1970

Water Resources Data for Colorado

Part 2. Water Quality Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

CALENDAR FOR WATER YEAR 1970

OCTOBER 1969

S	M	T	W	T	F	S
			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	

NOVEMBER 1969

S	M	T	W	T	F	S
						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						

DECEMBER 1969

S	M	T	W	T	F	S
	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			

JANUARY 1970

S	M	T	W	T	F	S
				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

FEBRUARY 1970

S	M	T	W	T	F	S
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

MARCH 1970

S	M	T	W	T	F	S
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				

APRIL 1970

S	M	T	W	T	F	S
			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		

MAY 1970

S	M	T	W	T	F	S
					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						

JUNE 1970

S	M	T	W	T	F	S
	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				

JULY 1970

S	M	T	W	T	F	S
			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	

AUGUST 1970

S	M	T	W	T	F	S
						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					

SEPTEMBER 1970

S	M	T	W	T	F	S
		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			

1970

Water Resources Data for Colorado

Part 2. Water Quality Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

Prepared in cooperation with

Colorado Water Conservation Board
Bureau of Reclamation, U.S. Department of the Interior
Federal Water Quality Administration, U.S. Department of the Interior

Water resources records, 1970, for Colorado are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for Colorado
   Part 1: Surface Water Records

2. Water Resources Data for Colorado
   Part 2: Water Quality Records

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
Denver Federal Center
Denver, Colorado 80225

1971

CONTENTS

	Page
List of water-quality stations, in downstream order, for which records are published	IV
Introduction	1
Cooperation	2
Definition of terms	2
Special networks and programs	7
Downstream order and station numbers	7
Collection and examination of data	8
Solutes	9
Temperature	10
Sediment	10
Selected references	12
Water quality records	14
Index	70

ILLUSTRATION

	Page
Figure 1. Map of Colorado showing locations of sites where data on quality of surface water were obtained during the water year. Water-temperature data were obtained daily at some of these sites	11

IV WATER-QUALITY STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

[*Letters after station name designate type of data: (c), chemical; (t), water temperature; (s), sediment*]

Page

MISSOURI RIVER BASIN
Missouri River:
PLATTE RIVER BASIN
North Platte River (head of Platte River) near Northgate, c... 14
South Platte River at Littleton, t..... 14
South Platte River at Henderson, c..... 16
Horsetooth Reservoir near Fort Collins, c..... 18
Carter Lake near Berthoud, c..... 19
South Platte River near Kersey, c..... 20
South Platte River at Balzac, c..... 20
South Platte River at Julesburg, ct..... 22

LOWER MISSISSIPPI RIVER BASIN
Mississippi River:
ARKANSAS RIVER BASIN
Lake Fork:
Halfmoon Creek near Malta, cts..... 24
Arkansas River near Portland, cs..... 28
Arkansas River above Pueblo, cs..... 30
Arkansas River below John Martin Reservoir, ct..... 32
Arkansas River at Lamar, c..... 34
Arkansas River near Coolidge, c..... 34

WESTERN GULF OF MEXICO BASINS
RIO GRANDE BASIN
Rio Grande near Lobatos, c..... 36

COLORADO RIVER BASIN
Colorado River below Lake Granby, c..... 36
Colorado River at Hot Sulphur Springs, ct..... 38
EAGLE RIVER BASIN
Eagle River at Gypsum, ct..... 40
Colorado River near Glenwood Springs, ct..... 42
ROARING FORK RIVER BASIN
Roaring Fork River at Glenwood Springs, c..... 44
Colorado River near Cameo, ct..... 46
GUNNISON RIVER BASIN
Gunnison River near Grand Junction, ct..... 48
Colorado River near Colorado-Utah State line, c..... 50
DOLORES RIVER BASIN
San Miguel River below Uravan, c..... 50
Dolores River at Gateway, c..... 52

Page

COLORADO RIVER--Continued
GREEN RIVER BASIN
Green River:
Yampa River near Maybell, ct..... 54
Little Snake River near Lily, c..... 56
White River near Watson, Utah, ct..... 58
SAN JUAN RIVER BASIN
San Juan River:
Los Pinos River:
Vallecito Creek near Bayfield, t..... 60
Miscellaneous analyses of streams in Colorado, cs..... 62

Water Resources Data for Colorado, 1970

Part 2: Water Quality Records

INTRODUCTION

Water-resources investigations of the U.S. Geological Survey in clude the collection of water quality data on the chemical and physical characteristics of surface- and ground-water supplies of the Nation. These water quality data for surface waters in Colorado for the 1970 water year are presented in this report. Data for a few water quality stations in bordering States are also included. The data were collected by the Water Resources Division of the U.S. Geological Survey under the direction of E. A. Moulder, district chief, Water Resources Division.

Water quality information is presented for chemical quality, fluvial sediment, and water temperatures. The chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, sodium-adsorption-ratio, specific conductance, and pH. Fluvial sediment information is given for suspended-sediment discharges and concentrations and for particle size distribution of suspended sediment and bed material. Water temperature data represent once-daily observations except for stations where a continuous temperature recorder furnishes information from which daily minimums and maximums are obtained.

The Geological Survey has published an annual series of water-supply papers, "Quality of Surface Waters of the United States," from 1941 through 1965 which contain the chemical quality, temperature, and fluvial sediment data of the water. Each volume covered an area whose boundaries coincided with those of certain natural drainage areas. Beginning with the 1964 water year, water quality records for surface and ground water obtained by the Geological Survey were published in a new series of annual releases on a state boundary basis. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year and to meet local needs. These records will be published later in Geological Survey Water-Supply Papers.

COOPERATION

Most data in this report were obtained as part of the Federal Program of the U.S. Geological Survey or in cooperation with the Bureau of Reclamation and Federal Water Quality Administration, U.S. Department of the Interior. Investigations of some ground water and surface water were made under cooperative agreement between the U.S. Geological Survey and the Colorado Water Conservation Board, F. L. Sparks, director.

DEFINITION OF TERMS

The terms and abbreviations of water-quality and hydrologic data as used in the text and tabular data of this report, are as follows:

Acre-foot (ac-ft) is a quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or 325,851 gallons.

Cfs-days is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It equals 86,400 cubic feet, 1.9835 acre-feet, or 646,317 gallons.

Cubic feet per second (cfs) is a unit expressing rates of discharge. One cubic foot per second is equal to the discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Discharge, in its simplest concept, means outflow; therefore, the use of this term is not restricted as to course or location. In this report it represents the total fluids measured in the stream.

Daily mean discharge is the mean discharge for one day.

Mean daily discharge is the arithmetic mean discharge for the same day during a specific period of years.

Mean discharge is the arithmetic mean of individual daily mean discharge during a specific period.

Instantaneous discharge (at time of sampling). If the discharge at the time of sampling is reported instead of the daily mean, the heading of the discharge column is "Discharge (cfs)."

