44 N., R.7 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.5 mi upstream from mouth at North Tracy Canyon, 5.1 mi southwest of Saguache, and 5.4 mi northwest of U.S. Highway 285 at Swede Corners.

DRAINAGE AREA.--0.05 mi².

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder with crest-stage indicator and Parshall Flume. Elevation of gage is 8,190 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: April 12-14. No flow occurred during this period. Records good. One recording and two nonrecording rain gages in basin upstream. This station is designed to evaluate rainfall-runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4.3 ft³/s, Aug. 25, 1982, gage height, 4.05 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--No flow for current season.

08238350 YELLOW WARBLER RESERVOIR INFLOW NEAR ANTONITO, CO

LOCATION.--Lat 37°06'00", long 106°06'44", in NE¼SE¼ sec.17, T.33 N., R.8 E., Conejos County, Hydrologic Unit 13010002, on left bank, 400 ft upstream from Yellow Warbler Dam, 0.4 mi south of the geologic basin known as The Poso, and 6.0 mi west of Antonito.

DRAINAGE AREA.--0.18 mi².

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder with crest-stage indicator and Parshall flume. Elevation of gage is 8,380 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 21-26. No flow occurred during this period. Records good. One recording and three nonrecording rain gages are in basin upstream. This station is designed to evaluate rainfall-runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17 ft³/s, Aug. 16, 1982, gage height, 4.97 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 3.0 ft³/s at 1615 July 11, gage height, 3.64 ft; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| | | | |
|---------|------|---------|------|
| July 11 | 0.06 | Aug. 17 | 0.01 |
|---------|------|---------|------|

RIO GRANDE BASIN

08238380 TURKEY RESERVOIR INFLOW NEAR CONEJOS, CO

LOCATION.--Lat $37^{\circ}08'16''$, long $106^{\circ}06'41''$, in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec, 32, T.34 N., R.8 E., Conejos County, Hydrologic Unit 13010002, on left bank 300 ft upstream from Turkey Dam, 0.4 mi upstream from mouth at the geologic basin known as The Poso, and 6.2 mi northwest of Conejos.

DRAINAGE AREA.--0.24 mi².

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder with crest-stage indicator and Parshall flume. Elevation of gage is 8,280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. One recording and three nonrecording rain gages in basin upstream. This station is designed to evaluate rainfall-runoff from small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7.5 ft³/s, Aug. 11, 1981, gage height, 4.16 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.63 ft³/s, May 20, time unknown, gage height, 3.23 ft. No flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

May 20 0.01

08238400 BOBOLINK RESERVOIR NEAR CONEJOS, CO

LOCATION.--Lat 37°09'10", long 106°10'18", in SW¼SE¼ sec.26, T.34 N., R.7 E., Conejos County, Hydrologic Unit 13010002, on top of earthfill dam near center, 0.7 mi southeast of Flat Top Mountain, 5.3 mi north of Los Mogotes Peaks and 9.4 mi northwest of Conejos.

DRAINAGE AREA.--0.23 mi².

PERIOD OF RECORD.--June 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder. Elevation of gage is 8,800 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated contents Aug. 22. Records good. Reservoir is formed by an earthfill dam. Storage occurs intermittently from storm runoff. Maximum storage is 1.0 acre-ft, at a spillway gage height of 7.1 ft. No contents occur at a gage height of 3.42 ft. This dam forms a small channel reservoir for controlling heavy runoff and to help control sedimentation. There is one recording and three nonrecording rain gages in the basin upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2.4 acre-ft, Sept. 9, 1982, gage height, 9.13 ft; no contents most of time.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 0.06 acre-ft at 1915 Aug. 17, gage height, 4.48 ft; no contents most of time.

Capacity table (elevation, in feet, and total contents, in acre-feet)

| | | | |
|-----|------|-----|------|
| 3.5 | 0.01 | 5.5 | 0.25 |
| 4.5 | 0.06 | 6.5 | 0.67 |

RESERVOIR STORAGE (ACRE FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 2400 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 2 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 3 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 4 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 5 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 6 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 7 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 8 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 9 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 10 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 11 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 12 | .0 | --- | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 |
| 13 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 14 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 15 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 16 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 17 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .05 | .0 |
| 18 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .03 | .0 |
| 19 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .02 | .0 |
| 20 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .02 | .0 |
| 21 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .01 | .0 |
| 22 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .01 | .0 |
| 23 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 24 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 25 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 26 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 27 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 28 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 30 | .0 | --- | --- | --- | --- | --- | .0 | .0 | .0 | .0 | .0 | .0 |
| 31 | --- | --- | --- | --- | --- | --- | --- | .0 | --- | .0 | .0 | --- |
| MAX | --- | --- | --- | --- | --- | --- | --- | .00 | .00 | .00 | .05 | .00 |
| MIN | --- | --- | --- | --- | --- | --- | --- | .00 | .00 | .00 | .00 | .00 |

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 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 U.S. Bureau of Reclamation.

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, 45,500 acre-ft, May 18, elevation, 10,018.5 ft; minimum contents, 29,200 acre-ft, Sept. 30, elevation, 9,997.5 ft.

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| | Date | Elevation | Contents (acre-feet) | Change in contents (acre-feet) |
|-------------|-------------|-----------|-------------------------|-----------------------------------|
| Sept. | 30. | 10,016.0 | 43,960 | |
| Oct. | 31. | 10,016.7 | 43,960 | 0 |
| Nov. | 30. | 10,016.5 | 43,790 | -170 |
| Dec. | 31. | 10,016.3 | 43,620 | -170 |
| CAL YR 1987 | | | | -6,830 |
| Jan. | 31. | 10,016.1 | 43,490 | -130 |
| Feb. | 29. | 10,015.8 | 43,240 | -250 |
| Mar. | 31. | 10,016.0 | 43,340 | +100 |
| Apr. | 30. | 10,018.0 | 45,080 | +1,740 |
| May | 31. | 10,017.9 | 45,020 | -60 |
| June | 30. | 10,016.4 | 43,720 | -1,300 |
| July | 31. | 10,006.2 | 35,550 | -8,170 |
| Aug. | 31. | 9,998.6 | 30,000 | -5,500 |
| Sept. | 30. | 9,997.5 | 29,200 | -800 |
| WTR YR 1988 | | | | -14,710 |

LOCATION.--Lat 37°03'14", long 106°11'13", in SE¹/₄ sec.34, T.33 N., R.7 E., Conejos County, Hydrologic Unit 13010005, on right bank 25 ft upstream 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.

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.

GAGE.--Water-stage recorder. Datum of gage is 8,271.54 ft, Colorado State Highway datum. Apr. 17, 1903, to Oct. 31, 1905, nonrecording gage 500 ft downstream at different datum. Oct. 5, 1911, to early 1915, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 20-23, 25, 26, Dec. 2-4, 6-13, Dec. 15 to Feb. 27, and Mar. 2-22. 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).

AVERAGE DISCHARGE.--79 years, 335 ft³/s; 242,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s, Oct. 5, 1911, gage height, 8.50 ft, from floodmarks, present site and datum, from rating curve extended above 3,100 ft³/s; minimum daily determined, 10 ft³/s, July 18, 1904.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,490 ft³/s at 0400 June 7, gage height, 3.41 ft; minimum daily, 46 ft³/s, Jan. 1, 2.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|--------|--------------|-------|-------|-------|-------|-------|------|
| 1 | 68 | 82 | 55 | 46 | 70 | 75 | 75 | 262 | 644 | 407 | 403 | 183 |
| 2 | 68 | 93 | 53 | 46 | 66 | 76 | 75 | 230 | 594 | 349 | 384 | 190 |
| 3 | 68 | 101 | 55 | 48 | 62 | 74 | 83 | 243 | 642 | 380 | 432 | 169 |
| 4 | 66 | 98 | 57 | 54 | 54 | 74 | 90 | 286 | 857 | 372 | 418 | 151 |
| 5 | 64 | 79 | 59 | 62 | 50 | 72 | 107 | 257 | 1070 | 333 | 437 | 145 |
| 6 | 64 | 84 | 57 | 62 | 50 | 74 | 129 | 296 | 1320 | 324 | 406 | 135 |
| 7 | 64 | 91 | 58 | 58 | 50 | 72 | 163 | 278 | 1330 | 302 | 417 | 133 |
| 8 | 62 | 96 | 60 | 54 | 52 | 64 | 207 | 271 | 1260 | 330 | 372 | 140 |
| 9 | 62 | 84 | 54 | 52 | 52 | 70 | 205 | 246 | 1280 | 356 | 307 | 129 |
| 10 | 62 | 72 | 58 | 52 | 54 | 70 | 184 | 246 | 1240 | 326 | 281 | 121 |
| 11 | 62 | 72 | 60 | 56 | 53 | 68 | 180 | 285 | 1100 | 306 | 256 | 151 |
| 12 | 62 | 68 | 54 | 54 | 53 | 64 | 192 | 348 | 1020 | 281 | 277 | 176 |
| 13 | 62 | 70 | 51 | 52 | 52 | 58 | 221 | 489 | 973 | 269 | 252 | 204 |
| 14 | 70 | 72 | 51 | 54 | 54 | 60 | 233 | 620 | 845 | 262 | 219 | 203 |
| 15 | 72 | 72 | 48 | 60 | 52 | 66 | 217 | 750 | 681 | 256 | 199 | 182 |
| 16 | 70 | 68 | 55 | 62 | 51 | 66 | 220 | 900 | 719 | 284 | 213 | 159 |
| 17 | 68 | 68 | 58 | 60 | 56 | 62 | 197 | 950 | 682 | 268 | 242 | 139 |
| 18 | 68 | 64 | 60 | 60 | 54 | 60 | 185 | 1080 | 659 | 282 | 234 | 139 |
| 19 | 66 | 60 | 60 | 58 | 52 | 64 | 184 | 1150 | 699 | 347 | 214 | 141 |
| 20 | 64 | 62 | 58 | 48 | 54 | 74 | 198 | 925 | 731 | 397 | 179 | 114 |
| 21 | 64 | 62 | 56 | 50 | 52 | 80 | 240 | 651 | 728 | 373 | 166 | 123 |
| 22 | 64 | 64 | 56 | 50 | 54 | 88 | 232 | 561 | 658 | 359 | 157 | 204 |
| 23 | 64 | 64 | 60 | 54 | 54 | 86 | 203 | 464 | 576 | 350 | 166 | 169 |
| 24 | 68 | 62 | 58 | 54 | 56 | 88 | 189 | 448 | 584 | 330 | 190 | 128 |
| 25 | 93 | 62 | 56 | 52 | 60 | 86 | 182 | 520 | 664 | 320 | 187 | 112 |
| 26 | 93 | 62 | 56 | 54 | 64 | 95 | 180 | 615 | 639 | 306 | 179 | 105 |
| 27 | 82 | 53 | 54 | 56 | 68 | 106 | 182 | 770 | 548 | 345 | 276 | 103 |
| 28 | 77 | 53 | 52 | 56 | 77 | 114 | 189 | 875 | 533 | 394 | 264 | 97 |
| 29 | 77 | 59 | 52 | 60 | 72 | 93 | 201 | 895 | 499 | 397 | 246 | 93 |
| 30 | 82 | 57 | 52 | 62 | --- | 91 | 229 | 980 | 426 | 457 | 227 | 88 |
| 31 | 82 | --- | 50 | 60 | --- | 77 | --- | 835 | --- | 465 | 197 | --- |
| TOTAL | 2158 | 2154 | 1723 | 1706 | 1648 | 2367 | 5372 | 17726 | 24201 | 10527 | 8397 | 4326 |
| MEAN | 69.6 | 71.8 | 55.6 | 55.0 | 56.8 | 76.4 | 179 | 572 | 807 | 340 | 271 | 144 |
| MAX | 93 | 101 | 60 | 62 | 77 | 114 | 240 | 1150 | 1330 | 465 | 437 | 204 |
| MIN | 62 | 53 | 48 | 46 | 50 | 58 | 75 | 230 | 426 | 256 | 157 | 88 |
| AC-FT | 4280 | 4270 | 3420 | 3380 | 3270 | 4690 | 10660 | 35160 | 48000 | 20880 | 16660 | 8580 |
| CAL YR 1987 | TOTAL | 131034 | MEAN 359 | MAX 1800 | MIN 48 | AC-FT 259900 | | | | | | |
| WTR YR 1988 | TOTAL | 82305 | MEAN 225 | MAX 1330 | MIN 46 | AC-FT 163300 | | | | | | |

RIO GRANDE BASIN

08247500 SAN ANTONIO RIVER AT ORTIZ, CO

LOCATION.--Lat 36°59'35", long 106°02'17", in NE1SE4 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. 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: Nov. 12, and Nov. 16 to Apr. 2. 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.

AVERAGE DISCHARGE.--48 years (1940-88), 26.0 ft³/s; 18,840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s, Apr. 15, 1937, gage height, 5.38 ft, from rating curve extended above 1,100 ft³/s; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 330 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|-------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| May 1 | 0500 | *556 | 2.36 | July 31 | 1900 | --- | *2.42 |

No flow Oct. 1, 10-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|------|------|-------|------|------|-------|-------|-------|-------|
| 1 | .00 | 3.6 | 2.0 | 1.5 | 4.0 | 3.5 | 15 | 128 | 21 | 3.4 | 11 | 3.9 |
| 2 | .09 | 4.3 | 2.5 | 1.5 | 3.5 | 3.5 | 15 | 90 | 19 | 2.6 | 3.3 | 5.4 |
| 3 | .40 | 7.0 | 2.5 | 2.0 | 3.0 | 3.5 | 14 | 73 | 17 | 2.1 | 2.1 | 3.2 |
| 4 | .20 | 5.4 | 3.0 | 3.0 | 2.5 | 3.5 | 35 | 73 | 16 | 1.8 | 3.0 | 2.3 |
| 5 | .40 | 4.6 | 3.0 | 3.5 | 2.0 | 3.0 | 55 | 80 | 22 | 1.7 | 40 | 1.7 |
| 6 | .40 | 4.3 | 3.0 | 3.5 | 2.0 | 3.5 | 57 | 86 | 19 | 1.5 | 20 | 1.4 |
| 7 | .40 | 6.2 | 3.0 | 3.0 | 2.0 | 3.0 | 73 | 63 | 13 | 1.1 | 11 | 1.2 |
| 8 | .20 | 5.8 | 3.5 | 2.5 | 2.5 | 3.0 | 83 | 54 | 11 | 1.0 | 8.0 | .91 |
| 9 | .18 | 4.6 | 3.0 | 2.0 | 2.5 | 3.5 | 74 | 47 | 9.2 | .86 | 5.0 | .86 |
| 10 | .00 | 3.6 | 3.0 | 2.0 | 2.5 | 3.5 | 59 | 46 | 8.6 | 1.9 | 3.7 | .72 |
| 11 | .00 | 3.6 | 3.5 | 2.5 | 2.5 | 3.5 | 56 | 45 | 11 | 2.0 | 2.9 | .72 |
| 12 | .00 | 3.6 | 3.0 | 2.0 | 2.5 | 3.0 | 66 | 43 | 11 | 1.4 | 2.7 | 1.8 |
| 13 | .96 | 3.6 | 3.0 | 2.0 | 2.5 | 3.0 | 85 | 41 | 9.9 | 2.3 | 2.4 | 5.4 |
| 14 | 1.4 | 3.6 | 2.5 | 2.0 | 2.5 | 4.0 | 91 | 38 | 8.5 | 1.9 | 1.9 | 10 |
| 15 | 3.3 | 4.6 | 2.0 | 3.0 | 2.5 | 5.0 | 83 | 36 | 7.2 | .94 | 1.4 | 8.3 |
| 16 | 2.5 | 3.6 | 2.5 | 3.5 | 2.5 | 6.0 | 101 | 34 | 8.7 | .58 | 1.2 | 4.2 |
| 17 | 2.0 | 3.0 | 3.0 | 3.0 | 3.0 | 6.0 | 73 | 33 | 9.3 | .32 | 1.3 | 2.9 |
| 18 | 1.8 | 2.5 | 3.5 | 3.0 | 2.5 | 5.0 | 59 | 35 | 6.7 | .17 | 3.0 | 2.2 |
| 19 | 1.6 | 2.5 | 3.5 | 3.0 | 2.5 | 6.0 | 61 | 38 | 6.2 | .65 | 11 | 1.8 |
| 20 | 1.8 | 3.0 | 3.0 | 1.5 | 2.5 | 7.0 | 76 | 44 | 5.2 | 4.5 | 6.8 | 1.5 |
| 21 | 1.6 | 3.0 | 2.5 | 1.5 | 2.5 | 8.0 | 92 | 48 | 4.3 | 8.4 | 3.2 | 1.4 |
| 22 | 1.6 | 3.5 | 2.5 | 1.5 | 2.5 | 10 | 81 | 53 | 3.1 | 5.0 | 2.2 | 1.8 |
| 23 | 1.6 | 3.0 | 3.5 | 2.0 | 2.5 | 11 | 68 | 53 | 2.5 | 2.3 | 1.9 | 2.8 |
| 24 | 1.6 | 3.0 | 3.0 | 2.0 | 2.5 | 13 | 62 | 43 | 2.3 | 1.4 | 1.5 | 3.4 |
| 25 | 1.8 | 3.0 | 2.5 | 2.0 | 3.0 | 12 | 54 | 37 | 2.2 | .86 | 1.5 | 2.7 |
| 26 | 4.1 | 3.0 | 2.5 | 2.0 | 3.0 | 13 | 54 | 37 | 4.0 | .61 | 1.8 | 2.1 |
| 27 | 5.4 | 2.5 | 2.0 | 2.5 | 3.5 | 16 | 53 | 34 | 11 | .78 | 6.5 | 1.9 |
| 28 | 3.6 | 2.0 | 2.0 | 2.5 | 4.0 | 18 | 62 | 29 | 6.6 | 1.1 | 18 | 1.7 |
| 29 | 3.2 | 2.0 | 2.0 | 3.0 | 3.5 | 16 | 76 | 28 | 5.6 | .38 | 9.6 | 1.6 |
| 30 | 3.0 | 2.0 | 2.0 | 3.5 | --- | 15 | 93 | 24 | 4.3 | 5.2 | 6.2 | 1.7 |
| 31 | 3.0 | --- | 1.5 | 3.0 | --- | 15 | --- | 23 | --- | 33 | 4.6 | --- |
| TOTAL | 48.13 | 110.0 | 84.0 | 75.5 | 79.0 | 229.0 | 1926 | 1536 | 285.4 | 91.75 | 198.7 | 81.51 |
| MEAN | 1.55 | 3.67 | 2.71 | 2.44 | 2.72 | 7.39 | 64.2 | 49.5 | 9.51 | 2.96 | 6.41 | 2.72 |
| MAX | 5.4 | 7.0 | 3.5 | 3.5 | 4.0 | 18 | 101 | 128 | 22 | 33 | 40 | 10 |
| MIN | .00 | 2.0 | 1.5 | 1.5 | 2.0 | 3.0 | 14 | 23 | 2.2 | .17 | 1.2 | .72 |
| AC-FT | 95 | 218 | 167 | 150 | 157 | 454 | 3820 | 3050 | 566 | 182 | 394 | 162 |

CAL YR 1987 TOTAL 14031.93 MEAN 38.4 MAX 598 MIN .00 AC-FT 27830
WTR YR 1988 TOTAL 4744.99 MEAN 13.0 MAX 128 MIN .00 AC-FT 9410

RIO GRANDE BASIN

369

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. 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: Nov. 12, and Nov. 16 to Mar. 25. 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.