Drainage area is that area, in a specified location, measured in a horizontal plane, which is enclosed by a drainage divide.

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 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 gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hardness of water is the property of water attributable to the presence of alkaline earths and is expressed as equivalent calcium carbonate ($CaCO_3$). Hardness is a physical-chemical characteristic, not a substance.

Micrograms per liter (ug/l, UG/L) is a more precise unit for expressing the concentration of chemical constituents in solution. One thousand micrograms per liter is equivalent to one milligram per liter. See below.

Milligrams per liter (mg/l, MG/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the weight of solute per unit volume of water. Milligrams or micrograms per liter may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per liter by multiplying by the factors in table 1, page 4. Concentration of suspended sediment expressed in milligrams per liter is based on the weight of sediment in a liter of water-sediment mixture. Sediment concentrations that are expressed in parts per million may be converted to milligrams per liter by using the factors in table 2, page 5.

Particle size is the diameter, in millimeters (mm) of suspended sediment or bed material determined by sieve and sedimentation methods.

Particle size classification agrees closely with recommendations made by the American Geophysical Union Subcommittee on sediment terminology (Lane and others, 1947, p. 937). The classification is as follows:

Clay:	Smaller than 0.004 mm.
Silt:	Between 0.004 and 0.062 mm.
Sand:	Between 0.062 and 2.0 mm.
Gravel:	Between 2.0 and 64.0 mm.

The particle size distributions given in this report are not necessarily representative of the particle sizes of sediment in transport in the natural stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis of the silt and clay.

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})...	0.11119	Iodide (I^{-1}).....	0.00788
Ammonia as NH_4^{+1}..	.05544	Iron (Fe^{+3})*.....	.05372
Barium (Ba^{+2}).....	.01456	Lead (Pb^{+2})*.....	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*...	.14411
Bromide (Br^{-1})....	.01251	Magnesium (Mg^{+2})..	.08226
Calcium (Ca^{+2})....	.04990	Manganese (Mn^{+2})*.	.03640
Carbonate (CO_3^{-2}).	.03333	Nickel (Ni^{+2})*....	.03406
Chloride (Cl^{-1})...	.02821	Nitrate (NO_3^{-1})...	.01613
Chromium (Cr^{+6})*..	.11539	Nitrite (NO_2^{-1})...	.02174
Cobalt (Co^{+2})*....	.03394	Phosphate (PO_4^{-3}).	.03159
Copper (Cu^{+2})*....	.03148	Potassium (K^{+1})...	.02557
Cyanide (CN^{-1})*...	.03844	Sodium (Na^{+1}).....	.04350
Fluoride (F^{-1})....	.05264	Strontium (SR^{+2})*.	.02283
Hydrogen (H^{+1})....	.99209	Sulfate (SO_4^{-2})...	.02082
Hydroxide (OH^{-1})..	.05880	Zinc (Zn^{+2})*.....	.03060

*Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentration in parts per million to milligrams per liter*
(All values calculated to three significant figures)

Range of concentration (ppm)	Multiply by	Range of concentration (ppm)	Multiply by
0 - 15,900	1.00	322,000 - 341,000	1.26
16,000 - 46,800	1.02	342,000 - 361,000	1.28
46,900 - 76,500	1.04	362,000 - 380,000	1.30
76,600 - 105,000	1.06	381,000 - 399,000	1.32
106,000 - 133,000	1.08	400,000 - 416,000	1.34
134,000 - 159,000	1.10	417,000 - 434,000	1.36
160,000 - 185,000	1.12	435,000 - 451,000	1.38
186,000 - 210,000	1.14	452,000 - 467,000	1.40
211,000 - 233,000	1.16	468,000 - 483,000	1.42
234,000 - 256,000	1.18	484,000 - 498,000	1.44
257,000 - 279,000	1.20	499,000 - 514,000	1.46
280,000 - 300,000	1.22	515,000 - 528,000	1.48
301,000 - 321,000	1.24	529,000 - 542,000	1.50

*Based on water density of 1.000 g/ml and sediment density of 2.65 g/cc.

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.

Sediment discharge is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that is discharged in a given time.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks and is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. The following general relations are applicable:

Specific conductance x (0.65 ± 0.05) = mg/l dissolved solids;

$$\frac{\text{Specific conductance}}{100} = \frac{\text{total epm}}{2}$$

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reaction with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

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." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

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.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph.

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 water year.

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

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

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, 1970, is called the "1970 water year."

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.

SPECIAL NETWORKS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

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

Irrigation network stations are water-quality stations located at or near certain streamflow gaging stations west of the main stem of the Mississippi River. Data collected at these stations are used to evaluate the chemical quality of surface waters used for irrigation and the changes resulting from the drainage of irrigated lands. Prior to water year 1966, the data for these stations were published in the annual water-supply paper series, "Quality of Surface Water for Irrigation, Western States."

DOWNSTREAM ORDER AND STATION NUMBERS

A station number has been assigned as an added means of identification for each stream location where regular measurements of streamflow and determinations of water quality have been made. The numbers have been assigned in the same downstream order used in the annual series of water-supply papers. In assigning station numbers, no distinction is made between surface water gaging stations and water quality record stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive.

The complete 8-digit number for each station, such as 06754000, includes the part number "06" and a 6-digit station number. This complete number appears just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

COLLECTION AND EXAMINATION OF DATA

Samples of surface water ordinarily were obtained at or near gaging stations because water-discharge data are essential for computation and interpretation of water-quality records. Samples taken daily were taken by local observers trained and supervised by personnel of the Geological Survey. Samples taken less frequently than daily generally were taken by Geological Survey personnel or by personnel of cooperating agencies. The map (figure 1) shows the locations of the surface-water stations sampled in 1970.

Prior to the 1968 water year, data for chemical constituents and concentrations of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967, the U.S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per liter (mg/l) and water temperatures are given in degrees Celsius (centigrade, °C). In waters with a density of 1.000 g/ml (grams per milliliter), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per liter. (See table 2 on page 5.) To convert temperature in degrees Fahrenheit to degrees Celsius, see table 3, page 9.