AVERAGE DISCHARGE.--69 years, 120 ft³/s; 86,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,160 ft³/s, May 12, 1941, gage height, 5.77 ft, site and datum then in use, from rating curve extended above 1,600 ft³/s; minimum observed, 4.0, ft³/s Dec. 17, 1945 (discharge measurement) but may have been less during periods of no gage-height record.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s, and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 30 | 2330 | *501 | *3.70 | | | | |

Minimum daily, 12 ft³/s, Jan. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-----------|----------|--------|-------------|------|------|-------|------|------|------|------|
| 1 | 13 | 24 | 18 | 12 | 20 | 25 | 37 | 361 | 206 | 59 | 39 | 29 |
| 2 | 14 | 36 | 19 | 12 | 18 | 25 | 35 | 253 | 193 | 55 | 31 | 25 |
| 3 | 14 | 32 | 20 | 13 | 18 | 24 | 36 | 244 | 198 | 58 | 47 | 23 |
| 4 | 14 | 30 | 20 | 14 | 16 | 24 | 44 | 280 | 233 | 53 | 43 | 21 |
| 5 | 13 | 29 | 21 | 17 | 15 | 22 | 50 | 328 | 252 | 45 | 52 | 19 |
| 6 | 13 | 35 | 20 | 18 | 15 | 24 | 68 | 334 | 290 | 46 | 40 | 18 |
| 7 | 13 | 36 | 20 | 16 | 15 | 22 | 114 | 255 | 278 | 41 | 40 | 17 |
| 8 | 13 | 27 | 21 | 15 | 16 | 21 | 169 | 226 | 257 | 37 | 34 | 16 |
| 9 | 13 | 25 | 19 | 14 | 16 | 23 | 172 | 228 | 240 | 49 | 28 | 16 |
| 10 | 13 | 23 | 20 | 14 | 17 | 23 | 150 | 261 | 238 | 45 | 25 | 16 |
| 11 | 13 | 26 | 21 | 15 | 17 | 22 | 155 | 282 | 235 | 45 | 23 | 25 |
| 12 | 13 | 19 | 19 | 14 | 17 | 21 | 203 | 322 | 211 | 66 | 22 | 34 |
| 13 | 14 | 20 | 20 | 13 | 16 | 20 | 250 | 359 | 194 | 42 | 20 | 50 |
| 14 | 22 | 23 | 15 | 14 | 18 | 20 | 270 | 381 | 166 | 35 | 19 | 48 |
| 15 | 21 | 23 | 14 | 16 | 17 | 24 | 257 | 393 | 161 | 30 | 18 | 36 |
| 16 | 18 | 22 | 16 | 18 | 17 | 24 | 275 | 384 | 197 | 28 | 17 | 28 |
| 17 | 16 | 21 | 19 | 17 | 19 | 23 | 197 | 364 | 157 | 31 | 23 | 25 |
| 18 | 17 | 19 | 21 | 17 | 18 | 21 | 165 | 419 | 147 | 31 | 25 | 25 |
| 19 | 16 | 20 | 21 | 17 | 17 | 22 | 174 | 394 | 141 | 30 | 32 | 26 |
| 20 | 16 | 21 | 18 | 13 | 18 | 24 | 235 | 383 | 130 | 37 | 23 | 23 |
| 21 | 16 | 21 | 16 | 14 | 17 | 25 | 270 | 330 | 111 | 40 | 21 | 22 |
| 22 | 16 | 22 | 16 | 14 | 18 | 25 | 220 | 294 | 101 | 33 | 19 | 24 |
| 23 | 17 | 21 | 20 | 15 | 18 | 26 | 175 | 256 | 93 | 31 | 19 | 28 |
| 24 | 17 | 21 | 18 | 15 | 19 | 26 | 156 | 238 | 107 | 30 | 20 | 25 |
| 25 | 33 | 21 | 16 | 14 | 20 | 26 | 137 | 250 | 88 | 28 | 25 | 23 |
| 26 | 36 | 20 | 15 | 15 | 21 | 28 | 137 | 238 | 88 | 26 | 21 | 21 |
| 27 | 23 | 19 | 14 | 16 | 22 | 31 | 140 | 250 | 82 | 27 | 54 | 21 |
| 28 | 22 | 18 | 13 | 16 | 26 | 43 | 172 | 264 | 88 | 29 | 56 | 21 |
| 29 | 20 | 19 | 13 | 16 | 24 | 39 | 212 | 263 | 76 | 29 | 59 | 21 |
| 30 | 22 | 18 | 14 | 17 | --- | 36 | 301 | 278 | 68 | 34 | 40 | 19 |
| 31 | 26 | --- | 13 | 16 | --- | 35 | --- | 245 | --- | 45 | 32 | --- |
| TOTAL | 547 | 711 | 550 | 467 | 525 | 794 | 4976 | 9357 | 5026 | 1215 | 967 | 745 |
| MEAN | 17.6 | 23.7 | 17.7 | 15.1 | 18.1 | 25.6 | 166 | 302 | 168 | 39.2 | 31.2 | 24.8 |
| MAX | 36 | 36 | 21 | 18 | 26 | 43 | 301 | 419 | 290 | 66 | 59 | 50 |
| MIN | 13 | 18 | 13 | 12 | 15 | 20 | 35 | 226 | 68 | 26 | 17 | 16 |
| AC-FT | 1080 | 1410 | 1090 | 926 | 1040 | 1570 | 9870 | 18560 | 9970 | 2410 | 1920 | 1480 |
| CAL YR 1987 | TOTAL 45786 | MEAN 125 | MAX 1020 | MIN 13 | AC-FT 90820 | | | | | | | |
| WTR YR 1988 | TOTAL 25880 | MEAN 70.7 | MAX 419 | MIN 12 | AC-FT 51330 | | | | | | | |

RIO GRANDE BASIN

08249000 CONEJOS RIVER NEAR LASAUSES, CO

LOCATION.--Lat 37°18'01", long 105°44'47", in SW¼SW¼ sec.2, and SE¼NE¼ 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 Lasauces, 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 Sauces."

REVISED RECORDS.--WSP 1312: 1934(M).

GAGE.--Two water-stage recorders. 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: Nov. 26, Nov. 28 to Jan. 3, and Mar. 17-21. Records good except for estimated daily discharges, which are fair. Diversions for irrigation of about 75,000 acres upstream from station. Several observations of 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.

AVERAGE DISCHARGE.--67 years, 189 ft³/s; 136,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,890 ft³/s, May 15, 1941; no flow at times some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 323 ft³/s, Apr. 9; no flow, Aug. 16, 24-26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|--------|-------|-------|------|-------|
| 1 | 22 | 25 | 48 | 42 | 69 | 122 | 151 | 41 | 4.8 | 3.8 | .16 | 1.1 |
| 2 | 21 | 31 | 30 | 42 | 72 | 130 | 142 | 66 | 3.6 | 2.4 | .25 | 1.6 |
| 3 | 21 | 28 | 53 | 44 | 77 | 135 | 135 | 35 | 2.5 | 2.8 | .23 | 1.9 |
| 4 | 18 | 34 | 57 | 46 | 73 | 139 | 127 | 26 | 1.8 | 2.5 | .16 | 2.0 |
| 5 | 19 | 60 | 66 | 53 | 73 | 137 | 130 | 24 | 1.6 | 2.6 | .27 | 1.1 |
| 6 | 20 | 53 | 62 | 55 | 73 | 138 | 150 | 26 | 1.4 | 2.5 | .53 | .50 |
| 7 | 18 | 53 | 59 | 51 | 72 | 147 | 185 | 29 | 1.2 | 2.3 | .58 | .56 |
| 8 | 20 | 56 | 61 | 48 | 73 | 128 | 246 | 22 | 1.4 | 2.3 | .48 | .93 |
| 9 | 23 | 64 | 61 | 46 | 73 | 112 | 292 | 15 | 1.7 | 2.3 | .25 | 1.2 |
| 10 | 21 | 67 | 59 | 46 | 73 | 119 | 267 | 4.8 | 2.4 | 2.7 | .22 | 1.1 |
| 11 | 20 | 60 | 64 | 48 | 73 | 112 | 245 | 2.3 | 3.5 | 3.3 | .22 | .79 |
| 12 | 20 | 54 | 62 | 46 | 72 | 101 | 230 | 1.3 | 3.9 | 5.2 | .17 | .64 |
| 13 | 21 | 59 | 61 | 46 | 73 | 97 | 246 | 3.6 | 5.0 | 4.7 | .12 | .73 |
| 14 | 18 | 58 | 51 | 48 | 77 | 96 | 233 | 1.7 | 5.9 | 3.2 | .11 | 1.1 |
| 15 | 16 | 62 | 47 | 51 | 73 | 96 | 229 | .99 | 6.5 | 1.8 | .01 | .63 |
| 16 | 16 | 62 | 53 | 57 | 77 | 104 | 191 | 1.2 | 5.2 | 1.5 | .00 | .74 |
| 17 | 16 | 60 | 57 | 53 | 78 | 102 | 207 | 1.7 | 4.8 | 1.3 | .12 | .62 |
| 18 | 20 | 58 | 59 | 55 | 78 | 95 | 166 | 2.7 | 4.0 | 1.0 | .27 | .17 |
| 19 | 21 | 53 | 62 | 51 | 78 | 97 | 130 | 75 | 2.9 | .88 | .18 | .05 |
| 20 | 21 | 53 | 65 | 46 | 81 | 106 | 117 | 123 | 2.4 | .71 | .11 | .05 |
| 21 | 23 | 50 | 58 | 46 | 81 | 116 | 130 | 178 | 2.1 | .44 | .15 | .07 |
| 22 | 22 | 51 | 57 | 46 | 85 | 130 | 138 | 89 | 1.8 | .32 | .08 | .35 |
| 23 | 23 | 51 | 62 | 49 | 86 | 143 | 110 | 46 | 1.6 | .28 | .03 | 3.1 |
| 24 | 23 | 50 | 59 | 49 | 86 | 148 | 92 | 23 | 1.2 | .24 | .00 | 7.6 |
| 25 | 25 | 50 | 55 | 46 | 88 | 145 | 84 | 9.8 | 1.1 | .20 | .00 | 6.4 |
| 26 | 23 | 51 | 51 | 49 | 91 | 145 | 76 | 3.3 | .99 | .14 | .00 | 2.8 |
| 27 | 25 | 46 | 48 | 51 | 92 | 162 | 73 | 3.0 | .80 | .14 | .01 | .93 |
| 28 | 27 | 44 | 44 | 53 | 99 | 198 | 62 | 3.5 | .60 | .17 | .01 | .45 |
| 29 | 26 | 43 | 46 | 57 | 106 | 200 | 48 | 3.7 | .77 | .18 | .47 | .36 |
| 30 | 24 | 46 | 46 | 63 | --- | 176 | 35 | 3.3 | 1.7 | .25 | 1.2 | .36 |
| 31 | 24 | --- | 44 | 61 | --- | 163 | --- | 2.5 | --- | .26 | 1.0 | --- |
| TOTAL | 657 | 1532 | 1727 | 1544 | 2302 | 4039 | 4667 | 867.39 | 79.16 | 52.41 | 7.39 | 39.93 |
| MEAN | 21.2 | 51.1 | 55.7 | 49.8 | 79.4 | 130 | 156 | 28.0 | 2.64 | 1.69 | .24 | 1.33 |
| MAX | 27 | 67 | 66 | 63 | 106 | 200 | 292 | 178 | 6.5 | 5.2 | 1.2 | 7.6 |
| MIN | 16 | 25 | 44 | 42 | 69 | 95 | 35 | .99 | .60 | .14 | .00 | .05 |
| AC-FT | 1300 | 3040 | 3430 | 3060 | 4570 | 8010 | 9260 | 1720 | 157 | 104 | 15 | 79 |

CAL YR 1987 TOTAL 86142.3 MEAN 236 MAX 1940 MIN 2.1 AC-FT 170900
WTR YR 1988 TOTAL 17514.28 MEAN 47.9 MAX 292 MIN .00 AC-FT 34740

RIO GRANDE BASIN

371

08251500 RIO GRANDE NEAR LOBATOS, CO

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank at highway bridge, 6 mi north of Colorado-New Mexico State line, 7 mi downstream from Culebra Creek, 10 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, Colo.

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.

REVISED RECORDS.--WSP 1312: 1919 (monthly runoff). WSP 210: Drainage area. WDR CO-78-1: 1976.

GAGE.--Water Stage recorder. 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. 23 to Mar. 3, and Mar. 4-19. 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.

AVERAGE DISCHARGE.--31 years (water years 1900-30), 846 ft³/s; 612,900 acre-ft/yr, includes period of extensive development for irrigation: 58 years (water years 1931-88), 455 ft³/s; 329,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,200 ft³/s, June 8, 1905, gage height, 9.1 ft, from rating curve extended above 8,000 ft³/s; no flow at times in 1950-51, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1828, that of June 8, 1905.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 848 ft³/s at 0930 Apr. 10, gage height, 2.21 ft, maximum gage height, 3.71 ft at 1200 Mar. 5 (backwater from ice); minimum daily discharge, 29 ft³/s, Aug. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1 | 53 | 125 | 265 | 340 | 320 | 520 | 676 | 153 | 167 | 242 | 38 | 53 |
| 2 | 50 | 130 | 270 | 335 | 315 | 535 | 609 | 170 | 144 | 222 | 41 | 44 |
| 3 | 58 | 167 | 310 | 330 | 315 | 570 | 598 | 176 | 125 | 224 | 50 | 46 |
| 4 | 56 | 286 | 415 | 325 | 320 | 600 | 580 | 187 | 116 | 203 | 45 | 44 |
| 5 | 55 | 355 | 460 | 320 | 330 | 620 | 565 | 161 | 124 | 188 | 53 | 43 |
| 6 | 56 | 385 | 440 | 320 | 330 | 640 | 583 | 150 | 124 | 165 | 56 | 42 |
| 7 | 55 | 385 | 430 | 315 | 335 | 670 | 638 | 157 | 122 | 132 | 47 | 39 |
| 8 | 53 | 410 | 450 | 315 | 340 | 700 | 676 | 153 | 130 | 116 | 47 | 40 |
| 9 | 55 | 466 | 410 | 315 | 345 | 665 | 755 | 138 | 131 | 102 | 42 | 42 |
| 10 | 55 | 490 | 440 | 310 | 345 | 640 | 822 | 141 | 133 | 101 | 47 | 46 |
| 11 | 55 | 460 | 440 | 310 | 345 | 630 | 786 | 118 | 141 | 102 | 47 | 49 |
| 12 | 53 | 445 | 400 | 305 | 355 | 625 | 734 | 112 | 157 | 92 | 42 | 51 |
| 13 | 51 | 440 | 370 | 300 | 360 | 590 | 663 | 105 | 178 | 83 | 38 | 56 |
| 14 | 56 | 435 | 280 | 300 | 365 | 565 | 589 | 95 | 181 | 70 | 31 | 59 |
| 15 | 58 | 430 | 360 | 290 | 375 | 595 | 565 | 82 | 182 | 63 | 29 | 57 |
| 16 | 55 | 440 | 425 | 290 | 380 | 610 | 513 | 73 | 186 | 65 | 32 | 72 |
| 17 | 53 | 455 | 390 | 290 | 400 | 560 | 465 | 73 | 179 | 50 | 37 | 77 |
| 18 | 56 | 450 | 445 | 290 | 410 | 560 | 438 | 76 | 175 | 53 | 42 | 70 |
| 19 | 65 | 420 | 395 | 290 | 420 | 620 | 393 | 92 | 164 | 50 | 40 | 53 |
| 20 | 71 | 405 | 450 | 290 | 445 | 615 | 355 | 189 | 152 | 47 | 41 | 68 |
| 21 | 76 | 395 | 460 | 295 | 445 | 608 | 355 | 250 | 143 | 48 | 53 | 80 |
| 22 | 85 | 415 | 465 | 295 | 460 | 636 | 356 | 244 | 153 | 43 | 47 | 87 |
| 23 | 92 | 435 | 475 | 300 | 465 | 664 | 320 | 212 | 153 | 37 | 43 | 80 |
| 24 | 108 | 435 | 465 | 300 | 470 | 685 | 277 | 182 | 151 | 34 | 40 | 69 |
| 25 | 115 | 430 | 395 | 300 | 470 | 657 | 266 | 156 | 146 | 33 | 40 | 57 |
| 26 | 115 | 425 | 435 | 295 | 470 | 657 | 247 | 141 | 155 | 33 | 44 | 65 |
| 27 | 118 | 360 | 415 | 295 | 485 | 678 | 227 | 140 | 173 | 32 | 49 | 57 |
| 28 | 122 | 310 | 395 | 300 | 540 | 713 | 205 | 159 | 203 | 32 | 44 | 53 |
| 29 | 133 | 274 | 425 | 310 | 490 | 776 | 174 | 154 | 193 | 34 | 50 | 56 |
| 30 | 130 | 300 | 445 | 310 | --- | 792 | 157 | 171 | 206 | 48 | 50 | 49 |
| 31 | 125 | --- | 400 | 320 | --- | 713 | --- | 175 | --- | 45 | 55 | --- |
| TOTAL | 2338 | 11358 | 12620 | 9500 | 11445 | 19709 | 14587 | 4585 | 4687 | 2789 | 1360 | 1704 |
| MEAN | 75.4 | 379 | 407 | 306 | 395 | 636 | 486 | 148 | 156 | 90.0 | 43.9 | 56.8 |
| MAX | 133 | 490 | 475 | 340 | 540 | 792 | 822 | 250 | 206 | 242 | 56 | 87 |
| MIN | 50 | 125 | 265 | 290 | 315 | 520 | 157 | 73 | 116 | 32 | 29 | 39 |
| AC-FT | 4640 | 22530 | 25030 | 18840 | 22700 | 39090 | 28930 | 9090 | 9300 | 5530 | 2700 | 3380 |

CAL YR 1987 TOTAL 420173 MEAN 1151 MAX 6660 MIN 50 AC-FT 833400
WTR YR 1988 TOTAL 96682 MEAN 264 MAX 822 MIN 29 AC-FT 191800

RIO GRANDE BASIN

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to September 1981.