Table 3.--Degrees Fahrenheit (°F) to degrees Celsius (°C)*
(Temperature reported to nearest 0.5°C)

°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
32	0.0	50	10.0	68	20.0	86	30.0	104	40.0
33	.5	51	10.5	69	20.5	87	30.5	105	40.5
34	1.0	52	11.0	70	21.0	88	31.0	106	41.0
35	1.5	53	11.5	71	21.5	89	31.5	107	41.5
36	2.0	54	12.0	72	22.0	90	32.0	108	42.0
37	3.0	55	13.0	73	23.0	91	33.0	109	43.0
38	3.5	56	13.5	74	23.5	92	33.5	110	43.5
39	4.0	57	14.0	75	24.0	93	34.0	111	44.0
40	4.5	58	14.5	76	24.5	94	34.5	112	44.5
41	5.0	59	15.0	77	25.0	95	35.0	113	45.0
42	5.5	60	15.5	78	25.5	96	35.5	114	45.5
43	6.0	61	16.0	79	26.0	97	36.0	115	46.0
44	6.5	62	16.5	80	26.5	98	36.5	116	46.5
45	7.0	63	17.0	81	27.0	99	37.0	117	47.0
46	8.0	64	18.0	82	28.0	100	38.0	118	48.0
47	8.5	65	18.5	83	28.5	101	38.5	119	48.5
48	9.0	66	19.0	84	29.0	102	39.0	120	49.0
49	9.5	67	19.5	85	29.5	103	39.5	121	49.5

*C = 5/9 (°F - 32) or °F = 9/5 (°C) + 32.

Solutes

The methods of collecting water samples and of compositing daily samples prior to laboratory analysis are described in a manual by Eugene Brown and others (1970). No single method of compositing of daily samples is applicable for all water-quality stations; the method used depends on the type of water problem being studied at the station. Generally, only samples having similar dissolved-solids content, indicated by measurements of conductivity, are included in any given composite. At sites where water-quality data were collected less frequently than daily, the data may represent conditions only at the time of sampling. For such sites, however, observations obtained over a period of years show relations that are useful in predicting the long-term water-quality characteristics.

Temperature

Water temperatures were measured at most of the water-quality stations. For daily stations, the water temperatures were taken at about the same time each day in order that the data would be relatively unaffected by diurnal variations in water temperature. Most large swiftly flowing streams probably have a small diurnal variation in water temperature, whereas sluggish or shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. The thermometers used for determining the water temperature were accurate to plus or minus 0.5°C.

At stations where thermographs are located, the records consist of maximum and minimum temperatures for each day and the monthly averages of maximum daily and minimum daily temperatures.

Sediment

Suspended-sediment samples generally were collected periodically with depth-integrating cable-suspended or hand samplers 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 the quantities of suspended sediment, records of periodic measurements of the particle-size distribution of the suspended sediment and the bed material are included.

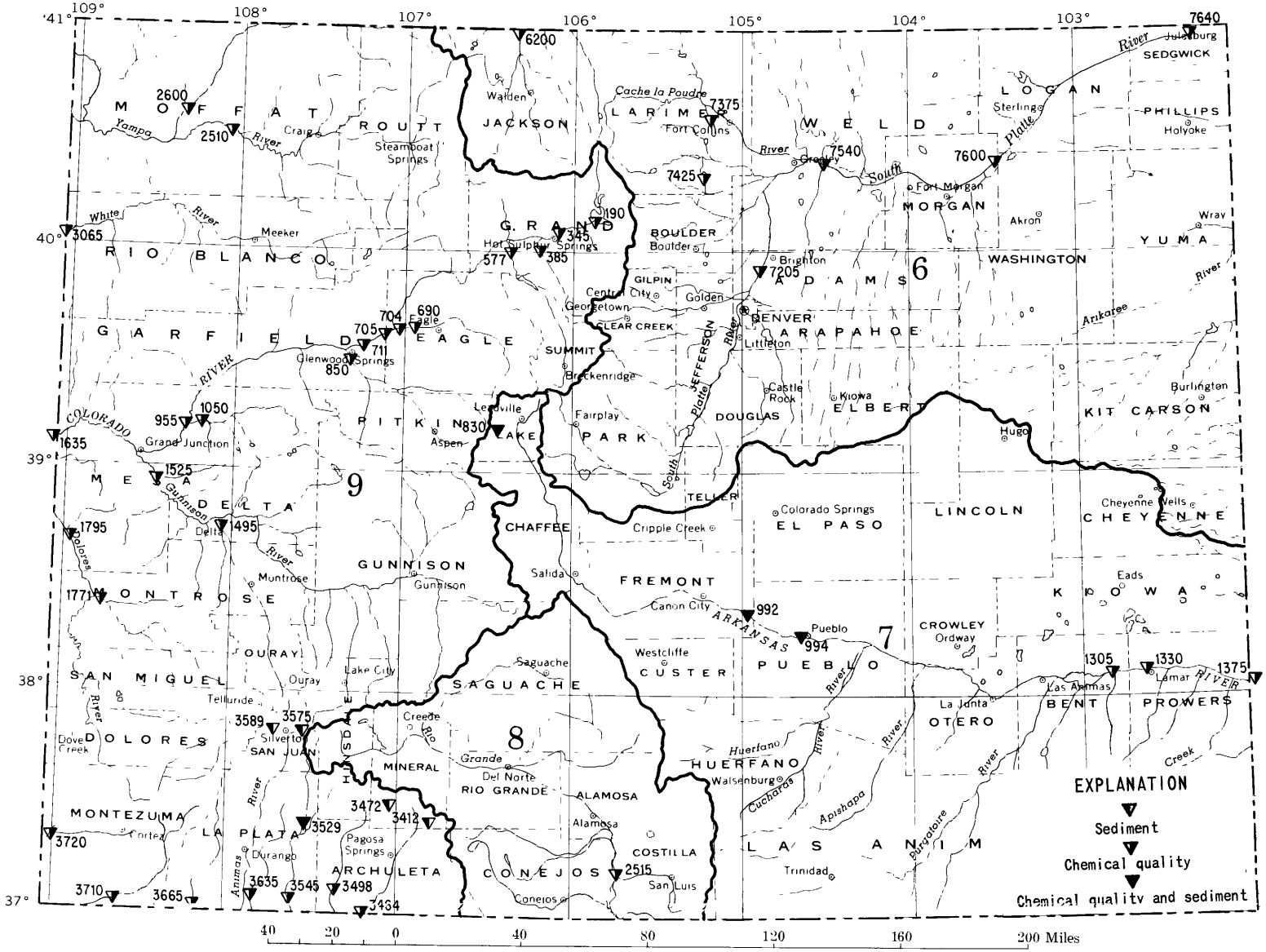

Figure 1.—Map of Colorado showing locations of sites where data on quality of surface water were obtained during the water year. Water-temperature data were obtained daily at some of these sites.

SELECTED REFERENCES

The following publications are available for background information on the methods for collecting, analyzing and evaluating the chemical and physical properties of surface waters:

Brown, Eugene, Skougstad, M. W., and Fishman, M. J., 1970, Methods for collection and analysis of water samples for dissolved minerals and gases: Techniques of Water-Resources Investigations of the U.S. Geol. Survey, Book 5, Chapter A1, 160 p.

Clarke, F. W., 1924, The composition of the river and lake waters of the United States: U.S. Geol. Survey Prof. Paper 135, 199 p.

Colby, B. R., 1963, Fluvial sediments--a summary of source, transportation, deposition, and measurements of sediment discharge: U.S. Geol. Survey Bull. 1181-A, 47 p.