WATER TEMPERATURES: October 1975 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1040 microsiemens Sept. 17, 18, 1977; minimum, 89 microsiemens May 9, 1979.

WATER TEMPERATURE: Maximum, 30.0°C July 17, 1977; minimum, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (FTU) | 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) |
|-----------|------|---|---|--------------------------------|--------------------------------------|------------------------------|-------------------------------------|--|---|---|
| OCT 14... | 1130 | E59 | 526 | 8.4 | 11.0 | 2.9 | 8.8 | 48 | K12 | 170 |
| DEC 15... | 1200 | E360 | 273 | 8.2 | 0.0 | 6.3 | 11.8 | K5 | 340 | 84 |
| FEB 24... | 1130 | E470 | 381 | 8.2 | 0.0 | 3.3 | 9.7 | <2 | 150 | 76 |
| APR 21... | 0900 | E360 | 639 | 8.6 | 11.5 | 12 | 9.4 | K4 | K15 | 150 |
| JUN 29... | 0930 | 187 | 585 | 8.5 | 20.5 | 13 | 8.6 | 29 | K14 | 160 |
| AUG 25... | 1000 | 40 | 482 | 8.6 | 21.0 | 26 | 9.50 | 23 | K3 | 130 |

| DATE | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) | SODIUM, DIS- SOLVED (MG/L AS NA) | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 | CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 | ALKA- LINITY 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) |
|-----------|--|--|--|---|---|--|---|---|---|--|
| OCT 14... | 52 | 10 | 47 | 6.0 | -- | -- | 140 | 100 | 12 | 0.8 |
| DEC 15... | 26 | 4.6 | 15 | 3.0 | -- | -- | 85 | 30 | 4.5 | 0.3 |
| FEB 24... | 23 | 4.5 | 48 | 9.7 | 157 | 0 | 128 | 40 | 18 | 0.4 |
| APR 21... | 44 | 9.5 | 78 | 10 | -- | -- | 173 | 110 | 25 | 0.8 |
| JUN 29... | 47 | 10 | 62 | 10 | 180 | 10 | 160 | 120 | 15 | 0.6 |
| AUG 25... | 39 | 8.9 | 50 | 6.8 | 176 | 5 | 153 | 61 | 13 | <0.1 |

| DATE | 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) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) | NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) | PHOS- PHOROUS TOTAL (MG/L AS P) | PHOS- PHOROUS DIS- SOLVED (MG/L AS P) |
|----------------|---|--|---|---|---|---|--|---|--|
| OCT 1987 14... | 29 | 349 | 340 | <0.10 | 0.02 | 0.03 | 0.7 | 0.05 | 0.04 |
| DEC 15... | 31 | 169 | 167 | 0.23 | 0.02 | 0.03 | <0.2 | 0.08 | 0.06 |
| FEB 1988 24... | 30 | 251 | 249 | 0.14 | 0.01 | 0.01 | 0.3 | 0.09 | <0.06 |
| APR 21... | 26 | 411 | 408 | <0.10 | 0.03 | 0.04 | 0.8 | 0.15 | 0.09 |
| JUN 29... | 25 | 397 | 386 | <0.10 | 0.03 | 0.04 | 0.9 | 0.13 | 0.07 |
| AUG 25... | 26 | -- | 301 | <0.10 | 0.02 | 0.03 | 0.4 | 0.18 | 0.04 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

RIO GRANDE BASIN

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08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | ALUM- INUM, DIS- SOLVED (UG/L AS AL) | ARSENIC DIS- SOLVED (UG/L AS AS) | BARIUM, DIS- SOLVED (UG/L AS BA) | BERYL- LIUM, DIS- SOLVED (UG/L AS BE) | 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) |
|--------------|------|---|--|--|--|--|---|--|--|--|--|
| OCT 14... | 1130 | 40 | 4 | 41 | <0.5 | <1 | <1 | <3 | 6 | 29 | <5 |
| DEC 15... | 1200 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 24... | 1130 | 30 | 3 | 32 | <0.5 | 1 | <1 | <3 | 2 | 64 | <5 |
| APR 21... | 0900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 29... | 0930 | 10 | 4 | 40 | <0.5 | <1 | <1 | <3 | 2 | 39 | <5 |
| AUG 25... | 1000 | 20 | 4 | 46 | <0.5 | <1 | <1 | <3 | 4 | 20 | <5 |

| DATE | LITHIUM DIS- SOLVED (UG/L AS LI) | MANGA- NESE, DIS- SOLVED (UG/L AS MN) | MERCURY DIS- SOLVED (UG/L AS HG) | 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) | ZINC, DIS- SOLVED (UG/L AS ZN) |
|--------------|--|--|--|---|--|---|--|--|--|--|
| OCT 14... | 14 | 11 | 1.3 | <10 | <3 | <1 | 1.0 | 450 | <6 | 14 |
| DEC 15... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 24... | 6 | 9 | <0.1 | <10 | <1 | <1 | <1.0 | 180 | <6 | 17 |
| APR 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 29... | 11 | 25 | 0.1 | <10 | 1 | <1 | <1.0 | 440 | <6 | 4 |
| AUG 25... | 10 | 10 | <0.1 | <10 | 1 | <1 | <1.0 | 370 | 7 | <3 |

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) |
|--------------|------|---|---|---|
| JUN 29... | 0930 | 187 | 30 | 15 |
| AUG 25... | 1000 | 40 | 52 | 5.6 |

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.

REVISIONS (WATER YEARS).--WSP 1313: 1912-27.

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.

REVISIONS (WATER YEARS).--WDR CO-86-1, WDR CO-86-2: 1984, 1985.

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.

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.

| Diversion | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|--------------------------------|-----------------|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| TO PLATTE RIVER BASIN | | | | | | | | | | | | |
| 09010000 Water year | 0 1987, | 0 17,640 | 0 | 0 | 0 | 0 | .0 | 4,720 | 8,400 | 3,010 | 1,290 | 213 |
| 09010000 Water year | 0 1988, | 0 19,050 | 0 | 0 | 0 | 0 | 0 | 1,090 | 12,580 | 4,210 | 980 | 196 |
| 09013000 Water year | 10,700 1988, | 15,590 257,800 | 18,250 | 23,590 | 18,130 | 26,830 | 15,590 | 24,860 | 22,160 | 26,270 | 28,450 | 27,340 |
| 09021500 Water year | 0 1988, | 0 710 | 0 | 0 | 0 | 0 | 0 | 0 | 474 | 236 | .1 | 0 |
| 09050590 Water year | 202 1988, | 2,720 53,150 | 5,960 | 4,900 | 4,420 | 1,130 | 0 | 0 | 2,910 | 17,510 | 13,390 | 0 |
| TO ARKANSAS RIVER BASIN | | | | | | | | | | | | |
| 09042000 Water year | 1,050 1987, | 0 8,830 | 0 | 0 | 0 | 0 | 210 | 2,360 | 2,080 | 721 | 1,440 | 979 |
| 09042000 Water year | 0 1988, | 0 9,610 | 0 | 0 | 0 | 0 | 4.2 | 1,010 | 4,970 | 1,570 | 779 | 1,270 |
| 09063700 Water year | 0 1986, | 0 16,945 | 0 | 0 | 0 | 0 | 0 | 7,730 | 4,380 | 3,010 | 1,730 | 95 |
| 09063700 Water year | 0 1987, | 0 18,540 | 2,990 | 3,170 | 2,940 | 3,150 | 6,290 | 0 | 0 | 0 | 0 | 0 |

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO--Continued

TO ARKANSAS RIVER BASIN--Continued

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
 (SOME PREVIOUSLY UNPUBLISHED DIVERSIONS TO THE PLATTE AND ARKANSAS RIVER BASINS ARE INCLUDED IN THIS TABLE)

| Diversion | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|------------------|--------|------|------|-------|-------|-------|------|-------|--------|-------|-------|-------|
| 09063700 | 0 | 0 | 0 | 7,300 | 7,670 | 7,800 | 0 | 0 | 0 | 0 | 2,450 | 4,050 |
| Water year 1988, | 29,280 | | | | | | | | | | | |
| 09077160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,130 | 1,710 | 384 | 117 | 0 |
| Water year 1987, | 3,340 | | | | | | | | | | | |
| 09077160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,010 | 2,310 | 0 | 0 |
| Water year 1988, | 14,320 | | | | | | | | | | | |
| 09077500 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 673 | 1,830 | 716 | 122 | 16 |
| Water year 1987, | 3,597 | | | | | | | | | | | |
| 09077500 | 138 | 0 | 0 | 0 | 0 | 0 | 0 | 857 | 2,640 | 507 | 99 | 51 |
| Water year 1988, | 4,290 | | | | | | | | | | | |

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

09012000 Eureka ditch
 09022500 Moffat Water tunnel

09046000 Boreas Pass ditch

09047300 Vidler tunnel

TO ARKANSAS RIVER BASIN

09061500 Columbine ditch
 09062000 Ewing ditch

09062500 Wurtz ditch

09073000 Twin Lakes tunnel

09115000 Larkspur ditch

TO RIO GRANDE BASIN

09118200 Tarbell ditch
 09121000 Tabor ditch
 09341000 Treasure Pass ditch
 09347000 Don LaFont ditches 1&2
 09348000 Williams Cr-Squaw Pass ditch
 09351000 Pine River-Weminuche Pass ditch
 09351500 Weminuche Pass ditch

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of streamflow-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than streamflow-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 partial-record stations are presented in a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a second table.

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which 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.

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1988

| Station number | Station name | Location | Total drainage area (mi ²) | Non trib-uting | Period of record | Annual maximum | | |
|--------------------|--|---|--|----------------|------------------------|----------------------|--------------------|---------------------------------|
| | | | | | | Date | Gage height (feet) | Dis-charge (ft ³ /s) |
| PLATTE RIVER BASIN | | | | | | | | |
| 06708500 | Deer Creek near Littleton, CO | Lat 39°32'56", long 105°07'59", in NE¼NE¼ 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. | 26.2 | - | 1942-46, 1978-88 | 08-04-88 | 5.41 | 98 |
| ----- | Lee Gulch at Littleton, CO | Lat 39°35'47", long 105°00'57", in SW¼SW¼ sec.21, T.5 S., R.68W., Arapahoe County, on right bank 30 ft upstream from culvert under Prince St., and 0.6 mi upstream from mouth in Littleton. | a | - | 1980-88 | 06-10-88 | 12.64 | 88 |
| ----- | Dutch Creek at Platte Canyon Drive, near Littleton, CO | Lat 39°36'01", long 105°02'28", in NW¼SE¼ sec.19, T.5 S., R.69 W., Arapahoe County, on left bank 150 ft downstream from bridge on Platte Canyon Road. | a | - | 1985-88 | 08-04-88 | 10.40 | 546 |
| ----- | Littles Creek at Littleton, CO | Lat 39°36'44", long 105°01'09", in SE¼SE¼ 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. | a | - | 1985-88 | 08-04-88 | 10.74 | 75 |
| 06710350 | Bear Creek near Evergreen, CO | Lat 39°38'11", long 105°20'51", in NW¼NW¼ sec.9, T.5 S., R.71 W., Jefferson County, 1.4 mi upstream from confluence with Evergreen Lake, 1.6 mi northwest of Evergreen. | 96.6 | - | 1978-88 | 06-15-88 | 6.29 | 133 |
| 06710400 | Cub Creek at Evergreen, CO | Lat 39°37'50", long 105°19'16", in NW¼SE¼ sec.10, T.5 S., R.71 W., Jefferson County, 0.1 mi upstream from confluence with Bear Creek. | 22.2 | - | 1978-88 | 08-04-88 | 6.96 | 117 |
| 06710600 | Mt. Vernon Creek near Morrison, CO | Lat 39°40'49", long 105°11'50", in NW¼NW¼ sec.26, T.4 S., R.70 W., Jefferson County, 1.9 mi north of Morrison. | 7.58 | - | 1978-88 | 04-18-88 | 8.50 | 33 |
| 06710990 | Parmalee Gulch at mouth at Indian Hills, CO | Lat 39°36'57", long 105°13'54", in NW¼SE¼ sec.16, T.5 S., R.70 W., Jefferson County, 20 ft upstream from box type culvert beneath U.S. Highway 285. | 5.80 | - | 1978-88 | 05-20-88 08-04-88 | 8.94 | 18 |
| 06711000 | Turkey Creek near Morrison, CO | Lat 39°37'22", long 105°11'13", in NE¼NE¼ sec.14, T.5 S., R.70 W., Jefferson County, 2.2 mi southwest of Morrison. | 48.0 | - | 1942-53, 1969, 1978-88 | 05-20-88 | 10.20 | 195 |
| ----- | Weaver Creek near Lakewood, CO | Lat 39°38'13", long 105°07'47", in NE¼NE¼ sec.8, T.5 S., R.69 W., Jefferson County, 500 ft upstream from Simms St., and 700 ft south of West Quincy Ave. | a | - | 1982-88 | 08-04-88 | 11.47 | 103 |

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1988--Continued

| Station number | Station name | Location | Total drainage area (mi ²) | Non tribut- uting | Period of record | Date | Annual maximum | |
|-------------------------------|---|---|--|-------------------|------------------|----------|--------------------|----------------------------------|
| | | | | | | | Gage height (feet) | Dis- charge (ft ³ /s) |
| PLATTE RIVER BASIN--Continued | | | | | | | | |
| ----- | Little Dry Creek near Arapahoe Road, CO (former- ly published as In- flow to Holly Res- ervoir) | Lat 39°35'38", long 104°54'23", in NE¼NE¼ sec.29, T.5.S., R.67 W., Arapahoe County, on right bank, 800 ft downstream from Quebec St. | a | - | 1985-88 | 06-10-88 | 9.00 | 255 |
| ----- | Willow Creek at Dry Creek Road, near Englewood, CO | Lat 39°34'49", long 104°54'42", in NW¼NE¼ sec.32, T.5 S., R.67 W., Arapahoe County, on left bank, upstream wingwall of bridge on Dry Creek Road over Willow Creek. | a | - | 1985-88 | 06-10-88 | 8.79 | 606 |
| ----- | Little Dry Creek above Englewood, CO | Lat 39°38'56", long 104°58'40", in SW¼NW¼ sec.2, T.5 S., R.68 W., Arapahoe County, 40 ft above Clarkson St. bridge, and 800 ft south of Hampton Ave., in Cherry Hills Village. | a | - | 1982-88 | 05-20-88 | 12.38 | 476 |
| 06711570 | Harvard Gulch at Colorado Blvd. at Denver, CO | Lat 39°40'08", long 104°56'32", in SE¼SE¼ 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. | a | - | 1979-88 | 05-18-88 | 12.12 | 326 |
| ----- | Harvard Gulch below University Blvd. at Denver, CO | Lat 39°40'10", long 104°57'33", in SE¼SE¼ 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. | a | - | 1979-88 | 08-04-88 | 12.75 | 465 |
| 06711575 | Harvard Gulch at Harvard Park at Denver, CO | Lat 39°40'21", long 104°58'35", in NW¼SW¼ 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. | a | - | 1979-88 | 08-04-88 | 14.02 | 597 |
| 06711600 | Sanderson Gulch tributary at Lakewood, CO | Lat 39°41'19", long 105°04'54", in NE¼NW¼ 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. | 0.38 | - | 1969-88 | 07-29-88 | 12.40 | 92 |
| ----- | Sanderson Gulch at Mouth at Navajo St. at Denver, CO | Lat 39°41'33", long 105°00'12", in SW¼NE¼ sec.21, T.4.S., R.68 W., Denver County, 200 ft south of Louisiana Ave., at Navajo St. | a | - | 1985-88 | 08-04-88 | 11.70 | 480 |
| ----- | Weir Gulch upstream from 1st Avenue, at Denver, CO | Lat 39°43'03", long 105°02'30", in NW¼SE¼ sec.7, T.4.S., R.68 W., Denver County, 250 ft upstream from 1st Ave., in Denver. | a | - | 1985-88 | 08-04-88 | 11.22 | 325 |
| ----- | Dry Gulch at Denver, CO | Lat 39°44'03", long 105°02'20", in SW¼NE¼ 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. | a | - | 1980-88 | 08-04-88 | 14.31 | 322 |
| ----- | Lakewood Gulch at Denver, CO | Lat 39°44'06", long 105°01'54", in SW¼NW¼ 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. | a | - | 1980-88 | 08-04-88 | 15.56 | 776 |
| ----- | Sloans Lake, south Tributary at Denver, CO | Lat 39°44'44", long 105°03'28", in NW¼SE¼ sec.36, T.3.S., R.69 W., Jefferson County, 50 ft south of 18th Ave., at Depew St. | a | - | 1985-88 | 06-06-88 | 3.28 | 439 |
| ----- | Westerly Creek at Aurora, CO | Lat 39°44'43", long 104°52'48", in NW¼SW¼ 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. | a | - | 1982-88 | 05-18-88 | 12.53 | 330 |