Colby, B. R., and Hubbell, D. W., 1961, Simplified methods for computing total sediment discharge with the modified Einstein procedure: U.S. Geol. Survey Water-Supply Paper 1593, 17 p.

Collins, W. D., and Howard, C. S., 1928, Quality of water of Colorado River in 1925-26: U.S. Geol. Survey Water-Supply Paper 596-B, p. 33-43.

Gregg, D. O., and others, 1961, Public Water Supplies of Colorado (1959-60): Colorado State Univ. Agr. Expt. Sta., Gen. Ser. 757, 128 p.

Hem, John D., 1970, Study and interpretation of the chemical characteristics of natural water [2d ed.]: U.S. Geol. Survey Water-Supply Paper 1473, 363 p.

Howard, C. S., 1955, Quality of water of the Colorado River, 1925-40: U.S. Geol. Survey open-file rept., 103 p.

Iorns, W. V., and others, 1964, Water resources of the Upper Colorado River Basin--basic data: U.S. Geol. Survey Prof. Paper 442, 1,036 p., 4 pls., 1 fig.

_____1965, Water resources of the Upper Colorado River Basin--technical report: U.S. Geol. Survey Prof. Paper 441, 370 p., 9 pls., 147 figs.

Lane, E. W., and others, 1947, Report of Subcommittee on terminology: Am. Geophys. Union Trans., v. 28, p. 937.

Langbein, W. B., and Iseri, K. T., 1960, General introduction and hydrologic definitions: U.S. Geol. Survey Water-Supply Paper 1541-A, 29 p.

McGuinness, C. L., 1963, The role of ground water in the national water situation: U.S. Geol. Survey Water-Supply Paper 1800, 1,121 p.

Meinzer, O. E., 1923, The occurrence of ground water in the United States: U.S. Geol. Survey Water-Supply Paper 489, 321 p.

_____1923, Outline of ground-water hydrology, with definitions: U.S. Geol. Survey Water-Supply Paper 494, 71 p.

Stabler, Herman, 1911, Some stream waters of the Western United States: U.S. Geol. Survey Water-Supply Paper 274, 188 p.

U.S. Inter-Agency Committee on Water Resources, A study of methods used in measurement and analysis of sediment loads in streams:

Report 11, 1957, The development and calibration of visual accumulation tube: St. Anthony Falls Hydraulic Lab., Minneapolis, Minn., 109 p., 43 figs.
Report 12, 1957, Some fundamentals of particle-size analysis: Washington, U.S. Govt. Printing Office, 55 p., 9 figs.
Report AA, 1959, Federal Inter-agency sedimentation instruments and reports: St. Anthony Falls Hydraulic Lab., Minneapolis, Minn., 41 p., 27 figs.
Report 13, 1961, The single-stage sampler for suspended sediment: Washington, U.S. Govt. Printing Office, 105 p., 51 figs.
Report 14, 1963, Determinations of fluvial sediment discharge: Washington, U.S. Govt. Printing Office, 151 p., 70 figs.

PART 6. MISSOURI RIVER BASIN

PLATTE RIVER BASIN

06620000 North Platte River near Northgate, Colo.

LOCATION.--Lat 40°56'10", long 106°20'21", in SW¼SE¼ sec.11, T.11 N., R.80 W., Jackson County, at gaging station at bridge on State Highway 125, 0.8 mile upstream from Camp Creek, 4.2 miles northwest of Northgate, and 4.4 miles south of Colorado-Wyoming State line.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.												
01...	1530	102	8.5	30	7.8	12	1.4	125	0	26	5.0	.6
NOV.												
13...	1235	247	10	31	9.2	15	1.0	135	0	23	5.0	.6
DEC.												
08...	1600	109	12	36	9.2	14	1.6	145	0	19	12	.7
JAN.												
20...	1630	115	12	36	8.4	13	1.4	107	12	21	12	1.0
MAR.												
03...	1600	144	12	35	4.1	12	1.9	110	6	16	8.1	.6
APR.												
09...	1130	653	7.9	21	7.1	21	5.8	112	0	25	15	.4
MAY												
15...	1100	1760	10	20	5.4	10	2.9	85	0	23	2.4	.3
JUNE												
04...	0745	1170	12	30	8.7	17	2.6	134	0	34	4.4	.4
18...	0825	1300	12	32	9.6	18	2.2	146	0	32	2.2	.4
30...	1015	1990	11	28	5.0	10	1.4	121	0	8.2	2.0	.5
AUG.												
11...	1140	382	8.0	26	3.5	8.8	1.4	101	0	13	3.6	.4
SEPT.												
10...	1700	288	6.3	23	3.3	10	2.0	95	0	18	1.1	.5

06710000 South Platte River at Littleton, Colo.

LOCATION.--Lat 39°37'08", long 105°01'07", in NE¼ sec.17, T.5 S., R.68 W., Arapaho County, temperature recorder at gaging station 200 ft downstream from Crestline Avenue Bridge at Littleton and 3.1 miles upstream from Bear Creek.

DRAINAGE AREA.--3,069 sq mi.

PERIOD OF RECORD.--Water temperatures: April to September 1970

EXTREMES, 1969-70.--Water temperatures: Maximum, 23.5°C Aug. 1.