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1988--Continued

| Station number | Station name | Location | Total drainage area (mi ²) | Non contributing | Period of record | Date | Annual maximum | |
|-------------------------------|--|--|--|------------------|------------------------|----------------------------------|---------------------------------|--------------------------------|
| | | | | | | | Gage height (feet) | Discharge (ft ³ /s) |
| PLATTE RIVER BASIN--Continued | | | | | | | | |
| 06714310 | Sand Creek tributary at Denver, CO | Lat 39°47'07", long 104°50'31", in SW¼SW¼ sec.13, T.3 S., R.67 W., Denver County, in median of Andrews Drive Parkway, 50 ft downstream from Troy St. in Denver. | 0.29 | - | 1971-88 | 05-18-88 | 12.82 | 274 |
| ----- | Lena Gulch at Upper Site, at Golden, CO | Lat 39°43'21", long 105°11'46", in NE¼NW¼ 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. | a | - | 1985-88 | 08-04-88 | 10.64 | 264 |
| 06719560 | Lena Gulch at Lakewood, CO | Lat 39°44'27", long 105°08'49", in SE¼SE¼ sec.31, T.3S., 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). | c9.0 | - | 1974-79, 1986-88 | 08-04-88 | 11.96 | 223 |
| ----- | Hidden Lake Outflow at 65th Ave. nr Arvada, CO | Lat 39°48'53", long 105°02'03", in SE¼SE¼ 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. | a | - | 1985-88 | 1985 1986 1987 03-02-88 | b3.33 b3.61 b3.48 4.02 | a a a a |
| ----- | Little Dry Creek at Westminster, CO | Lat 39°49'34", long 105°02'25", in NW¼NE¼ sec.6, T.3 S., R.68 W., Adams County, 400 ft downstream from 72nd Ave. in Westminster. | a | - | 1982-88 | 08-04-88 | 11.35 | 528 |
| ----- | Four Mile Creek near Crisman, CO | Lat 40°02'44", long 105°22'02", in SE¼SW¼ sec.17, T.1 N., R.71 W., Boulder county, on right bank 0.65 mile below junction of Gold Run Road. | a | - | 1985-88 | 05-19-88 | 10.74 | 70 |
| ----- | Sunshine Creek at Boulder, CO | Lat 40°01'15", long 105°17'47", in NW¼SW¼ sec.25, T.1N., R.71 W., Boulder County, on right bank 0.2 mile past Hospital at Open Space Park, 125 ft upstream from footbridge. | a | - | 1986-88 | 06-21-88 | 1.65 | 9.0 |
| 06723000 | Middle Fork St. Vrain Creek near Allens Park, CO | Lat 40°10'07", long 105°26'27", in SW¼NW¼ sec.3, T.2 N., R.72 W., Boulder County, 1.4 mi northeast from Raymond. | 28.0 | - | 1925-30, 1978-88 | | | a |
| 06732500 | Fall River at Estes Park, CO | Lat 40°22'40", long 105°31'56", in NW¼NW¼ 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. | 39.5 | - | 1947-53, 1978-88 | 1988 | 7.27 | 121 |
| 06736650 | Cedar Creek at Cedar Cove, CO | Lat 40°25'08", long 105°15'53", NW¼NW¼ 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. | 18.9 | - | 1978-88 | -- | -- | <10 |
| ARKANSAS RIVER BASIN | | | | | | | | |
| 07091000 | Chalk Creek near Nathrop, CO | Lat 38°44'01", long 106°09'34", in SE¼NW¼ sec.19, T.15 S., R.78 W., Chaffee County, 4 mi west of Nathrop. | 97.0 | - | 1910, 1949-56, 1978-88 | 1988 | 2.23 | 400 |
| 07107500 | St. Charles River Burnt Mill, CO | Lat 38°03'06", long 104°47'35", in NE¼NE¼ sec.17, T.23 S., R.66 W., Pueblo County, 5.9 mi downstream from North St. Charles River. | 166 | - | 1923-33, 1978-88 | 1988 | 2.67 | 380 |

a Not determined.
b At different datum.
c Approximately.

ARKANSAS RIVER BASIN

Listed below are data for instantaneous discharge and selected water-quality data for sites on the upper Fountain and Monument Creeks that were done on Synoptic samplings.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

07104900 - Monument Creek at Cache La Poudre Street at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 0855 | 28 | 580 | 8.2 | 0.5 | 11.3 |
| APR 28... | 0915 | 60 | 299 | 8.3 | 5.0 | 10.3 |
| JUL 07... | 0910 | 12 | 588 | 8.2 | 19.5 | 6.9 |

384940104495901 - Fountain Creek above Monument Creek at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM. CARBON. 5 DAY (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|
| DEC 02... | 0845 | 9.8 | 606 | 8.6 | 0.5 | 11.9 | E0.6 |
| APR 27... | 0835 | 5.8 | 591 | 8.0 | 4.5 | 10.3 | 0.4 |
| JUL 06... | 0730 | 3.2 | 870 | 8.0 | 15.0 | 7.6 | 0.6 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625) | STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410) | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610) |
|-----------|--|---|--|--|---|---|
| DEC 02... | 26 | 49 | 74 | 148 | 1.80 | <0.01 |
| APR 27... | 18 | 170 | 67 | 140 | 1.40 | 0.01 |
| JUL 06... | 23 | K1500 | K760 | 173 | 1.80 | 0.02 |

384943104495801 - Monument Creek at the mouth at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM. CARBON. 5 DAY (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|--|
| DEC 03... | 0830 | 29 | 595 | 8.3 | 0.0 | 12.8 | E1.7 |
| APR 28... | 0835 | 58 | 319 | 8.1 | 4.5 | 10.3 | 1.4 |
| JUL 07... | 0830 | 12 | 570 | 8.2 | 19.0 | 6.8 | 0.8 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-----------|---|--|---|---|--|--|
| DEC 03... | 25 | K120 | 330 | 138 | 3.70 | 0.690 |
| APR 28... | 9.7 | 100 | E160 | 79 | 1.40 | 0.140 |
| JUL 07... | 16 | >200 | E970 | 141 | 1.70 | 0.010 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

384947104502401 - Fountain Creek at Eighth Street at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1600 | 12 | 651 | 8.1 | 4.5 | 10.1 | 137 |
| APR 27... | 1720 | 5.9 | 528 | 8.3 | 10.5 | 8.7 | 135 |
| JUL 06... | 0930 | 3.3 | 800 | 8.3 | 17.0 | 7.5 | 164 |

385007104505501 - Fountain Creek at Fourteenth Street at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1505 | 11 | 512 | 8.2 | 4.5 | 10.3 | 132 |
| APR 27... | 1625 | 5.4 | 458 | 8.4 | 10.5 | 9.2 | 130 |
| JUL 06... | 1030 | 2.9 | 685 | 8.3 | 20.0 | 7.3 | 159 |

385030104512801 - Fountain Creek at Twenty-first Street at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1410 | 11 | 434 | 8.2 | 4.5 | 10.2 | 127 |
| APR 27... | 1525 | 5.5 | 364 | 8.5 | 10.0 | 9.5 | 121 |
| JUL 06... | 1130 | 2.8 | 479 | 8.2 | 17.5 | 7.3 | 141 |

385047104515501 - Fountain Creek at Twenty-sixth Street at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1320 | 11 | 392 | 8.2 | 4.0 | 10.3 | 127 |
| APR 27... | 1430 | 5.3 | 351 | 8.4 | 10.0 | 9.9 | 120 |
| JUL 06... | 1225 | 2.6 | 411 | 8.2 | 19.0 | 7.2 | 126 |

385129104532701 - Fountain Creek at Beckers Lane at Manitou Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1225 | 10 | 369 | 8.1 | 4.0 | 10.4 | 120 |
| APR 27... | 1330 | 11 | 295 | 8.1 | 8.5 | 9.7 | 107 |
| JUL 06... | 1335 | 11 | 295 | 8.3 | 18.0 | 7.3 | 104 |

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385129104540901 - Fountain Creek at Mayfair Avenue at Manitou Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1130 | 9.1 | 382 | 7.8 | 3.5 | 10.7 | 125 |
| APR 27... | 1235 | 10 | 314 | 7.8 | 7.5 | 9.6 | 114 |
| JUL 06... | 1430 | 12 | 317 | 8.1 | 18.5 | 7.0 | 112 |

385129104544101 - Fountain Creek at El Paso Blvd at Manitou Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1030 | 8.0 | 402 | 7.6 | 3.0 | 10.6 | 129 |
| APR 27... | 1140 | 8.8 | 321 | 7.6 | 6.5 | 10.1 | 117 |
| JUL 06... | 1520 | 8.7 | 331 | 7.9 | 18.5 | 7.3 | 121 |

385130104534601 - Sutherland Creek at the mouth at Manitou Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1120 | 0.77 | 150 | 7.8 | 1.5 | 11.2 | 42 |
| APR 27... | 1125 | 1.1 | 114 | 7.6 | 8.0 | 9.5 | 31 |
| JUL 06... | 0945 | 0.67 | 119 | 7.6 | 15.5 | 7.7 | 38 |

385130104553101 - Ruxton Creek near the mouth at Manitou Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1200 | 0.02 | 425 | 8.3 | 0.5 | 11.2 | 141 |
| APR 27... | 1200 | 0.01 | 281 | 8.0 | 6.5 | 9.1 | 89 |
| JUL 06... | 1030 | 0.13 | 277 | 8.1 | 17.0 | 7.6 | 96 |

385137104551001 - Fountain Creek above Ruxton Creek at Manitou Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 0925 | 7.9 | 352 | 7.4 | 2.5 | 10.7 | 108 |
| APR 27... | 1025 | 8.8 | 275 | 7.3 | 5.0 | 10.0 | 99 |
| JUL 06... | 1615 | 7.9 | 263 | 7.2 | 18.0 | 7.2 | 91 |

DISCHARGE AND SELECTED WATER-QUALITY DATA AT SITES ON UPPER FOUNTAIN AND MONUMENT CREEKS--Continued

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385202104493901 - Monument Creek above Monument Valley Park Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 0945 | 34 | 517 | 8.1 | 1.5 | 11.0 |
| APR 28... | 1005 | 57 | 275 | 8.1 | 6.5 | 9.9 |
| JUL 07... | 1000 | 10 | 557 | 8.2 | 20.5 | 6.9 |

385205104552501 - Fountain Creek above Manitou Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1300 | 8.7 | 295 | 8.4 | 3.5 | 11.8 | E1.2 |
| APR 27... | 1255 | 8.2 | 222 | 8.4 | 10.0 | 9.2 | 0.6 |
| JUL 06... | 1115 | 8.1 | 217 | 8.2 | 17.0 | 7.4 | 0.6 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 02... | 22 | K5 | 30 | 82 | 1.70 | 0.02 |
| APR 27... | 10 | K2 | K12 | 73 | 0.80 | <0.01 |
| JUL 06... | 10 | K450 | 360 | 70 | 0.90 | <0.01 |

385234104494901 - Monument Creek at Fillmore Street at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 0945 | 35 | 468 | 8.2 | 1.5 | 11.1 | E2.9 |
| APR 28... | 0945 | 61 | 262 | 8.2 | 6.0 | 9.8 | 1.7 |
| JUL 07... | 0940 | 12 | 545 | 8.2 | 20.0 | 6.7 | 0.5 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 03... | 22 | 1100 | 800 | 121 | 3.20 | 1.30 |
| APR 28... | 8.9 | K50 | E80 | 71 | 1.30 | 0.05 |
| JUL 07... | 16 | >200 | K2200 | 133 | 2.20 | <0.01 |

K BASED ON NON-IDEAL COLONY COUNT
E ESTIMATED

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385302104502201 - Unnamed Tributary above Fillmore Street at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1130 | 0.41 | 1450 | 8.3 | 8.5 | 10.0 |
| APR 28... | 1205 | 0.35 | 1270 | 8.3 | 14.0 | 8.3 |
| JUL 07... | 1215 | 0.27 | 1230 | 8.2 | 17.5 | 7.1 |

385318104574301 - French Creek at the mouth below Cascade, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1715 | 0.02 | 190 | 6.8 | 0.0 | 10.9 | 63 |
| APR 27... | 1645 | 0.01 | 211 | 7.6 | 7.0 | 8.6 | 64 |
| JUL 06... | 1520 | 0.09 | 76 | 7.8 | 16.0 | 7.1 | 27 |

385319104574501 - Fountain Creek above French Creek below Cascade, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1650 | 7.2 | 249 | 8.2 | 2.5 | 10.4 | E1.1 |
| APR 27... | 1640 | 9.2 | 212 | 8.2 | 10.0 | 8.9 | 0.5 |
| JUL 06... | 1450 | 7.3 | 164 | 8.2 | 18.0 | 7.3 | 0.5 |

| DATE | TIME | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-----------|------|---|--|--|---|--|--|
| DEC 02... | 15 | E350 | 240 | 80 | 1.40 | 0.03 | |
| APR 27... | 9.0 | K100 | 37 | 71 | 0.90 | <0.01 | |
| JUL 06... | 6.4 | K770 | K560 | 56 | 0.70 | <0.01 | |

385320104492401 - Templeton Gap Floodway at the mouth at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1245 | 1.6 | 1220 | 8.4 | 0.0 | 11.6 |
| APR 28... | 1325 | 2.0 | 869 | 8.5 | 17.5 | 8.2 |
| JUL 07... | 1320 | 1.1 | 838 | 8.6 | 21.5 | 6.7 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

DISCHARGE AND SELECTED WATER-QUALITY DATA AT SITES ON UPPER FOUNTAIN AND MONUMENT CREEKS--Continued

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385321104493301 - Douglas Creek at the mouth at Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1205 | 0.35 | 790 | 8.4 | 7.5 | 9.2 |
| APR 28... | 1240 | 0.12 | 799 | 8.5 | 17.5 | 9.6 |
| JUL 07... | 1250 | 0.18 | 699 | 8.4 | 20.0 | 6.8 |

385346104581601 - Cascade Creek at the mouth at Cascade, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1450 | 2.0 | 90 | 7.6 | 0.5 | 11.0 | -- |
| APR 27... | 1420 | 2.1 | 78 | 7.4 | 5.5 | 9.6 | 23 |
| JUL 06... | 1300 | 3.5 | 58 | 8.0 | 13.0 | 7.8 | 16 |

385347104581601 - Fountain Creek above Cascade Creek at Cascade, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1430 | 6.2 | 272 | 8.2 | 3.0 | 10.2 | E1.4 |
| APR 27... | 1400 | 6.0 | 244 | 8.3 | 12.5 | 8.0 | 0.5 |
| JUL 06... | 1230 | 4.6 | 242 | 8.3 | 17.0 | 6.9 | 0.9 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|-----------|---|--|---|---|--|--|
| DEC 02... | 13 | 29 | 42 | 93 | 1.50 | 0.02 |
| APR 27... | 10 | K6 | 21 | 84 | 1.10 | 0.01 |
| JUL 06... | 8.8 | K380 | K550 | 84 | 1.00 | 0.01 |

385351104490901 - Monument Creek at Garden of the Gods Road, Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|-----------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1050 | 27 | 441 | 8.0 | 3.5 | 10.4 |
| APR 28... | 1045 | 58 | 215 | 8.1 | 8.5 | 9.4 |
| JUL 07... | 1055 | 10 | 422 | 8.3 | 21.0 | 6.8 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385429104491901 - Monument Creek below Pikeview, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1335 | 27 | 449 | 8.1 | 6.5 | 9.0 |
| APR 28... | 1125 | 61 | 213 | 8.0 | 9.0 | 9.3 |
| JUL 07... | 1140 | 16 | 402 | 8.3 | 22.0 | 6.7 |

385509104592501 - Fountain Creek at Chipita Park, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1545 | 5.9 | 281 | 8.2 | 3.5 | 10.0 | EO.5 |
| APR 27... | 1525 | 16 | 240 | 8.2 | 10.0 | 8.5 | 0.3 |
| JUL 06... | 1345 | 4.2 | 292 | 8.3 | 16.5 | 7.2 | 1.1 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 02... | 12 | 200 | 98 | 92 | 1.30 | 0.02 |
| APR 27... | 9.4 | 100 | 23 | 82 | 1.10 | <0.01 |
| JUL 06... | 9.8 | 380 | 490 | 96 | 1.30 | <0.01 |

385537105001401 - Fountain Creek below Green Mountain Falls, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 0900 | 4.2 | 263 | 8.3 | 1.0 | 10.7 | EO.4 |
| APR 27... | 0915 | 5.2 | 242 | 8.2 | 4.0 | 9.8 | 0 |
| JUL 06... | 0845 | 5.9 | 204 | 7.7 | 13.5 | 7.7 | 1.1 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 02... | 12 | 260 | 44 | 95 | 1.50 | 0.02 |
| APR 27... | 9.7 | K210 | 46 | 83 | 1.20 | 0.02 |
| JUL 06... | 7.1 | 550 | 300 | 73 | 0.800 | <0.01 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385556105004001 - Crystal Creek at the mouth at Green Mountain Falls, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 02... | 1230 | 0.49 | 84 | 8.1 | 1.0 | 10.8 |
| APR 27... | 1200 | 0.23 | 121 | 7.8 | 5.5 | 9.7 |
| JUL 06... | 1020 | 0.26 | 128 | 7.2 | 13.0 | 8.0 |

385559104485601 - Monument Creek at Woodmen Valley Road above Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1445 | 19 | 335 | 8.0 | 6.0 | 9.1 |
| APR 28... | 1510 | 49 | 172 | 8.4 | 13.5 | 8.1 |
| JUL 07... | 1400 | -- | -- | -- | -- | -- |

385600105004301 - Fountain Creek above Catamount Creek at Green Mountain Falls, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1115 | 3.2 | 303 | 8.4 | 3.0 | 10.1 | E0.2 |
| APR 27... | 1100 | 3.1 | 323 | 8.2 | 7.5 | 9.4 | 0.2 |
| JUL 06... | 0920 | 1.3 | 498 | 8.1 | 12.0 | 8.0 | 0.8 |

| DATE | TIME | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOC FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|------|---|--|--|---|--|--|
| DEC 02... | 15 | | K10 | 190 | 110 | 1.80 | 0.02 |
| APR 27... | 13 | | K760 | 370 | 113 | 1.70 | 0.04 |
| JUL 06... | 21 | | K250 | 450 | 173 | 2.80 | <0.01 |

385618104484401 - Pine Creek near the mouth above Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1530 | 2.6 | 561 | 8.3 | 6.5 | 9.5 |
| APR 28... | 1550 | 0.88 | 513 | 8.6 | 16.5 | 7.6 |
| JUL 07... | 1400 | -- | -- | -- | -- | -- |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385620105005401 - Fountain Creek above Green Mountain Falls, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1300 | 1.4 | 459 | 8.4 | 5.0 | 9.5 | EO.4 |
| APR 27... | 1245 | 2.6 | 325 | 8.5 | 10.0 | 8.8 | 0.4 |
| JUL 06... | 1100 | 1.4 | 490 | 8.1 | 14.0 | 9.3 | 0.2 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) | ALKA- LINEITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|--|--|--|
| DEC 02... | 23 | K4 | 120 | 175 | 2.90 | 0.03 |
| APR 27... | 15 | K2 | 41 | 116 | 1.60 | 0.01 |
| JUL 06... | 22 | K210 | 500 | 172 | 2.60 | 0.01 |

385708104492901 - Kettle Creek near the mouth above Colorado Springs, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1615 | 1.9 | 353 | 7.8 | 5.0 | 9.8 |
| APR 28... | 1630 | 1.4 | 369 | 8.1 | 16.0 | 7.4 |
| JUL 07... | 1400 | -- | -- | -- | -- | -- |

385715105014401 - Crystola Creek at the mouth at Crystola, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 0840 | 0.39 | 239 | 7.4 | 2.0 | 10.0 |
| APR 27... | 1510 | 1.0 | 174 | 7.9 | 8.0 | 8.6 |
| JUL 06... | 1145 | 0.29 | 249 | 7.3 | 15.5 | 7.1 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385716105014301 - Fountain Creek above Crystola Creek at Crystola, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 0800 | 0.03 | 572 | 7.5 | 5.0 | 4.8 | EO.4 |
| APR 27... | 1420 | 0.13 | 576 | 7.8 | 9.5 | 6.4 | 0.6 |
| JUL 06... | 1150 | 0.06 | 604 | 7.7 | 13.5 | 6.8 | 0.6 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 03... | 38 | K10 | K17 | 209 | 2.90 | 0.63 |
| APR 27... | 40 | <1 | K10 | 191 | 3.40 | 0.56 |
| JUL 06... | 41 | 34 | 200 | 205 | 2.70 | 0.38 |

385729104500401 - West Monument Creek at the mouth at USAF Academy, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 1145 | 0.43 | 204 | 7.6 | 4.0 | 11.4 | -- |
| APR 28... | 1230 | 3.9 | 123 | 7.9 | 10.0 | 8.9 | 39 |
| JUL 07... | 1205 | 0.02 | 202 | 7.6 | 16.0 | 6.2 | -- |

385732104500301 - Monument Creek above West Monument Creek at USAF Academy, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 1230 | 15 | 300 | 7.8 | 5.5 | 9.8 | E4.6 |
| APR 28... | 1210 | 43 | 147 | 7.9 | 10.0 | 8.9 | 1.8 |
| JUL 07... | 1240 | 12 | 278 | 8.4 | 21.0 | 7.6 | 1.9 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 03... | 15 | 150 | K76 | 78 | 1.30 | 2.50 |
| APR 28... | 5.1 | <3 | E8 | 43 | 0.50 | 0.08 |
| JUL 07... | 15 | E440 | 460 | 73 | 1.40 | <0.01 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

385813105022201 - Fountain Creek below Woodland Park WWTF, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 0930 | 0.32 | 605 | 7.8 | 2.0 | 10.5 | E40 |
| APR 27... | 1615 | 0.27 | 549 | 8.2 | 11.0 | 7.9 | 22 |
| JUL 06... | 1300 | 0.32 | 636 | 7.9 | 26.0 | 4.8 | 23 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 03... | 39 | K200 | E130 | 185 | 2.30 | 24.0 |
| APR 27... | 38 | 160 | 40 | 148 | 1.20 | 23.0 |
| JUL 06... | 39 | >200 | 300 | 173 | 0.90 | 21.0 |

385858104494301 - Monument Creek at USAF Academy Waste Water Treatment Plant, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 1320 | 11 | 278 | 7.8 | 4.5 | 10.0 | E1.1 |
| APR 28... | 1340 | 38 | 141 | 7.9 | 12.0 | 8.4 | 1.8 |
| JUL 07... | 1345 | 10 | -- | 8.6 | 22.0 | 7.1 | 1.8 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 03... | 13 | K4 | 22 | 68 | 1.10 | 0.51 |
| APR 28... | 4.8 | K3 | E1 | 42 | 0.50 | 0.11 |
| JUL 07... | 13 | K240 | 180 | 72 | 0.90 | <0.01 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

390036104500301 - Monument Creek below Smith Creek at USAF Academy, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 1445 | 7.5 | 299 | 7.90 | 5.0 | 10.8 | E1.3 |
| APR 28... | 1445 | 39 | 130 | 8.00 | 14.0 | 8.4 | 1.8 |
| JUL 07... | 1500 | 10 | 215 | 8.40 | 21.0 | 6.8 | 2.6 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 03... | 14 | K5 | K18 | 74 | 0.70 | 0.97 |
| APR 28... | 4.2 | K7 | E32 | 41 | 0.20 | 0.12 |
| JUL 07... | 11 | K220 | 74 | 65 | 0.70 | <0.01 |

390115104502301 - Smith Creek at the mouth at USAF Academy, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 03... | 1600 | 0.53 | 325 | 7.9 | 3.5 | 10.8 | E0.8 |
| APR 28... | 1545 | 0.52 | 293 | 8.2 | 14.0 | 8.4 | 1.7 |
| JUL 07... | 1600 | 0.33 | 325 | 7.8 | 18.0 | 6.8 | 1.3 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 03... | 18 | K33 | 190 | 83 | 0.50 | 0.04 |
| APR 28... | 20 | <1 | E12 | 78 | 0.50 | 0.04 |
| JUL 07... | 24 | 93 | K670 | 103 | 0.40 | 0.01 |

390150104503801 - Unnamed Tributary above Smith Creek at USAF Academy, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 02... | 1545 | E0.15 | 473 | 8.0 | 3.0 | 10.6 |
| APR 28... | 0945 | 0.11 | 470 | 7.8 | 5.0 | 9.7 |
| JUL 07... | 0905 | 0.07 | 541 | 7.8 | 14.5 | 7.5 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

390300104520701 - Beaver Creek at the mouth below Monument, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|
| DEC 03... | 1140 | 0.78 | 153 | 8.1 | 6.0 | 9.8 |
| APR 28... | 1310 | 11 | 131 | 8.0 | 12.0 | 8.6 |
| JUL 07... | 1030 | 2.0 | 136 | 7.7 | 19.0 | 7.5 |

390324104514501 - Monument Creek at Baptist Road below Monument, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON, 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1625 | 4.0 | 341 | 8.0 | 2.0 | 10.2 | E4.4 |
| APR 28... | 1045 | 28 | 128 | 8.0 | 9.0 | 9.2 | 2.1 |
| JUL 07... | 0955 | 6.0 | 208 | 8.0 | 17.5 | 8.1 | 5.2 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 02... | 18 | K13 | K56 | 103 | 0.60 | 4.30 |
| APR 28... | 4.3 | K4 | K10 | 37 | 0.10 | 0.40 |
| JUL 07... | 11 | E500 | K780 | 59 | 1.40 | 0.05 |

390413104522601 - Palmer Lake-Monument WWTF outfall below Monument, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | OXYGEN, DIS- SOLVED (MG/L) | BOD OXYGEN DEMAND, BIOCHEM CARBON, 5 DAY (MG/L) |
|--------------|------|---|---|--------------------------------|--------------------------------------|-------------------------------------|---|
| DEC 02... | 1720 | 0.87 | 631 | 7.8 | 2.5 | 10.8 | >26 |
| APR 28... | 1150 | 1.3 | 458 | 8.9 | 11.0 | 12.2 | >25 |
| JUL 07... | 1225 | 0.94 | 427 | 8.0 | 22.0 | 7.7 | 33 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|--|---|--|--|
| DEC 02... | 43 | K10 | 100 | 190 | 0.30 | 23.0 |
| APR 28... | 37 | K2 | 100 | 125 | 0.30 | 11.0 |
| JUL 07... | 38 | -- | 160 | 66 | 8.40 | 0.04 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

DISCHARGE AND SELECTED WATER-QUALITY DATA AT SITES ON UPPER FOUNTAIN AND MONUMENT CREEKS--Continued

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

390425104522701 - Monument Creek at Arnold Road below Monument, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061) | SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095) | PH (STAND- ARD UNITS) (00400) | TEMPER- ATURE WATER (DEG C) (00010) | OXYGEN, DIS- SOLVED (MG/L) (00300) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082) |
|--------------|------|--|--|---|---|--|--|
| DEC 03... | 1230 | 2.2 | 228 | 8.3 | 6.0 | 11.1 | E1.0 |
| APR 28... | 1420 | 28 | 101 | 8.0 | 10.5 | 9.2 | 1.1 |
| JUL 07... | 1135 | 5.2 | 145 | 8.1 | 22.0 | 7.4 | 0.5 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CAC03 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|---|---|--|--|
| DEC 03... | 13 | K3 | K8 | 79 | 0.20 | 0.11 |
| APR 28... | 2.4 | <1 | K7 | 34 | <0.10 | 0.08 |
| JUL 07... | 4.4 | K370 | K500 | 54 | 0.10 | 0.06 |

390707104552801 - Monument Creek above Palmer Lake, CO

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061) | SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095) | PH (STAND- ARD UNITS) (00400) | TEMPER- ATURE WATER (DEG C) (00010) | OXYGEN, DIS- SOLVED (MG/L) (00300) | BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082) |
|--------------|------|--|--|---|---|--|--|
| DEC 03... | 1535 | 1.4 | 100 | 8.2 | 1.0 | 10.9 | E0.6 |
| APR 28... | 1730 | 12 | 68 | 7.9 | 6.0 | 9.6 | 0.9 |
| JUL 07... | 1425 | 3.2 | 90 | 7.6 | 16.0 | 7.5 | 0.1 |

| DATE | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CAC03 | NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) | NITRO- GEN, AMMONIA TOTAL (MG/L AS N) |
|--------------|---|--|---|---|--|--|
| DEC 03... | 8.1 | K1 | K5 | 38 | <0.10 | <0.01 |
| APR 28... | 0.50 | <1 | <1 | 24 | <0.10 | 0.02 |
| JUL 07... | 0.50 | E20 | 29 | 33 | <0.10 | <0.01 |

K BASED ON NON-IDEAL COLONY COUNT.
E ESTIMATED.

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

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| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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 1987 | | | | | MAY 1988 | | | | |
| 01... | 1145 | 0.47 | 55 | 6.5 | 10... | 1040 | 0.54 | 55 | 1.0 |
| NOV | | | | | JUN | | | | |
| 13... | 1120 | 0.49 | 60 | 2.0 | 07... | 1035 | 19 | 39 | 1.0 |
| DEC | | | | | JUL | | | | |
| 18... | 1100 | 0.44 | 56 | 1.0 | 13... | 1220 | 4.0 | 33 | 11.0 |
| JAN 1988 | | | | | AUG | | | | |
| 15... | 1335 | 0.60 | 26 | 0.5 | 11... | 1310 | 1.2 | 37 | 11.0 |
| MAR | | | | | SEP | | | | |
| 09... | 1400 | 0.39 | 48 | 1.0 | 15... | 1100 | 0.72 | 45 | 6.0 |
| APR | | | | | | | | | |
| 13... | 1255 | 0.37 | 35 | 1.0 | | | | | |
| 06697200 FRENCH CREEK NEAR JEFFERSON, COLORADO (LAT 39 23 21N LONG 105 38 07W) | | | | | | | | | |
| OCT 1987 | | | | | JUL 1988 | | | | |
| 06... | 1130 | 2.4 | 120 | 2.0 | 12... | 0830 | 13 | 101 | 3.0 |
| NOV | | | | | AUG | | | | |
| 12... | 1100 | 0.89 | 114 | 0.0 | 09... | 1415 | 11 | 124 | 9.0 |
| MAY 1988 | | | | | SEP | | | | |
| 12... | 1455 | 3.3 | 93 | 9.0 | 13... | 1515 | 3.6 | 119 | 7.0 |
| JUN | | | | | | | | | |
| 08... | 1545 | 33 | 94 | 6.0 | | | | | |
| 06699000 ROCK CREEK NEAR JEFFERSON, COLORADO (LAT 39 17 29N LONG 105 41 43W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 06... | 1510 | 2.6 | 290 | 1.0 | 12... | 1200 | 8.4 | 61 | 10.5 |
| NOV | | | | | JUN | | | | |
| 12... | 1520 | 5.5 | 63 | 0.0 | 08... | 1225 | 11 | 49 | 12.0 |
| DEC | | | | | JUL | | | | |
| 15... | 1320 | 1.6 | 73 | 1.0 | 12... | 1130 | 13 | 52 | 12.0 |
| JAN 1988 | | | | | AUG | | | | |
| 13... | 1350 | 1.0 | 83 | 0.0 | 09... | 1230 | 15 | 64 | 12.0 |
| MAR | | | | | SEP | | | | |
| 11... | 1120 | 1.5 | 66 | 1.0 | 13... | 1140 | 12 | 63 | 7.0 |
| APR | | | | | | | | | |
| 18... | 1330 | 5.9 | 64 | 6.0 | | | | | |
| 06699005 TARRYALL CREEK BELOW ROCK C NEAR JEFFERSON, CO. (LAT 39 17 13N LONG 105 41 43) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 06... | 1355 | 16 | 160 | 1.5 | 12... | 0950 | 24 | 192 | 7.0 |
| NOV | | | | | JUN | | | | |
| 12... | 1335 | 12 | 133 | 1.0 | 08... | 1100 | 129 | 180 | 12.0 |
| DEC | | | | | JUL | | | | |
| 15... | 1105 | 5.7 | 176 | 1.0 | 12... | 1245 | 71 | 224 | 16.0 |
| JAN 1988 | | | | | AUG | | | | |
| 14... | 1415 | 2.0 | 154 | 0.0 | 09... | 1010 | 135 | 209 | 11.0 |
| MAR | | | | | SEP | | | | |
| 08... | 1345 | 10 | 235 | 0.0 | 13... | 1015 | 90 | 145 | 7.0 |
| APR | | | | | | | | | |
| 12... | 1140 | 53 | 185 | 3.0 | | | | | |
| 06708750 EAST PLUM CR AT CASTLE ROCK, COLO. (LAT 39 23 04N LONG 104 51 42W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 13... | 1335 | 4.9 | 309 | 16.0 | 16... | 1405 | 24 | 180 | 23.5 |
| NOV | | | | | JUN | | | | |
| 17... | 1330 | 11 | 300 | 5.0 | 15... | 1240 | 47 | 240 | 24.0 |
| DEC | | | | | JUL | | | | |
| 15... | 0930 | 1.2 | 365 | 0.0 | 15... | 1305 | 7.0 | 239 | 23.0 |
| JAN 1988 | | | | | AUG | | | | |
| 13... | 1045 | 6.5 | 330 | 1.0 | 19... | 1150 | 5.1 | 280 | 24.0 |
| MAR | | | | | SEP | | | | |
| 15... | 1410 | 18 | 240 | 11.5 | 22... | 1215 | 2.9 | 330 | 18.0 |
| 22... | 1125 | 36 | 195 | 10.0 | | | | | |
| APR | | | | | | | | | |
| 11... | 1350 | 38 | 186 | 16.0 | | | | | |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) |
|---|------|---|---|--------------------------------------|----------|------|---|---|--------------------------------------|
| 06709500 PLUM CREEK NEAR LOUVIERS, CO. (LAT 39 29 04N LONG 105 00 07W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 05... | 1235 | 10 | 370 | 18.0 | 04... | 1350 | 105 | 245 | -- |
| 13... | 1120 | 14 | 350 | 16.0 | 11... | 0945 | 113 | 215 | 5.0 |
| NOV | | | | | MAY | | | | |
| 02... | 1530 | 29 | 340 | 14.5 | 04... | 1120 | M151 | 160 | 13.0 |
| 17... | 1130 | 28 | 330 | 5.0 | 16... | 1005 | '86 | 200 | 17.0 |
| 30... | 1440 | 25 | 345 | 0.0 | 31... | 1415 | 194 | 150 | 18.0 |
| DEC | | | | | JUN | | | | |
| 15... | 1200 | 8.3 | 350 | 1.0 | 14... | 1000 | 110 | 205 | 19.0 |
| JAN 1988 | | | | | JUL | | | | |
| 11... | 1130 | 29 | 338 | 0.0 | 01... | 1040 | 47 | 255 | 22.0 |
| FEB | | | | | 15... | 0900 | 14 | 285 | 20.0 |
| 02... | 1430 | 21 | 350 | 0.0 | AUG | | | | |
| 16... | 1440 | 54 | 220 | 0.5 | 01... | 1330 | >5.5 | 330 | 27.0 |
| MAR | | | | | 19... | 0940 | 10 | 320 | 20.0 |
| 07... | 1500 | 49 | 320 | 4.0 | SEP | | | | |
| 15... | 0940 | 36 | 300 | 3.0 | 06... | 1320 | 5.5 | 335 | 23.0 |
| | | | | | 23... | 0910 | 6.1 | 325 | 11.0 |
| 06709530 PLUM CREEK AT TITAN RD NR LOUVIERS, CO (LAT 39 30 27N LONG 105 01 23W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 13... | 0935 | 13 | 362 | 11.0 | 16... | 1200 | 92 | 200 | 24.0 |
| NOV | | | | | JUN | | | | |
| 17... | 0915 | 21 | 355 | 0.5 | 14... | 1205 | 96 | 210 | 23.0 |
| DEC | | | | | JUL | | | | |
| 22... | 1500 | 24 | 370 | 0.0 | 15... | 1105 | 12 | 295 | 23.0 |
| MAR 1988 | | | | | AUG | | | | |
| 15... | 1140 | 39 | 305 | 7.0 | 19... | 1350 | 6.6 | 290 | 29.0 |
| APR | | | | | SEP | | | | |
| 11... | 1150 | 128 | 214 | 12.0 | 23... | 1125 | M5.5 | 340 | 17.5 |
| 06710385 BEAR CREEK ABOVE EVERGREEN (LAT 39 37 58N LONG 105 19 59W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 07... | 0930 | 23 | 67 | 4.0 | 11... | 1120 | 49 | 75 | 6.0 |
| NOV | | | | | JUN | | | | |
| 09... | 1150 | 8.9 | 72 | 2.0 | 06... | 0930 | E105 | 58 | 7.0 |
| DEC | | | | | JUL | | | | |
| 16... | 1050 | 15 | 88 | 0.0 | 11... | 1005 | 72 | 47 | 10.0 |
| JAN 1988 | | | | | AUG | | | | |
| 12... | 1505 | 17 | 81 | 1.0 | 08... | 1000 | 49 | 59 | 12.0 |
| MAR | | | | | SEP | | | | |
| 10... | 1000 | 12 | 102 | 1.0 | 12... | 1120 | 49 | 78 | 8.0 |
| APR | | | | | | | | | |
| 15... | 1005 | 38 | 82 | 3.0 | | | | | |
| 06710605 BEAR CREEK ABOVE BEAR C LK NR MORRISON CO (LAT 39 39 08N LONG 105 10 23W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 08... | 1515 | 4.4 | 235 | 13.0 | 09... | 1245 | 68 | 147 | 9.0 |
| NOV | | | | | JUN | | | | |
| 10... | 1200 | 4.8 | 273 | 5.0 | 10... | 1200 | 63 | 118 | 15.0 |
| DEC | | | | | JUL | | | | |
| 14... | 1035 | 14 | 233 | 0.0 | 14... | 1145 | 8.4 | 226 | 18.0 |
| JAN 1988 | | | | | AUG | | | | |
| 11... | 1240 | 20 | 238 | 0.0 | 10... | 0910 | 25 | 156 | 15.0 |
| MAR | | | | | SEP | | | | |
| 07... | 0910 | 27 | 258 | 1.0 | 14... | 0950 | 46 | 147 | 11.0 |
| APR | | | | | | | | | |
| 11... | 1200 | 36 | 201 | 10.0 | | | | | |
| 06711040 TURKEY CREEK AB BEAR CREEK LK NR MORRISON CO (LAT 39 38 27N LONG 105 09 34W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 07... | 1325 | 0.93 | 914 | 13.0 | 09... | 1045 | 20 | 246 | 7.5 |
| NOV | | | | | JUN | | | | |
| 09... | 1430 | 1.1 | 1260 | 8.0 | 10... | 0930 | 23 | 271 | 13.0 |
| DEC | | | | | JUL | | | | |
| 14... | 1245 | 3.2 | 691 | 1.0 | 14... | 0945 | 1.5 | 934 | 17.0 |
| JAN 1988 | | | | | AUG | | | | |
| 11... | 1020 | 2.3 | 711 | 2.0 | 08... | 1340 | 7.5 | 427 | 17.0 |
| MAR | | | | | SEP | | | | |
| 07... | 1115 | 6.6 | 538 | 2.5 | 12... | 1420 | 5.2 | 448 | 10.0 |
| APR | | | | | | | | | |
| 11... | 1100 | 33 | 265 | 11.0 | | | | | |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