TEMPERATURE (°C) OF WATER, APRIL TO SEPTEMBER 1970

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	--	--	08.5	07.0	11.5	09.5	19.0	16.0	23.5	18.5	22.0	16.5
2	12.5	07.5	09.5	06.0	13.5	10.0	20.0	16.5	22.0	29.5	22.5	15.0
3	07.0	03.5	10.5	06.5	13.5	11.5	19.5	17.0	20.0	18.0	20.5	14.0
4	11.0	01.5	10.0	07.5	14.0	12.0	20.0	16.5	20.5	16.5	17.0	13.5
5	13.0	03.0	10.0	07.5	14.0	11.5	19.0	16.0	22.0	17.5	17.0	13.5
6	13.0	04.5	10.0	08.0	14.5	11.5	19.5	16.0	23.0	17.5	18.5	14.5
7	09.0	06.0	11.5	08.0	13.0	11.5	17.5	16.0	--	--	21.0	11.5
8	09.5	05.5	11.0	08.0	13.5	11.5	19.0	16.0	--	--	20.0	12.5
9	10.5	06.5	10.0	08.0	14.5	12.5	18.5	16.0	--	--	18.5	14.5
10	08.5	06.0	12.0	08.0	13.0	12.0	19.0	16.0	--	--	19.0	12.0
11	07.5	05.5	12.5	09.0	12.0	10.5	19.0	16.5	21.0	18.0	19.5	12.0
12	09.5	04.0	12.5	09.0	14.0	10.0	19.0	16.5	20.0	17.0	17.0	11.0
13	09.5	04.0	12.5	10.0	15.5	12.0	20.0	16.0	20.5	16.0	14.0	11.5
14	10.5	05.5	11.5	09.5	16.0	13.5	19.0	17.0	--	--	14.0	13.5
15	12.0	05.5	11.5	07.5	16.0	14.0	20.5	16.5	--	--	15.0	13.5
16	11.5	04.5	12.5	08.5	15.5	13.0	20.5	17.0	--	--	18.5	12.5
17	08.0	06.0	14.0	10.5	16.0	13.5	19.0	17.0	--	--	19.0	12.0
18	06.5	06.0	13.0	10.0	17.0	14.5	20.0	16.5	--	--	18.5	13.0
19	09.5	05.5	11.5	10.0	17.5	15.0	19.5	16.5	19.5	18.0	20.0	12.0
20	09.5	06.0	13.0	10.0	17.0	15.0	21.0	16.5	20.5	16.0	18.0	13.0
21	07.5	05.5	13.5	10.0	16.5	15.0	23.0	17.0	18.5	16.0	15.0	13.5
22	08.5	06.5	13.0	11.0	16.0	14.0	22.0	18.0	19.5	15.0	14.5	10.0
23	08.0	05.5	14.0	11.0	15.5	14.0	22.0	18.0	20.0	15.0	17.5	08.5
24	07.5	06.5	12.5	11.0	17.5	14.0	22.0	18.0	20.5	15.0	18.0	09.0
25	13.5	07.0	14.0	12.0	18.0	15.0	22.5	17.0	18.0	16.0	11.0	07.0
26	13.0	08.0	13.5	13.0	18.5	15.5	21.0	17.5	17.5	16.0	12.0	11.0
27	12.5	08.0	13.5	11.0	19.0	16.0	22.0	16.5	19.0	15.5	12.0	12.0
28	10.5	07.5	12.0	11.0	19.0	15.5	22.5	16.5	18.0	16.0	12.0	11.5
29	09.0	07.0	13.5	11.5	18.0	15.5	19.5	18.0	19.5	17.0	12.5	12.0
30	08.5	06.5	14.0	11.5	19.0	15.5	21.0	18.0	21.0	17.5	12.5	12.0
31	--	--	13.0	10.5	--	--	23.0	18.5	22.0	15.5	--	--
AVG	9.8	5.6	12.0	9.4	15.6	13.1	20.2	16.8	--	--	16.8	12.2

06620000 North Platte River near Northgate, Colo.--Continued

DRAINAGE AREA.--1,431 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1970.

Water temperatures: October 1965 to September 1966

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (ND3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CON-DUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)
OCT.											
01...	.2	40	158	.21	43.5	108	5	.5	263	8.2	13.0
NOV.											
13...	.0	0	168	.23	112	115	4	.6	288	8.2	1.0
DEC.											
08...	.2	20	164	.22	48.3	128	9	.5	289	7.9	.0
JAN.											
20...	.0	90	160	.22	49.7	125	17	.5	259	8.4	.0
MAR.											
03...	.0	20	144	.20	56.0	105	5	.5	254	8.3	.0
APR.											
09...	.4	30	164	.22	289	83	0	1.0	281	7.1	.0
MAY											
15...	.0	20	110	.15	523	72	2	.5	191	6.8	5.5
JUNE											
04...	.0	40	178	.24	562	111	1	.7	285	7.3	11.0
18...	.0	40	184	.25	646	120	0	.7	300	7.4	--
30...	.4	50	128	.17	688	90	0	.5	217	8.0	15.0
AUG.											
11...	.2	50	118	.16	122	80	0	.4	198	7.5	14.0
SEPT.											
10...	.0	280	116	.16	90.2	72	0	.5	195	8.0	16.0

06720500 South Platte River at Henderson, Colo.

LOCATION.--Lat 39°55'19", long 104°52'05", Adams County, at bridge on State Highway 22, 1,200 ft downstream from gaging station and 0.2 mile west of Henderson.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	NITRITE (N) (MG/L)
OCT.												
22...	300	15.0	103	16	144	5.5	261	242	102	1.3	23	.00
NOV.												
13...	770	8.0	64	14	85	5.7	177	142	63	1.2	13	.00
DEC.												
04...	408	8.0	76	17	107	8.1	214	178	85	1.2	26	.00
JAN.												
15...	354	7.0	77	17	111	9.5	194	191	94	1.4	28	.00
FEB.												
09...	219	12.0	85	17	120	8.4	233	190	103	1.2	36	.00
MAR.												
18...	237	7.0	79	17	133	9.2	198	179	114	1.4	55	.00
APR.												
13...	1080	10.0	49	12	54	4.0	135	94	43	1.1	18	.00
MAY												
11...	2330	12.0	39	14	41	2.0	118	68	46	1.0	8.6	.00
JUNE												
11...	6750	11.0	40	8.1	25	3.2	98	44	19	.6	10	.00
JULY												
13...	1810	19.0	34	9.7	36	2.9	104	66	31	.7	7.8	.00
AUG.												
19...	446	22.0	63	15	79	6.5	182	126	66	1.1	17	.00
SEPT.												
03...	366	23.0	74	17	94	6.9	205	154	73	1.1	23	.00

06720500 South Platte River at Henderson, Colo.--Continued

DRAINAGE AREA.--4,713 sq mi (at gaging station).

PERIOD OF RECORD.--Chemical analyses: July 1955 to September 1957, June 1962 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	AMMONIA NITROGEN (N) (MG/L)	PHOSPHATE (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TURBIDITY (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.												
22...	.18	10	783	1.06	634	324	109	3.5	.01	36	1230	7.7
NOV.												
13...	.04	3.6	517	.70	1070	218	73	2.5	.00	35	788	7.1
DEC.												
04...	.03	7.2	634	.86	698	260	85	2.9	.01	14	997	7.3
JAN.												
15...	.00	9.1	668	.91	638	262	103	3.0	.05	12	1020	7.3
FEB.												
09...	.00	4.5	707	.96	418	283	92	3.1	.04	2.0	1110	7.4
MAR.												
18...	.02	9.1	723	.98	463	266	104	3.6	.10	25	1120	8.0
APR.												
13...	.00	3.0	360	.49	1050	172	61	1.8	.02	130	571	7.5
MAY												
11...	.00	2.8	293	.40	1840	156	59	1.4	.00	74	484	8.2
JUNE												
11...	.01	.64	181	.25	3300	132	52	.9	.00	1010	327	7.5
JULY												
13...	.01	1.3	258	.35	1260	124	39	1.4	.00	76	414	7.2
AUG.												
19...	.01	4.9	490	.67	590	216	67	2.3	.00	71	765	7.6
SEPT.												
03...	.00	7.0	572	.78	565	252	84	2.6	.01	20	894	7.4

06737500 Horsetooth Reservoir near Fort Collins, Colo.

LOCATION.--Lat 40°36'00", long 105°10'06", in NW¼SW¼ sec.6, T.7 N., R.69 W., Larimer County, on tributaries of Cache la Poudre River, 4.8 miles west of city hall in Fort Collins.

PERIOD OF RECORD.--Chemical analyses: September 1969 to September 1970.

REMARKS.--Samples collected from surface, middle, and bottom depths in middle of reservoir at Soldier Canyon Dam.

CHEMICAL ANALYSES, SEPTEMBER 1969 TO SEPTEMBER 1970

DATE	RESERVOIR STORAGE (AC-FT)	DEPTH (FT)	TEMPERATURE (DEG C)	NITRATE (ND3) (MG/L)	NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	PHOSPHATE (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
SEPT.									
19...	73000	10	20.0	.1	--	--	.02	57	77
19...	73000	40	19.0	.1	--	--	.05	57	74
19...	73000	80	14.0	.2	--	--	.00	53	73
OCT.									
22...	76220	3	11.0	.1	.00	.01	.01	59	75
22...	76220	45	11.0	.0	.00	.07	.00	53	75
22...	76220	95	11.0	.1	.00	.00	.01	59	77
NOV.									
13...	76000	2	8.0	.4	.00	.01	.13	56	76
13...	76000	40	8.0	.2	.00	.06	.03	55	76
13...	76000	94	8.0	.4	.00	.00	.04	50	77
DEC.									
04...	77410	2	6.0	.3	.00	.09	.07	53	78
04...	77410	45	6.0	.2	.00	.04	.05	54	79
04...	77410	90	8.5	.3	.02	.03	.11	58	80
FEB.									
26...	100600	2	3.5	.2	.00	.06	.07	55	80
26...	100600	50	2.5	.3	.00	.06	.04	53	79
26...	100600	100	3.0	.3	.00	.06	.06	43	79
APR.									
10...	120500	2	5.0	.4	.00	.02	.04	59	76
10...	120500	65	5.0	.3	.00	.04	.04	64	78
10...	120500	130	4.5	.3	.00	.02	.04	66	77
24...	127200	2	4.0	.3	.00	.02	.03	55	76
24...	127200	50	4.0	.4	.00	.03	.03	55	76
24...	127200	125	4.0	.4	.00	.08	.03	56	76
MAY									
18...	144200	2	14.0	.2	.00	.00	.13	51	73
18...	144200	75	6.0	.3	.00	.00	.04	52	74
18...	144200	150	4.5	.6	.00	.00	.06	51	75
JUNE									
12...	146900	2	7.0	.3	.00	.00	1.3	55	77
12...	146900	75	7.0	.4	.00	.00	.11	61	76
12...	146900	150	7.0	.4	.00	.00	.59	54	77
JULY									
14...	147800	2	22.0	.1	.00	.01	.02	49	72
14...	147800	75	12.0	.2	.01	.01	.12	54	81
14...	147800	150	12.0	.5	.00	.01	.21	54	77
AUG.									
20...	113500	2	25.0	.0	.00	.00	.03	47	72
20...	113500	65	11.0	.5	.00	.00	.10	53	75
20...	113500	125	10.0	.8	.00	.03	.90	57	78
SEPT.									
23...	92010	2	16.0	.1	.01	.00	.03	48	78
23...	92010	50	14.0	.4	.00	.00	.04	53	76
23...	92010	100	8.5	.5	.00	.00	.05	54	77

06742500 Carter Lake near Berthoud, Colo.

LOCATION.--Lat 40°19'28", long 105°12'41", in SE¼ sec.10, T.4 N., R.70 W., Larimer County, on Dry Creek, 7.0 miles west of Berthoud, and 8.9 miles upstream from mouth.

PERIOD OF RECORD.--Chemical analyses: February to September 1970.

REMARKS.--Samples collected at surface, middle, and bottom depths near the center of the reservoir.

CHEMICAL ANALYSES, FEBRUARY TO SEPTEMBER 1970

DATE	RESERVOIR STORAGE (AC-FT)	DEPTH (FT)	TEMPERATURE (DEG C)	NITRATE (NO3) (MG/L)	NITRITE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	PHOSPHATE (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
FEB.									
26...	94190	2	3.0	.2	.01	.27	.06	54	81
26...	94190	50	3.0	.2	.01	.30	.04	50	81
26...	94190	100	3.0	.1	.00	.06	.07	49	83
APR.									
10...	105500	2	5.0	.2	.00	.03	.02	64	79
10...	105500	50	4.0	.1	.00	.01	.02	65	79
10...	105500	100	5.0	.1	.00	.02	.04	59	79
24...	106200	2	4.0	.1	.00	.03	.01	49	79
24...	106200	50	3.5	.1	.00	.03	.02	47	79
24...	106200	130	4.0	.1	.00	.02	.03	53	79
MAY									
18...	111900	2	13.0	.1	.00	.00	.02	40	79
18...	111900	65	8.0	.1	.00	.00	.04	44	77
18...	111900	130	5.0	.1	.00	.00	.02	43	78
JUNE									
12...	111600	2	13.5	.0	.00	.00	.05	46	79
12...	111600	60	8.0	.0	.00	.00	.04	47	80
12...	111600	120	8.0	.1	.00	.00	.23	48	80
JULY									
14...	109600	2	22.0	.1	.00	.01	.13	55	92
14...	109600	62	10.0	.0	.00	.01	.02	48	78
14...	109600	125	9.0	.4	.00	.01	.04	53	81
AUG.									
20...	92670	2	21.0	.1	.01	.01	.12	48	85
20...	92670	25	19.0	.0	.00	.01	.06	47	83
20...	92670	100	6.0	.2	.00	.00	.05	51	79
SEPT.									
23...	76620	2	17.0	.1	.00	.00	.03	51	88
23...	76620	50	10.0	.1	.00	.00	.02	48	81
23...	76620	100	9.0	.2	.00	.00	.03	48	80

06754000 South Platte River near Kersey, Colo.

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.												
01...	350	13.0	13	0	140	100	159	6.2	366	740	54	1.5
31...	2000	6.0	13	0	112	61	125	6.9	282	493	.6	1.5
DEC.												
01...	1340	6.0	13	0	120	71	134	6.5	297	547	64	1.5
JAN.												
13...	1080	2.0	14	0	112	54	122	7.3	298	425	68	1.0
FEB.												
10...	798	6.0	13	17	131	56	129	7.9	337	478	65	1.0
MAR.												
06...	730	5.0	11	0	129	65	135	6.0	309	495	74	1.3
APR.												
15...	1910	8.0	11	0	79	33	84	4.2	189	288	46	1.2
MAY												
08...	5130	12.0	10	0	58	25	66	3.7	153	177	53	1.0
JUNE												
15...	8830	17.0	10	140	47	19	41	3.5	130	142	21	.7
JULY												
16...	1080	20.0	12	50	93	42	94	5.2	239	340	44	1.3
AUG.												
07...	365	20.0	13	0	126	68	123	8.3	298	575	20	1.1
SEPT.												
08...	580	17.0	15	100	136	66	134	7.6	313	555	50	1.2