395

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) |
|--|------|---|---|--------------------------------------|----------|------|---|---|--------------------------------------|
| 06712000 CHERRY CREEK NEAR FRANKTOWN, CO. (LAT 39 21 21N LONG 104 45 46W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 05... | 1320 | 5.5 | 238 | 14.0 | 04... | 1030 | 56 | 234 | 5.5 |
| 15... | 1200 | 12 | -- | 9.0 | 12... | 1215 | 32 | 229 | 10.0 |
| NOV | | | | | MAY | | | | |
| 02... | 1116 | 14 | 232 | 10.0 | 04... | 1410 | <14 | 250 | 14.5 |
| 18... | 1150 | 12 | 215 | 0.5 | 23... | 1000 | 50 | 225 | 8.5 |
| 30... | 1050 | 6.4 | 237 | 0.0 | 31... | 1120 | 11 | 245 | 12.5 |
| DEC | | | | | JUN | | | | |
| 17... | 1050 | 10 | 255 | 0.5 | 15... | 1015 | 8.1 | 235 | 15.5 |
| JAN 1988 | | | | | JUL | | | | |
| 12... | 1100 | 7.0 | 210 | 2.0 | 01... | 1300 | 9.0 | 240 | 21.0 |
| FEB | | | | | 18... | 1110 | 4.9 | 230 | 19.0 |
| 02... | 1050 | 6.6 | 220 | 0.0 | AUG | | | | |
| 16... | 1125 | 16 | 195 | 0.5 | 01... | 1100 | 3.7 | 240 | 18.5 |
| MAR | | | | | 12... | 1015 | 8.4 | 250 | 17.5 |
| 07... | 1100 | 54 | 177 | 0.5 | SEP | | | | |
| 16... | 1230 | 28 | 220 | 0.5 | 06... | 1030 | 4.3 | 235 | 13.0 |
| | | | | | 16... | 1130 | 7.2 | 230 | 13.0 |
| 06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO. (LAT 39 39 12N LONG 104 51 41W) | | | | | | | | | |
| FEB 1988 | | | | | APR 1988 | | | | |
| 03... | 1350 | 41 | 690 | 3.0 | 05... | 1250 | 50 | 604 | 6.0 |
| MAR | | | | | SEP | | | | |
| 08... | 1105 | 68 | 684 | 4.0 | 14... | 0930 | 47 | -- | 18.0 |
| 06713300 CHERRY CREEK AT GLENDALE, CO (LAT 39 42 22N LONG 104 56 15W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 14... | 1000 | 25 | 590 | 9.5 | 05... | 1450 | 67 | 759 | 12.0 |
| NOV | | | | | 19... | 1115 | 230 | 620 | 13.0 |
| 06... | 1245 | 6.6 | 1570 | 12.5 | MAY | | | | |
| DEC | | | | | 03... | 1500 | 12 | 1060 | 19.0 |
| 03... | 1450 | 7.7 | 1440 | 8.5 | JUN | | | | |
| JAN 1988 | | | | | 28... | 1010 | 32 | 500 | 22.0 |
| 05... | 1200 | 7.2 | 1390 | 1.0 | 28... | 1045 | 32 | 500 | 22.0 |
| FEB | | | | | JUL | | | | |
| 04... | 1030 | 46 | 792 | 2.5 | 20... | 0935 | 16 | 750 | 20.5 |
| MAR | | | | | 20... | 1005 | 16 | 750 | 20.5 |
| 08... | 1534 | 77 | 762 | 6.5 | SEP | | | | |
| | | | | | 14... | 1015 | 49 | 100 | 18.0 |
| | | | | | 14... | 1040 | 49 | -- | 18.0 |
| 06713500 CHERRY CREEK AT DENVER, CO. (LAT 39 44 58N LONG 105 00 08W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 14... | 1150 | 37 | 630 | 10.5 | 04... | 1400 | 23 | 996 | 20.5 |
| NOV | | | | | JUN | | | | |
| 06... | 1425 | 13 | 1350 | 13.0 | 28... | 1140 | 42 | 6600 | 25.0 |
| DEC | | | | | 28... | 1220 | 42 | 600 | 25.0 |
| 04... | 1345 | 13 | 1310 | 11.5 | JUL | | | | |
| JAN 1988 | | | | | 20... | 1050 | 28 | 700 | 22.0 |
| 05... | 1450 | 17 | 1160 | 2.0 | 20... | 1125 | 28 | 700 | 22.0 |
| FEB | | | | | AUG | | | | |
| 04... | 1405 | 51 | 875 | 6.5 | 12... | 0900 | 24 | 1080 | 19.0 |
| MAR | | | | | 12... | 0935 | 24 | 1080 | 19.0 |
| 09... | 1355 | 82 | 809 | 10.5 | SEP | | | | |
| APR | | | | | 14... | 1120 | 59 | 100 | 18.0 |
| 06... | 1205 | 62 | 777 | 11.5 | 14... | 1155 | 59 | -- | 18.0 |
| 06720820 BIG DRY CREEK AT WESTMINSTER, COLO (LAT 39 54 20N LONG 105 02 04W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 05... | 1220 | 26 | 240 | 12.0 | 05... | 0915 | 1.9 | 1700 | 10.0 |
| NOV | | | | | 28... | 1020 | 1.5 | 1720 | 12.0 |
| 05... | 1130 | 0.99 | 175 | 12.5 | JUN | | | | |
| DEC | | | | | 01... | 0947 | 19 | 520 | 12.0 |
| 01... | 1330 | 1.3 | 1900 | 3.5 | 28... | 0940 | 65 | 345 | 15.0 |
| JAN 1988 | | | | | AUG | | | | |
| 08... | 1105 | 0.99 | 2150 | 0.5 | 02... | 0950 | 38 | 320 | 16.0 |
| MAR | | | | | SEP | | | | |
| 08... | 1515 | 1.3 | 1810 | 7.5 | 08... | 0955 | 8.5 | 450 | 16.0 |
| 25... | 1225 | 1.3 | 150 | 2.0 | | | | | |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) |
|--|------|---|---|--------------------------------------|----------|------|---|---|--------------------------------------|
| 06721500 NORTH ST. VRAIN CREEK NEAR ALLENS PARK, CO. (LAT 40 13 07N LONG 105 31 57W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 20... | 1025 | 6.2 | 24 | 1.0 | 17... | 1445 | 148 | 20 | 7.0 |
| NOV | | | | | JUN | | | | |
| 19... | 1000 | 12 | 23 | 0.0 | 20... | 1230 | 276 | 45 | 10.0 |
| DEC | | | | | JUL | | | | |
| 16... | 1130 | 7.3 | 25 | 0.5 | 12... | 1025 | 98 | 14 | 10.0 |
| JAN 1988 | | | | | AUG | | | | |
| 15... | 1035 | 5.4 | 25 | 0.5 | 15... | 1335 | 30 | 18 | 17.0 |
| MAR | | | | | SEP | | | | |
| 17... | 1240 | 5.9 | 31 | 0.5 | 19... | 1130 | 16 | 21 | 5.5 |
| APR | | | | | | | | | |
| 15... | 0950 | 18 | 28 | 3.0 | | | | | |
| 06725450 ST. VRAIN CREEK BELOW LONGMONT, CO. (LAT 40 09 29N LONG 105 00 53W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 08... | 1150 | 60 | 1160 | 14.0 | 05... | 1200 | 35 | 1530 | 11.0 |
| NOV | | | | | 28... | 1300 | 43 | 1110 | 15.0 |
| 03... | 1445 | 54 | -- | 15.5 | JUN | | | | |
| DEC | | | | | 01... | 1225 | 87 | 980 | 18.0 |
| 01... | 1250 | 52 | 1400 | 5.0 | 28... | 1220 | 142 | 980 | 15.0 |
| JAN 1988 | | | | | AUG | | | | |
| 07... | 1130 | 46 | 1400 | 0.0 | 02... | 1230 | 150 | 1520 | 24.0 |
| MAR | | | | | SEP | | | | |
| 08... | 1250 | 34 | 1510 | 9.0 | 07... | 1050 | 93 | 1500 | 18.0 |
| 06726900 BUMMERS GULCH NEAR EL VADO, CO. (LAT 40 00 42N LONG 105 20 53W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 06... | 1030 | 0.35 | 440 | 5.0 | 06... | 1350 | 0.61 | 420 | 11.0 |
| NOV | | | | | 29... | 1045 | 0.58 | 400 | 9.0 |
| 04... | 1330 | 0.29 | 478 | 8.0 | JUN | | | | |
| DEC | | | | | 03... | 1445 | 0.74 | 390 | 15.0 |
| 02... | 1250 | 0.34 | 440 | 2.5 | 28... | 1420 | 0.29 | 440 | 16.0 |
| JAN 1988 | | | | | AUG | | | | |
| 06... | 1340 | 0.25 | 450 | 0.0 | 03... | 1420 | 0.12 | 440 | 17.0 |
| MAR | | | | | SEP | | | | |
| 09... | 1225 | 0.40 | 480 | 7.0 | 09... | 1115 | 0.03 | 490 | 14.0 |
| 06727500 FOURMILE CREEK AT ORODELL, CO. (LAT 40 01 06N LONG 105 19 33W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 06... | 1210 | 0.71 | 360 | 9.0 | 06... | 1210 | 4.5 | 305 | 8.0 |
| NOV | | | | | 29... | 0925 | 14 | 172 | 5.0 |
| 04... | 1600 | 1.0 | 393 | 7.0 | JUN | | | | |
| DEC | | | | | 15... | 1235 | 13 | 115 | 12.0 |
| 02... | 1440 | 1.3 | 348 | 0.0 | 29... | 1400 | 7.0 | 115 | 15.5 |
| JAN 1988 | | | | | AUG | | | | |
| 07... | 1630 | 0.96 | 410 | 0.0 | 04... | 1042 | 1.0 | 205 | 17.5 |
| MAR | | | | | | | | | |
| 09... | 1430 | 2.8 | 365 | 5.5 | | | | | |
| 06730200 BOULDER CR AT NORTH 75TH ST NR BOULDER (LAT 40 03 06N LONG 105 10 42W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 06... | 1640 | 34 | 650 | 20.0 | 06... | 1010 | 38 | 810 | 11.0 |
| NOV | | | | | 29... | 1405 | 31 | 770 | 16.0 |
| 04... | 1120 | 41 | 689 | 16.0 | JUN | | | | |
| DEC | | | | | 03... | 1200 | 86 | 410 | 18.0 |
| 02... | 1030 | 47 | 640 | 11.0 | 29... | 1145 | 321 | 243 | 16.5 |
| JAN 1988 | | | | | AUG | | | | |
| 06... | 1115 | 35 | 740 | 8.0 | 03... | 1135 | 244 | 305 | 22.0 |
| MAR | | | | | SEP | | | | |
| 09... | 1013 | 42 | 720 | 10.0 | 08... | 1245 | 62 | 500 | 21.0 |
| 06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO. (LAT 40 32 24N LONG 105 52 56) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 01... | 1030 | 0.86 | 62 | 3.5 | 10... | 1610 | 1.9 | 76 | 0.0 |
| NOV | | | | | JUN | | | | |
| 13... | 1320 | 1.2 | 75 | 1.0 | 07... | 1320 | 101 | 36 | 4.0 |
| DEC | | | | | JUL | | | | |
| 18... | 1315 | 0.81 | 76 | 0.0 | 13... | 1435 | 21 | 43 | 12.0 |
| JAN 1988 | | | | | AUG | | | | |
| 15... | 1020 | 0.72 | 46 | 0.0 | 11... | 1105 | 6.0 | 48 | 14.0 |
| MAR | | | | | SEP | | | | |
| 09... | 1020 | 0.48 | 52 | 1.0 | 14... | 1545 | 2.9 | 57 | 6.0 |
| APR | | | | | | | | | |
| 14... | 1155 | 0.73 | 83 | 1.0 | | | | | |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