06760000 South Platte River at Balzac, Colo.

LOCATION.--Lat 40°24'24", long 103°27'58", in NE¼NE¼ sec.13, T.5 N., R.55 W., Morgan County, at gaging station just upstream from highway bridge at Balzac siding, 2.8 miles northeast of Union and 7.0 miles downstream from Beaver Creek.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.												
01...	74	17.0	15	0	184	78	172	11	320	775	70	1.4
31...	49	8.0	15	0	156	75	154	8.4	315	691	64	1.4
DEC.												
01...	695	5.0	15	0	148	73	145	7.4	298	609	64	1.4
JAN.												
13...	1230	4.0	15	0	140	51	137	8.4	325	470	69	1.0
FEB.												
10...	1060	3.0	14	0	155	59	148	8.8	329	560	69	.9
MAR.												
06...	635	5.0	13	0	174	62	151	10	350	638	70	1.1
APR.												
15...	1920	9.0	12	0	96	47	91	5.4	221	355	46	1.1
MAY												
08...	2570	16.0	12	0	73	28	83	4.5	182	211	58	1.0
JUNE												
15...	15900	22.0	13	14	85	32	84	11	186	304	38	.8
JULY												
17...	575	22.0	14	5	132	50	123	7.3	283	472	54	1.2
AUG.												
07...	293	24.0	12	0	160	78	160	9.4	263	686	66	1.1
SEPT.												
08...	335	20.0	18	11	145	71	164	13	318	668	65	.9

06754000 South Platte River near Kersey, Colo.--Continued

DRAINAGE AREA.--9,598 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1949 to September 1953, August 1954 to August 1957, June 1962 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
01...	9.0	.06	0	1450	1.90	1370	760	460	2.5	1790	7.7
31...	13	2.5	0	1030	1.40	560	530	299	2.4	1370	7.0
DEC.											
01...	12	2.9	0	1140	1.52	4120	590	346	2.4	1480	7.1
JAN.											
13...	13	3.1	0	980	1.33	2860	500	256	2.4	1340	7.8
FEB.											
10...	8.5	2.9	31	1080	1.47	2330	555	279	2.4	1490	7.7
MAR.											
06...	16	3.6	0	1110	1.48	2190	588	335	2.4	1510	7.7
APR.											
15...	18	1.8	0	666	.91	3430	332	177	2.0	970	7.8
MAY											
08...	7.3	.70	0	490	.67	6790	248	123	1.8	749	7.9
JUNE											
15...	6.4	.66	11	373	.51	8890	196	89	1.3	561	7.7
JULY											
16...	13	.81	16	809	1.10	2360	408	212	2.0	1110	8.2
AUG.											
07...	1.5	.90	30	1200	1.63	1180	594	350	2.2	1520	7.8
SEPT.											
08...	5.0	1.3	28	1250	1.70	1960	611	354	2.4	1570	8.1

06760000 South Platte River at Balzac, Colo.--Continued

DRAINAGE AREA.--16,852 sq mi.

PERIOD OF RECORD.--Chemical analyses: January 1950 to September 1951, August 1954 to September 1957, June 1962 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
01...	6.0	.13	0	1530	2.00	305	780	518	2.7	1900	7.8
31...	11	1.1	0	1360	1.81	180	700	442	2.5	1720	7.8
DEC.											
01...	14	1.4	0	1240	1.67	2330	670	426	2.4	1590	7.8
JAN.											
13...	6.6	2.3	0	1140	1.44	3790	560	294	2.5	1510	7.7
FEB.											
10...	10	1.9	0	1230	1.62	3520	630	360	2.6	1650	8.0
MAR.											
06...	8.3	1.3	2	1360	1.77	2330	690	403	2.5	1730	8.2
APR.											
15...	15	1.2	0	776	1.06	4020	432	251	1.9	1100	7.8
MAY											
08...	11	.97	0	605	.82	4090	298	148	2.1	893	7.6
JUNE											
15...	6.3	.56	16	709	.96	30400	344	191	2.0	983	8.2
JULY											
17...	9.4	.56	21	1070	1.36	1660	533	301	2.3	1400	8.2
AUG.											
07...	6.7	.66	26	1410	1.92	1120	720	476	2.6	1780	8.6
SEPT.											
08...	3.5	.65	30	1480	2.01	1340	654	393	2.8	1810	7.9

06764000 South Platte River at Julesburg, Colo.
(Irrigation network station)

LOCATION.--Lat 40°58'46", long 102°15'15", in NW¼NE¼ and SE¼NE¼ (two channels) sec.33, T.12 N., R.44 W., Sedgwick County, at gaging station at bridge on U.S. Highway 385, 0.9 mile southeast of Julesburg, 3 miles upstream from Colorado-Nebraska State line, and 8 miles downstream from Lodgepole Creek.

DRAINAGE AREA.--23,138 sq mi.

RECORDS AVAILABLE.--Chemical analyses: October 1945 to September 1970.

Water temperatures: October 1945 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 2,200 micromhos Oct. 19; minimum daily, 678 micromhos June 18.