397

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) |
|--|------|---|---|--------------------------------------|-----------|------|---|---|--------------------------------------|
| 06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO. (LAT 40 33 43N LONG 105 52 09) | | | | | | | | | |
| NOV 1987 | | | | | MAY 1988 | | | | |
| 13... | 1400 | 0.79 | 50 | 0.0 | 10... | 1445 | 15 | 64 | 3.0 |
| DEC 18... | 1420 | 0.61 | 49 | 0.0 | JUN 07... | 1525 | 112 | 42 | 4.0 |
| JAN 1988 | | | | | JUL 13... | 1000 | 19 | 37 | 5.0 |
| 15... | 1540 | 0.58 | 49 | 0.0 | AUG 10... | 1545 | 10 | 34 | 7.0 |
| MAR 09... | 1650 | 0.54 | 57 | 1.0 | SEP 15... | 1530 | 98 | 41 | 11.0 |
| APR 14... | 1315 | 0.54 | 70 | 1.0 | | | | | |
| 07086000 ARKANSAS RIVER AT GRANITE, CO. (LAT 39 02 34N LONG 106 15 55W) | | | | | | | | | |
| OCT 1987 | | | | | | | | | |
| 27... | 1000 | 145 | 175 | 4.5 | | | | | |
| 07093700 ARKANSAS RIVER NEAR WELLSVILLE, CO. (LAT 38 30 10N LONG 105 56 21W) | | | | | | | | | |
| OCT 1987 | | | | | | | | | |
| 29... | 0845 | 413 | 260 | 7.0 | | | | | |
| 07096500 FOURMILE CREEK NEAR CANON CITY, CO. (LAT 38 26 11N LONG 105 11 27W) | | | | | | | | | |
| OCT 1987 | | | | | MAR 1988 | | | | |
| 22... | 1452 | 17 | 1110 | 14.0 | 15... | 1200 | 16 | 1030 | 8.5 |
| 22... | 1525 | 17 | 1110 | 14.0 | 15... | 1220 | 16 | 1030 | 8.5 |
| 30... | 1030 | 15 | 1180 | 13.0 | MAY 05... | 1445 | 10 | 1620 | 18.5 |
| NOV 04... | 1512 | 22 | 996 | 14.0 | 05... | 1520 | 10 | 1620 | 18.5 |
| 04... | 1550 | 22 | 996 | 14.0 | JUN 10... | 1000 | 38 | 851 | 17.0 |
| 23... | 1448 | 19 | 1170 | 9.5 | 10... | 1040 | 38 | 851 | 17.0 |
| 23... | 1515 | 19 | 1170 | 9.5 | JUL 14... | 1155 | 16 | 1240 | 21.5 |
| DEC 09... | 1327 | 16 | 1250 | 8.0 | 14... | 1230 | 16 | 1240 | 21.5 |
| 09... | 1400 | 16 | 1250 | 8.0 | AUG 10... | 1135 | 16 | 1150 | 21.0 |
| JAN 1988 | | | | | 10... | 1210 | 16 | 1150 | 21.0 |
| 07... | 1530 | 12 | -- | 5.0 | SEP 19... | 1530 | 13 | 1250 | 17.5 |
| 07... | 1600 | 12 | -- | 5.0 | 19... | 1605 | 13 | 1250 | 17.5 |
| FEB 04... | 1515 | 20 | 995 | 5.5 | | | | | |
| 04... | 1550 | 20 | 995 | 5.5 | | | | | |
| 07099215 TURKEY CREEK NEAR FOUNTAIN COLO (LAT 38 36 42N LONG 104 53 39W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 27... | 1515 | 0.23 | 235 | 7.0 | 17... | -- | 0.12 | 247 | 25.0 |
| NOV 23... | -- | 0.39 | 250 | 2.0 | JUN 13... | -- | 0.00 | 242 | 20.0 |
| MAR 1988 | | | | | AUG 16... | -- | 0.02 | 258 | 26.0 |
| 17... | -- | 0.65 | -- | 3.0 | | | | | |
| 07099230 TURKEY CREEK AB TELLER RES NEAR STONE CITY, CO. (LAT 38 27 37N LONG 104 49 19) | | | | | | | | | |
| OCT 1987 | | | | | FEB 1988 | | | | |
| 22... | 1235 | 0.62 | 722 | 15.0 | 18... | 1350 | 0.46 | 756 | 10.5 |
| NOV 23... | 1255 | 0.70 | 784 | 6.0 | APR 13... | 1225 | 0.55 | 816 | 14.5 |
| DEC 09... | 1140 | 0.64 | 797 | 5.0 | MAY 19... | 1155 | 0.44 | 837 | 11.0 |
| JAN 1988 | | | | | JUN 29... | 1115 | 0.16 | 868 | 18.0 |
| 15... | 1420 | 0.79 | 738 | 3.5 | | | | | |
| 07099235 TURKEY CREEK NR STONE CITY, CO (LAT 38 26 27N LONG 104 49 31W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 22... | 1040 | 0.67 | 711 | 9.0 | 13... | 1520 | 0.45 | 878 | 19.5 |
| NOV 20... | 1115 | 0.46 | 733 | 5.5 | MAY 20... | 0940 | 0.36 | 865 | 11.0 |
| DEC 09... | 1005 | 0.39 | 780 | 2.0 | JUN 29... | 1520 | 0.20 | 950 | 25.0 |
| JAN 1988 | | | | | AUG 12... | 1020 | 0.15 | 1060 | 17.0 |
| 15... | 1135 | 0.35 | 762 | 2.0 | SEP 09... | 1445 | 0.10 | 992 | 19.5 |
| FEB 18... | 1645 | 0.42 | 796 | 6.5 | | | | | |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) |
|--|------|---|---|--------------------------------------|----------|------|---|---|--------------------------------------|
| 07103800 WEST MONUMENT CREEK AT AIR FORCE ACADEMY, CO. (LAT 38 58 14N LONG 104 54 08W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 07... | -- | 0.26 | 100 | 8.0 | 12... | -- | 0.91 | 90 | 4.0 |
| 07... | 1710 | 0.26 | 100 | 8.0 | MAY | | | | |
| NOV | | | | | 10... | -- | 0.98 | 83 | 5.5 |
| 06... | -- | 0.32 | 98 | 6.5 | JUN | | | | |
| 06... | 1300 | 0.32 | 98 | 6.5 | 06... | -- | 0.75 | 91 | 13.0 |
| DEC | | | | | JUL | | | | |
| 11... | -- | 0.29 | 86 | 1.0 | 21... | -- | 0.12 | 108 | 15.0 |
| 11... | 1450 | 0.29 | 86 | 1.0 | AUG | | | | |
| JAN 1988 | | | | | 12... | -- | 0.25 | 110 | 15.0 |
| 14... | -- | 0.27 | 98 | 0.0 | SEP | | | | |
| FEB | | | | | 09... | -- | 0.10 | 121 | 11.5 |
| 18... | -- | 0.19 | 84 | 0.5 | | | | | |
| MAR | | | | | | | | | |
| 16... | -- | 0.29 | 86 | 0.0 | | | | | |
| 07103990 COTTONWOOD CREEK AT MOUTH, AT PIKEVIEW, CO. (LAT 38 55 41N LONG 104 38 35W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 06... | 1605 | 3.92 | 584 | 18.0 | 09... | 1400 | 2.5 | 594 | 18.0 |
| NOV | | | | | 20... | 1525 | 23 | -- | 10.0 |
| 05... | 1535 | 4.10 | 607 | 11.0 | JUN | | | | |
| 05... | 1545 | 4.1 | 607 | 11.0 | 07... | 1300 | 2.4 | 550 | 28.0 |
| DEC | | | | | 24... | 1335 | 2.6 | 519 | 28.0 |
| 03... | 1405 | 3.0 | 630 | 5.0 | JUL | | | | |
| 10... | 1535 | 4.70 | 621 | 6.0 | 07... | 1620 | 69 | -- | 18.5 |
| 10... | 1550 | 4.7 | 621 | 6.0 | 21... | 1045 | 2.8 | 580 | 22.0 |
| JAN 1988 | | | | | AUG | | | | |
| 13... | 1455 | 3.3 | 651 | 0.5 | 08... | 1530 | 2.5 | 535 | 26.5 |
| FEB | | | | | 10... | 1551 | 3.2 | 544 | 29.0 |
| 18... | 1450 | 10 | 772 | 3.0 | SEP | | | | |
| MAR | | | | | 07... | 1425 | 3.4 | 564 | 23.0 |
| 17... | 1325 | 7.9 | 250 | 3.5 | | | | | |
| APR | | | | | | | | | |
| 11... | 1425 | 3.1 | 598 | 20.5 | | | | | |
| 28... | -- | 3.6 | -- | 18.5 | | | | | |
| 28... | 1425 | 3.6 | 578 | 18.5 | | | | | |
| 07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO. (LAT 38 41 04N LONG 104 41 17W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 23... | 1310 | 1.7 | 3270 | 17.5 | 18... | -- | 1.1 | 3080 | 20.0 |
| NOV | | | | | JUN | | | | |
| 25... | -- | 1.5 | 3420 | 11.5 | 07... | -- | 20 | 1580 | 26.5 |
| JAN 1988 | | | | | 10... | -- | 44 | 620 | 11.5 |
| 07... | -- | 2.0 | 3510 | 5.0 | 13... | -- | 1.5 | -- | -- |
| FEB | | | | | JUL | | | | |
| 08... | -- | 1.7 | 3170 | 8.0 | 20... | -- | 1.5 | 3170 | 18.0 |
| MAR | | | | | AUG | | | | |
| 14... | -- | 1.5 | 3140 | 13.5 | 12... | -- | 1.7 | 2720 | 28.5 |
| APR | | | | | SEP | | | | |
| 14... | -- | 1.0 | 3560 | 18.0 | 08... | -- | 0.76 | 2900 | 26.0 |
| 07105924 WOMACK DITCH NEAR FORT CARSON, CO. (LAT 38 40 52N LONG 104 51 20W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 27... | -- | 0.78 | 138 | 7.0 | 16... | 1410 | 2.0 | 91 | 13.0 |
| NOV | | | | | JUN | | | | |
| 23... | -- | 0.84 | 160 | 3.0 | 27... | 1415 | 1.1 | 106 | 18.5 |
| DEC | | | | | JUL | | | | |
| 21... | -- | 0.73 | 142 | 0.0 | 29... | 1500 | 0.36 | 123 | 18.5 |
| JAN 1988 | | | | | AUG | | | | |
| 15... | -- | 1.4 | 165 | 3.0 | 19... | 1320 | 0.75 | 120 | 18.0 |
| FEB | | | | | SEP | | | | |
| 16... | -- | 0.61 | 175 | 2.0 | 19... | 1400 | 0.77 | 123 | 14.0 |
| MAR | | | | | | | | | |
| 17... | -- | 0.63 | 139 | 4.0 | | | | | |
| 07105928 LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO. (LAT 38 40 49N LONG 104 51 06W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 27... | -- | 0.33 | 130 | 6.5 | 17... | -- | 0.01 | 202 | 14.0 |
| NOV | | | | | JUN | | | | |
| 23... | -- | 0.18 | 150 | 4.0 | 22... | -- | 0.35 | 132 | 22.0 |
| DEC | | | | | JUL | | | | |
| 21... | -- | 0.16 | 150 | 0.0 | 18... | -- | 0.01 | 222 | 15.5 |
| JAN 1988 | | | | | AUG | | | | |
| 15... | -- | 0.02 | 155 | 3.0 | 19... | -- | 0.56 | 141 | 22.0 |
| FEB | | | | | SEP | | | | |
| 16... | -- | 0.51 | -- | 2.0 | 16... | -- | 0.06 | 172 | 17.0 |
| MAR | | | | | | | | | |
| 17... | -- | 0.68 | 143 | 4.0 | | | | | |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

399

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) |
|--|------|---|---|--------------------------------------|----------|------|---|---|--------------------------------------|
| 07105940 LITTLE FOUNTAIN CREEK NEAR FOUNTAIN, CO. (LAT 38 38 35N LONG 104 44 48W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 06... | 1300 | 0.30 | 2360 | 17.0 | 20... | 1455 | 1.0 | 2310 | 9.5 |
| NOV | | | | | JUN | | | | |
| 02... | 1440 | 0.37 | 2590 | 15.0 | 27... | -- | 0.20 | 2680 | 28.0 |
| APR 1988 | | | | | | | | | |
| 14... | 1530 | 0.39 | 2740 | 17.5 | | | | | |
| 07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO. (LAT 38 42 26N LONG 104 50 47W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 27... | -- | 0.39 | 162 | 6.0 | 13... | -- | 1.5 | 119 | 5.5 |
| NOV | | | | | MAY | | | | |
| 23... | -- | 0.51 | 145 | 3.0 | 16... | -- | 0.61 | 129 | 12.0 |
| DEC | | | | | JUN | | | | |
| 12... | -- | 0.48 | 154 | 0.0 | 13... | -- | 0.29 | 56 | 15.5 |
| JAN 1988 | | | | | JUL | | | | |
| 15... | -- | 0.44 | 163 | 0.0 | 18... | -- | 0.07 | 174 | 21.5 |
| FEB | | | | | AUG | | | | |
| 16... | -- | 0.50 | 193 | 2.0 | 17... | -- | 0.23 | 176 | 18.5 |
| MAR | | | | | SEP | | | | |
| 17... | -- | 0.52 | 165 | 1.0 | 16... | -- | 0.20 | 175 | 13.5 |
| 07105950 ROCK CREEK NEAR FORT CARSON, CO. (LAT 38 41 49N LONG 104 49 39W) | | | | | | | | | |
| MAY 1988 | | | | | JUN 1988 | | | | |
| 16... | -- | 0.14 | 240 | 11.0 | 13... | -- | 0.02 | -- | -- |
| 07105960 ROCK CREEK NEAR FOUNTAIN, CO. (LAT 38 39 16N LONG 104 44 48W) | | | | | | | | | |
| OCT 1987 | | | | | JUN 1988 | | | | |
| 23... | -- | 1.1 | 1200 | 11.5 | 29... | -- | 0.30 | 1230 | 20.0 |
| APR 1988 | | | | | JUL | | | | |
| 22... | 1600 | 0.67 | 1200 | 16.0 | 29... | -- | 0.17 | 1230 | 18.0 |
| MAY | | | | | SEP | | | | |
| 20... | -- | 0.67 | 1130 | 9.5 | 02... | -- | 0.12 | 1270 | 17.0 |
| 07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO. (LAT 38 36 08N LONG 104 40 13W) | | | | | | | | | |
| AUG 1988 | | | | | AUG 1988 | | | | |
| 03... | 0030 | -- | 1090 | 19.5 | 18... | 0500 | -- | 805 | 18.0 |
| | | | | | 31... | 0330 | -- | 1200 | 14.5 |
| 07106300 FOUNTAIN CREEK NEAR PINON, CO. (LAT 38 26 50N LONG 104 35 28W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 06... | -- | 49 | 1190 | 9.0 | 06... | -- | 18 | 1290 | 19.5 |
| NOV | | | | | 11... | -- | 34 | 1200 | 25.0 |
| 05... | -- | 78 | 1150 | 15.0 | 20... | -- | 340 | 703 | 8.0 |
| 25... | -- | 1.1 | 1150 | 2.0 | JUN | | | | |
| DEC | | | | | 08... | -- | 14 | 1270 | 27.5 |
| 08... | -- | 89 | 1140 | 7.5 | 23... | -- | 282 | 569 | 22.0 |
| JAN 1988 | | | | | AUG | | | | |
| 13... | -- | 121 | 1170 | 0.0 | 03... | 1300 | -- | 1200 | 30.0 |
| FEB | | | | | 10... | -- | 365 | 745 | 18.0 |
| 16... | -- | 98 | 1040 | 8.5 | 18... | 1515 | -- | 865 | 26.0 |
| MAR | | | | | 22... | -- | 11 | 1260 | 29.5 |
| 15... | -- | 115 | 1100 | 2.5 | 31... | 1800 | -- | 1240 | 21.5 |
| APR | | | | | SEP | | | | |
| 13... | -- | 96 | 940 | 19.5 | 07... | -- | 19 | 1270 | 12.5 |
| | | | | | 15... | -- | 104 | 934 | 21.0 |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) |
|--|------|---|---|--------------------------------------|----------|------|---|---|--------------------------------------|
| 07108900 ST. CHARLES RIVER AT VINELAND, CO. (LAT 38 14 44N LONG 104 29 09W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 06... | -- | 12 | 247 | 17.0 | 11... | 0905 | 11 | 2160 | 13.5 |
| 06... | 1310 | 12 | 2470 | 17.0 | 11... | 0940 | 11 | 2160 | 13.5 |
| NOV | | | | | JUN | | | | |
| 12... | -- | 15 | 2290 | 10.5 | 09... | 1700 | 12 | 1800 | 25.5 |
| 12... | 1215 | 16 | 2290 | 10.5 | 28... | 0900 | 23 | -- | 19.5 |
| DEC | | | | | 28... | 0945 | 23 | 1640 | 19.5 |
| 07... | -- | 15 | 2210 | 9.0 | JUL | | | | |
| 07... | 1630 | 16 | 2210 | 9.0 | 08... | 1515 | 68 | -- | 24.0 |
| JAN 1988 | | | | | 08... | 1545 | 68 | 1500 | 24.0 |
| 11... | 1625 | 15 | 1530 | 0.5 | AUG | | | | |
| 11... | 1655 | 15 | 1530 | 0.5 | 10... | 1600 | 9.0 | -- | 24.0 |
| FEB | | | | | 10... | 1635 | 16 | 1710 | 28.5 |
| 19... | 1630 | 19 | 1900 | 7.5 | SEP | | | | |
| 19... | 1705 | 19 | 1900 | 7.5 | 08... | 1650 | 9.0 | 2230 | 24.0 |
| APR | | | | | | | | | |
| 12... | 1000 | 26 | 1530 | 11.0 | | | | | |
| 12... | 1035 | 26 | 1530 | 11.0 | | | | | |
| 07116500 HUERFANO RIVER NEAR BOONE, CO. (LAT 38 13 33N LONG 104 15 40W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 13... | -- | 2.4 | 4340 | 14.0 | 12... | 1215 | 262 | 2000 | 15.0 |
| 13... | 1100 | 2.4 | 4340 | 14.0 | 12... | 1250 | 262 | 2000 | 15.0 |
| NOV | | | | | MAY | | | | |
| 10... | -- | 13 | 3010 | 12.0 | 11... | 1130 | 4.3 | 4810 | 26.5 |
| 10... | 1540 | 13 | 3010 | 12.0 | 11... | 1205 | 4.3 | 4810 | 26.5 |
| DEC | | | | | JUN | | | | |
| 07... | -- | 38 | 2180 | 10.5 | 03... | 1830 | 0.43 | 5030 | 23.5 |
| 07... | 1450 | 38 | 2180 | 10.5 | 03... | 1855 | 0.43 | 5030 | 23.5 |
| JAN 1988 | | | | | 09... | 1415 | 8.4 | 1850 | 32.0 |
| 11... | 1320 | 23 | 2800 | 0.0 | 09... | 1450 | 8.4 | 1850 | 32.0 |
| 11... | 1350 | 23 | 2800 | 0.0 | 27... | 1415 | 1.6 | 3850 | 35.0 |
| FEB | | | | | 27... | 1450 | 1.6 | 3850 | 35.0 |
| 19... | 1415 | 64 | 1720 | 8.5 | JUL | | | | |
| 19... | 1450 | 64 | 1720 | 8.5 | 08... | 1255 | 33 | 1520 | 30.0 |
| | | | | | 08... | 1325 | 33 | 1520 | 30.0 |
| 07119500 APISHAPA RIVER NEAR FOWLER, CO. (LAT 38 05 28N LONG 103 58 52W) | | | | | | | | | |
| NOV 1987 | | | | | MAY 1988 | | | | |
| 10... | 0930 | 18 | 1690 | 7.0 | 11... | 1520 | 3.2 | 2690 | 22.5 |
| DEC | | | | | JUN | | | | |
| 07... | 1340 | 6.5 | 3010 | 11.0 | 09... | 1205 | 20 | 1100 | 21.0 |
| JAN 1988 | | | | | 27... | 1250 | 13 | 1410 | 24.5 |
| 11... | 1145 | 4.1 | 3100 | 5.5 | AUG | | | | |
| FEB | | | | | 04... | 1625 | 6.1 | 2350 | 22.0 |
| 19... | 1140 | 3.1 | 2920 | 8.0 | SEP | | | | |
| APR | | | | | 08... | 1235 | 6.5 | 2580 | 19.0 |
| 12... | 1520 | 14 | 1730 | 16.5 | | | | | |
| 07121500 TIMPAS CREEK AT MOUTH NEAR SWINK, CO. (LAT 38 00 10N LONG 103 39 18W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 08... | -- | 110 | 1910 | 14.5 | 19... | 1005 | 88 | 1590 | 14.0 |
| NOV | | | | | MAY | | | | |
| 10... | -- | 160 | 1440 | 8.0 | 17... | 0850 | 36 | 2100 | 16.5 |
| DEC | | | | | JUN | | | | |
| 07... | -- | 44 | 2270 | 8.5 | 13... | -- | 130 | 1240 | 18.5 |
| JAN 1988 | | | | | JUL | | | | |
| 05... | 1100 | 13 | 3200 | 3.5 | 12... | -- | 88 | 1330 | 19.0 |
| FEB | | | | | AUG | | | | |
| 10... | 1325 | 12 | 3200 | 4.0 | 16... | -- | 43 | 1910 | 19.5 |
| MAR | | | | | SEP | | | | |
| 16... | -- | 100 | 1820 | 4.0 | 13... | 0900 | 64 | 1910 | 13.5 |
| 07122400 CROOKED ARROYO NEAR SWINK, CO. (LAT 37 58 56N LONG 103 35 52W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 08... | -- | 20 | 1740 | 16.0 | 22... | 1350 | 12 | 1730 | 17.0 |
| NOV | | | | | MAY | | | | |
| 10... | -- | 23 | 1660 | 8.0 | 17... | 0745 | 5.0 | 2510 | 13.0 |
| DEC | | | | | JUN | | | | |
| 07... | 1005 | 4.1 | 2870 | 10.5 | 14... | -- | 24 | 1320 | 16.5 |
| JAN 1988 | | | | | JUL | | | | |
| 05... | 1205 | 2.5 | 3000 | -- | 11... | -- | 11 | 1800 | 23.5 |
| FEB | | | | | AUG | | | | |
| 10... | 1225 | 1.8 | 3270 | 5.5 | 16... | -- | 2.7 | 2340 | 17.0 |
| MAR | | | | | SEP | | | | |
| 16... | 1400 | 1.8 | 3300 | 7.0 | 13... | 0800 | 5.7 | 2320 | 14.0 |

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

401

| DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | TEMPER- ATURE WATER (DEG C) | DATE | TIME | STREAM- FLOW, INSTAN- TANEOUS (CFS) | 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 1987 | | | | | APR 1988 | | | | |
| 28... | 1120 | 23 | 481 | 11.0 | 08... | 1120 | 19 | 485 | 15.0 |
| NOV | | | | | MAY | | | | |
| 24... | 1315 | 26 | 360 | 5.5 | 09... | 1505 | 19 | 421 | 23.0 |
| JAN 1988 | | | | | JUN | | | | |
| 04... | 1330 | 9.2 | 590 | 0.0 | 09... | 1345 | 67 | 285 | 24.0 |
| FEB | | | | | JUL | | | | |
| 11... | 1340 | 16 | 480 | 0.0 | 13... | -- | 70 | 354 | 25.5 |
| MAR | | | | | AUG | | | | |
| 10... | 1200 | 24 | 505 | 9.5 | 26... | 1055 | 42 | 354 | 20.0 |
| 07124300 LONG CANYON CREEK NEAR MADRID, CO. (LAT 37 06 53N LONG 104 36 17W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 26... | -- | 0.98 | 515 | 16.0 | 07... | 1410 | 0.70 | 485 | 20.5 |
| NOV | | | | | MAY | | | | |
| 24... | -- | 0.73 | 544 | 7.0 | 09... | 1625 | 0.80 | 480 | 20.5 |
| DEC | | | | | JUN | | | | |
| 30... | 1115 | 1.2 | 540 | 1.0 | 09... | 1115 | 1.8 | 520 | 23.5 |
| FEB 1988 | | | | | JUL | | | | |
| 11... | 1112 | 1.2 | 500 | 2.0 | 13... | 1150 | 3.4 | 500 | 26.0 |
| MAR | | | | | AUG | | | | |
| 10... | 1340 | 0.65 | 505 | 12.0 | 26... | 1255 | 1.4 | 500 | 25.5 |
| 07133000 ARKANSAS RIVER AT LAMAR, CO. (LAT 38 06 24N LONG 102 37 04W) | | | | | | | | | |
| NOV 1987 | | | | | MAY 1988 | | | | |
| 06... | 0800 | 15 | 3400 | 12.5 | 18... | 1230 | 13 | 3610 | 23.5 |
| DEC | | | | | JUN | | | | |
| 09... | 1550 | 46 | 4220 | 8.5 | 16... | -- | 328 | 1190 | 11.0 |
| JAN 1988 | | | | | JUL | | | | |
| 07... | 1600 | 34 | 4210 | 1.0 | 14... | -- | 420 | 2170 | 21.0 |
| FEB | | | | | AUG | | | | |
| 12... | 0950 | 39 | 4400 | 2.0 | 18... | -- | 512 | 2240 | 23.5 |
| MAR | | | | | SEP | | | | |
| 17... | 1520 | 15 | 3300 | 8.0 | 14... | 1545 | 29 | 3320 | 19.5 |
| APR | | | | | 16... | 0830 | 167 | 2600 | 15.5 |
| 21... | 1645 | 394 | 2090 | 16.0 | | | | | |
| 07134180 ARKANSAS RIVER NEAR GRANADA, CO. (LAT 38 05 44N LONG 102 18 37W) | | | | | | | | | |
| OCT 1987 | | | | | MAY 1988 | | | | |
| 06... | 1530 | 44 | 4190 | 21.0 | 18... | 1400 | 27 | 4250 | 24.0 |
| NOV | | | | | JUN | | | | |
| 05... | 1520 | 105 | 4000 | 15.0 | 16... | -- | 47 | 3450 | 18.0 |
| DEC | | | | | 24... | -- | 642 | 2230 | 24.5 |
| 10... | 1030 | 160 | 4250 | 5.5 | JUL | | | | |
| JAN 1988 | | | | | 13... | -- | 379 | 2510 | 27.5 |
| 08... | 0840 | 119 | 4650 | 0.0 | AUG | | | | |
| FEB | | | | | 18... | -- | 502 | 2270 | 23.5 |
| 12... | 0830 | 146 | 4200 | 2.0 | SEP | | | | |
| MAR | | | | | 15... | 0900 | 164 | 2710 | 15.5 |
| 18... | 0815 | 115 | 4200 | 2.5 | 16... | 1000 | 400 | 2140 | 17.0 |
| APR | | | | | | | | | |
| 22... | 1000 | 410 | 2320 | 12.0 | | | | | |
| 08217500 RIO GRANDE AT WAGONWHEEL GAP, CO. (LAT 37 46 01N LONG 106 49 51W) | | | | | | | | | |
| OCT 1987 | | | | | APR 1988 | | | | |
| 22... | -- | 249 | 97 | 5.5 | 20... | -- | 254 | 97 | 7.5 |
| NOV | | | | | MAY | | | | |
| 17... | -- | 117 | -- | 3.0 | 24... | -- | 807 | 64 | 10.5 |
| DEC | | | | | JUN | | | | |
| 09... | -- | 152 | 110 | 0.0 | 15... | -- | 1760 | 50 | 9.5 |
| JAN 1988 | | | | | JUL | | | | |
| 26... | -- | 120 | 114 | 0.0 | 20... | -- | 532 | 74 | 17.0 |
| FEB | | | | | AUG | | | | |
| 23... | -- | 134 | 118 | 0.0 | 18... | 1025 | 759 | 68 | 15.5 |
| MAR | | | | | SEP | | | | |
| 30... | -- | 143 | 106 | 2.5 | 14... | -- | 508 | 77 | 12.0 |

QUALITY OF GROUND WATER

EL PASO COUNTY

384056104415601 - SC01606505CCB - FOUNTAIN NO. 3

LOCATION.--Lat 38°40'56", long 104°41'56" in NW¼SW¼SW¼ sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003

AQUIFER.--Fountain Alluvium.

WELL CHARACTERISTICS.--Municipal well.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 0955 | 1170 | 7.2 | 12.0 | 46 | 2.40 |
| FEB 11... | 0900 | 1050 | 7.4 | 12.5 | 47 | 3.20 |
| MAY 13... | 0915 | 1150 | 7.2 | 12.0 | 47 | 2.80 |
| AUG 18... | 0915 | 1160 | 7.2 | 12.0 | 49 | 2.90 |

384108104420701 - SC01606506DAA - FOUNTAIN NO. 2

LOCATION.--Lat 38°41'08", long 104°42'07", SE¼NE¼NE¼ sec.6, T.16 S., R.65 W., in El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Alluvium.

WELL CHARACTERISTICS.--Municipal well, depth 56 ft.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1015 | 1240 | 7.2 | 12.0 | 45 | 3.50 |
| FEB 11... | 0930 | 1310 | 7.4 | 12.0 | 50 | 4.30 |
| MAY 13... | 1000 | 1280 | 7.2 | 13.0 | 51 | 4.50 |
| AUG 18... | 0950 | 1230 | 7.2 | 13.0 | 49 | 4.70 |

384313104431801 - SC01506625AAD - WIDEFIELD NO. 14.

LOCATION.--Lat 38°43'13", long 104°43'18", in SE¼NE¼NE¼ sec.25, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

WELL CHARACTERISTICS.--Municipal well, diameter 18 in, depth 48 ft, screened 37 to 48 ft.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1050 | 1330 | 7.2 | 13.0 | 39 | 10.0 |
| FEB 11... | 1030 | 1380 | 7.3 | 12.5 | 41 | 9.9 |
| MAY 13... | 1110 | 1380 | 7.2 | 13.5 | 47 | 12.0 |
| AUG 18... | 1045 | 1420 | 7.2 | 13.0 | 45 | 13.0 |

EL PASO COUNTY

384318104475301 - SC01506629AAB1 - GOLF COURSE NO. 19

LOCATION.--Lat 38°43'18", long 104°47'53", in NW¼NE¼NE¼ sec.29, T.15 S, R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Piney Creek Alluvium.

WELL CHARACTERISTICS.--Observation well, diameter 2 in, depth 13.8 ft, screened 9.5 to 13.5 ft.

PERIOD OF RECORD.--April to October 1981; September 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) | TEMPER- ATURE WATER (DEG C) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) | NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------------|---|--------------------------------|---|---|
| SEP 06... | 1530 | 2.88 | 14.0 | 3200 | 7.4 | 4.79 | 0.010 |

| DATE | NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) | NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) |
|--------------|---|---|---|---|---|---|
| SEP 06... | 0.03 | 4.80 | 0.170 | 0.22 | 1.0 | 1.2 |

384328104481101 - SC01506620CDD1 - GOLF COURSE NO. 14

LOCATION.--Lat 38°43'28", long 104°48'11", in SE¼SE¼SW¼ sec.20, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Piney Creek Alluvium.

WELL CHARACTERISTICS.--Observation well, diameter 2 in, depth 12.2 ft, screened 8 to 12 ft.

PERIOD OF RECORD.--April 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | TEMPER- ATURE WATER (DEG C) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) | NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) | NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) | NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) |
|--------------|------|--------------------------------------|---|--------------------------------|---|---|---|---|---|---|---|---|
| SEP 06... | 1430 | 13.5 | 5750 | 7.3 | 2.88 | 0.020 | 0.07 | 2.90 | 0.120 | 0.15 | 0.78 | 0.90 |

384331104473401 - SC01506621CCB - GOLF COURSE NO. 22

LOCATION.--Lat 38°43'31", long 104°47'34", in NW¼SW¼SW¼ sec.21, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Piney Creek Alluvium.

WELL CHARACTERISTICS.--Observation well, diameter 2 in, depth 18.2 ft, screened 14 to 18 ft.

PERIOD OF RECORD.--September 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) | TEMPER- ATURE WATER (DEG C) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | 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, AMMONIA DIS- SOLVED (MG/L AS NH4) | NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) | NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) |
|--------------|------|---|--------------------------------------|---|--------------------------------|---|---|---|---|---|---|
| SEP 06... | 1330 | 4.91 | 15.0 | 2840 | 7.3 | <0.010 | 7.10 | 0.110 | 0.14 | 0.79 | 0.90 |

QUALITY OF GROUND WATER--Continued

EL PASO COUNTY

384407104434801 - SC01506624BAD1 WIDEFIELD NO. 4.

LOCATION.--Lat 38°44'07", long 104°43'48", in SE¼NE¼NE¼ sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield of Fountain Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in, depth 71 ft, screened 41 to 71 ft.

DATUM.--Elevation of land surface is 5,685 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--February 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1130 | 654 | 7.2 | 12.5 | 25 | 6.40 |
| FEB 11... | 1155 | 671 | 7.2 | 12.0 | 27 | 6.60 |
| MAY 13... | 1150 | 688 | 7.1 | 13.0 | 26 | 5.40 |
| AUG 18... | 1145 | 709 | 7.2 | 13.5 | 24 | 6.70 |

384458104442601 - SC01506614AAD - SECURITY NO. 2.

LOCATION.--Lat 38°44'58", long 104°44'26", in SE¼NE¼NE¼ sec.14, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield of Fountain Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 24 in, depth 78 ft, screened 43 to 78 ft.

DATUM.--Elevation of land-surface is 5,270 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--February 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1200 | 560 | 7.0 | 13.0 | 22 | 7.20 |
| FEB 11... | 1350 | 543 | 7.1 | 13.0 | 21 | 6.70 |
| MAY 13... | 1240 | 594 | 7.1 | 13.0 | 20 | 7.20 |
| AUG 18... | 1340 | 530 | 7.0 | 13.0 | 17 | 8.10 |

QUALITY OF GROUND WATER--Continued

405

EL PASO COUNTY

384535104450801 - SC01506611BCD2 VENETUCCI NO. 3.

LOCATION.--Lat 38°45'35", long 104°45'08", in SE¼SW¼NW¼ sec.11, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widfield of Fountain Alluvium.

WELL CHARACTERISTICS.--Irrigation well, diameter 24 in, depth 80 ft, screened unknown.

PERIOD OF RECORD.--February 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1330 | 461 | 7.1 | 12.5 | 15 | 8.80 |
| FEB 11... | 1250 | 442 | 7.2 | 13.0 | 12 | 9.10 |
| MAY 13... | 1325 | 480 | 7.0 | 13.0 | 14 | 9.20 |
| AUG 18... | 1310 | 449 | 7.1 | 13.0 | 11 | 9.80 |

384610104453501 - SC01506603DDB SECURITY NO. 14.

LOCATION.--Lat 38°46'10", long 104°45'35", in NW¼SE¼SE¼ sec.14, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widfield of Fountain Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 24 in, depth 80 ft, screened 39 to 80 ft.

DATUM.--Elevation of land-surface is 5,780 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--February 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1225 | 611 | 7.4 | 12.5 | 23 | 7.20 |
| FEB 11... | 1410 | 604 | 7.5 | 13.0 | 23 | 7.10 |
| MAY 13... | 1300 | 609 | 7.4 | 13.0 | 23 | 6.90 |
| AUG 18... | 1400 | 605 | 7.4 | 12.5 | 22 | 7.00 |

QUALITY OF GROUND WATER--Continued

EL PASO COUNTY

384617104455901 - SC01506603CAD STRATMOOR HILLS NO. 4.

LOCATION.--Lat 38°46'17", long 104°45'59", in SE¼NE¼SW¼ sec.3, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield of Fountain Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in, depth 49 ft, screened 29 to 49 ft.

DATUM.--Elevation of land surface is 5,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--February 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1305 | 976 | 7.3 | 13.0 | 36 | 6.80 |
| FEB 11... | 1315 | 952 | 7.5 | 13.0 | 38 | 7.40 |
| MAY 13... | 1410 | 930 | 7.4 | 13.0 | 33 | 8.00 |
| AUG 18... | 1240 | 867 | 7.5 | 13.5 | 33 | 7.60 |

384639104461401 - SC01506603BAC1 - MARS GAS

LOCATION.--Lat 38°46'39", long 104°46'14", in SW¼NE¼NW¼ sec.3, T.15 S., R.66 W., El Paso County, Hydrologic Unit 1102003

AQUIFER.--Fountain Alluvium.

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 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|---|---|
| NOV 20... | 1350 | 877 | 7.0 | 35 | 8.30 |
| FEB 11... | 1440 | 842 | 7.1 | 32 | 9.20 |
| MAY 13... | 1445 | 880 | 7.0 | 30 | 8.70 |
| AUG 18... | 1440 | 882 | 7.1 | 36 | 8.80 |

EL PASO COUNTY

384718104463701 - SC01406633DAA - BARNES WELL

LOCATION.--Lat 38°47'18", long 104°46'37", in NE¼NE¼SE¼ sec.33, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Alluvium.

WELL CHARACTERISTICS.--Domestic well, diameter 6 in, depth 72 ft .

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1410 | 934 | 7.2 | 11.5 | 19 | 10.0 |
| FEB 11... | 1510 | 1220 | 7.3 | 11.5 | 25 | 14.0 |
| MAY 13... | 1505 | 1360 | 7.2 | 14.0 | 31 | 15.0 |
| AUG 18... | 1500 | 1190 | 7.3 | 13.5 | 25 | 12.0 |

385323104224001 - SC01306230ACC1

LOCATION.--Lat 38°53'23", long 104°22'40", in SW¼SW¼NE¼ sec.23, T.13 S., R.62 W., El Paso County, Hydrologic Unit 11020004.

AQUIFER.--Black Squirrel Alluvium.

WELL CHARACTERISTICS.--Municipal 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 1987 TO SEPTEMBER 1988

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) |
|--------------|------|---|--------------------------------|--------------------------------------|---|---|
| NOV 20... | 1535 | 413 | 7.1 | 12.0 | 13 | -- |
| FEB 11... | 1640 | 417 | 7.3 | 11.0 | 13 | 9.80 |
| MAY 13... | 1625 | 410 | 7.3 | 12.5 | 12 | 7.00 |
| AUG 18... | 1425 | 404 | 7.2 | 12.5 | 11 | 7.20 |

| | Page | | Page |
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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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