SPECIFIC CONDUCTANCE (MICRDMHOS AT 25°C), WATER YEAR DCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	2020	2060	1830	1810	1780	1920	1840	1500	1410	1010	1730	1800
2.....	2040	2030	1840	1790	1800	1920	1790	1350	1330	1060	1830	1830
3.....	2050	2060	1850	1840	1790	1920	1690	1180	1280	1100	1830	1800
4.....	2060	2090	1810	1870	1760	1940	1720	1320	1240	1180	1830	1840
5.....	2020	1980	1890	1820	1780	1940	1720	1150	1140	1290	1780	1860
6.....	2020	1870	1900	2090	1770	1950	1730	1160	1120	1380	1730	1830
7.....	2050	1860	1920	1970	1780	1920	1750	1220	1220	1440	1750	1850
8.....	2040	1880	1890	2030	1780	1910	1730	1250	1280	1470	1740	1840
9.....	2020	1900	1980	2070	1790	1930	1710	1240	1360	1490	1750	1830
10.....	2080	1870	1900	2030	1790	1920	1720	1160	1440	1530	1760	1830
11.....	2010	1870	1840	1920	1800	1920	1610	1150	1470	1550	1760	1820
12.....	1830	1880	1830	1870	1800	1910	1430	1120	1140	1570	1760	2010
13.....	1880	1840	1830	1770	1800	1900	1400	1110	1510	1560	1760	1880
14.....	1890	1860	1840	1730	1800	1910	1360	1180	1310	1580	1740	1910
15.....	1930	1840	1850	1700	1800	1910	1360	1310	1100	1600	1740	1940
16.....	1960	1870	1830	1690	1790	1880	1320	1360	1020	1620	1760	1980
17.....	2010	1890	1820	1730	1800	1900	1360	1400	997	1630	1760	1950
18.....	2000	1840	1800	1790	1810	1860	1360	1430	678	1640	1760	1940
19.....	2200	1840	1790	1790	1820	1880	1450	1510	947	1660	1770	1920
20.....	2040	1840	1790	1760	1840	1900	1470	1540	988	1640	1770	1910
21.....	2010	1860	1800	1760	1850	1910	1480	1630	985	1670	1770	1890
22.....	2000	1860	1810	1740	1850	1950	1420	1650	1010	1700	1770	1900
23.....	2010	1850	1800	1690	1860	2000	1430	1660	988	1630	1760	1880
24.....	2010	1870	1820	1680	1860	1980	1450	1700	958	1680	1770	1900
25.....	2040	1880	1570	1680	1860	2000	1440	1670	918	1700	1770	1880
26.....	2020	1810	1800	1710	1890	2000	1440	1720	920	1680	1780	1900
27.....	2020	1790	1420	1760	1900	2000	1460	1650	928	1700	1800	1800
28.....	2010	1790	1760	1750	1910	2000	1490	1690	926	1500	1840	1740
29.....	1990	1800	1610	1760	--	1940	1520	1740	926	1650	1790	1790
30.....	1950	1830	1640	1770	--	1910	1560	1650	934	1700	1800	1660
31.....	1980	--	1830	1780	--	1860	--	1590	--	1730	1800	--
AVERAGE	2010	1880	1800	1810	1820	1930	1540	1420	1120	1530	1770	1860

06764200 South Platte River near Julesburg, Colo.

LOCATION.--Lat 41°00'59", long 102°10'34", in SE¼NW¼ sec.13, T.12 N., R.43 W., Deuel County, Nebraska, at diversion to Western Canal, about 1.7 miles downstream from State line, about 6 miles northeast of Julesburg, and at mile 82.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
NOV.											
03...	225	9.0	32	210	58	208	19	318	787	72	1.7
DEC.											
01...	980	--	22	165	60	189	13	310	662	73	1.4
29...	1060	.0	21	165	59	174	15	320	622	71	1.0
FEB.											
02...	1550	.0	20	166	59	186	13	336	637	70	.9
MAR.											
02...	705	4.0	23	190	55	182	17	328	715	76	.9
30...	794	4.0	--	--	--	--	--	316	712	71	--
APR.											
30...	1620	11.0	17	136	54	155	9.4	265	542	62	1.0
MAY											
28...	415	--	--	--	--	--	--	276	620	69	--
JUNE											
30...	4150	27.0	--	--	--	--	--	188	283	30	--
JULY											
30...	238	21.0	19	144	50	175	17	218	657	67	.9
AUG.											
31...	48	21.0	--	173	54	--	--	--	712	72	.7
SEPT.											
30...	841	10.0	--	145	58	--	--	--	596	67	--

06764000 South Platte River at Julesburg, Colo.--Continued

EXTREMES, 1969-70.--Continued

Water temperatures: Maximum, 31°C Aug. 1; minimum, freezing point on several days during December to February.

EXTREMES, 1945-70.--Specific conductance: Maximum daily, 3,000 micromhos Dec. 28, 30, 1962; minimum daily, 348 micromhos Aug. 15, 1968.

Water temperatures: Maximum (1946-49, 1950-70), 34°C July 28, Aug. 1, 1953, July 7, 18, 1963; minimum, freezing point on many days during winter months.

REMARKS.--Samples for chemical analyses collected from channel no. 2 (06763990). For monthly chemical analyses, see record for South Platte River near Julesburg, Colo. (sta. 06764200).

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.5	7.5	3.5	0.0	2.0	10.0	4.5	9.0	15.5	24.5	31.0	27.5
2	12.0	5.5	3.5	1.0	0.0	2.0	3.5	7.5	20.0	22.0	21.0	17.5
3	13.5	5.5	1.0	0.0	0.0	4.5	5.5	14.5	16.5	22.0	19.0	26.5
4	10.0	4.5	2.0	0.0	3.5	4.5	10.0	12.0	16.5	21.0	20.0	14.5
5	12.0	4.5	2.0	0.0	0.0	4.5	4.5	14.5	16.5	21.0	21.0	17.5
6	9.0	5.5	2.0	0.0	1.0	4.5	10.0	15.5	17.5	23.5	22.0	21.0
7	10.0	5.5	0.0	0.0	5.5	5.5	11.0	17.5	19.0	22.0	21.0	22.0
8	10.0	4.5	0.0	0.0	4.5	9.0	10.0	15.5	19.0	21.0	21.0	20.0
9	13.5	4.5	0.0	1.0	4.5	5.5	13.5	16.5	19.0	20.0	22.0	15.5
10	12.0	5.5	0.0	1.0	2.0	1.0	11.0	15.5	17.5	21.0	20.0	11.0
11	9.0	7.5	1.0	1.0	3.5	1.0	12.0	15.5	17.5	20.0	19.0	11.0
12	7.5	6.5	0.0	0.0	2.0	4.5	7.5	15.5	13.5	22.0	19.0	10.0
13	6.5	4.5	2.0	0.0	2.0	2.0	5.5	15.5	15.5	20.0	17.5	9.0
14	3.5	0.0	2.0	0.0	1.0	5.5	5.5	13.5	13.5	21.0	20.0	12.0
15	4.5	3.5	2.0	0.0	4.5	4.5	12.0	12.0	21.0	17.5	17.5	14.5
16	4.5	4.5	3.5	0.0	2.0	4.5	7.5	13.5	13.5	17.5	16.5	14.5
17	5.5	5.5	2.0	0.0	3.5	2.0	7.5	20.0	21.0	20.0	19.0	15.5
18	7.5	2.0	1.0	0.0	3.5	3.5	6.5	16.5	14.5	21.0	17.5	13.5
19	7.5	1.0	1.0	0.0	2.0	1.0	9.0	17.5	20.0	22.0	19.0	15.5
20	7.5	2.0	1.0	0.0	1.0	0.0	6.5	17.5	21.0	16.5	16.5	20.0
21	6.5	3.5	2.0	0.0	6.5	4.5	7.5	19.0	21.0	16.5	17.5	15.5
22	7.5	4.5	3.5	1.0	5.5	7.5	9.0	15.5	22.0	15.5	15.5	13.5
23	7.5	3.5	1.0	0.0	5.5	5.5	9.0	14.5	20.0	17.5	22.0	11.0
24	10.0	3.5	2.0	0.0	3.5	6.5	10.0	19.0	22.0	16.5	21.0	15.5
25	9.0	4.5	2.0	2.0	2.0	4.5	11.0	15.5	22.0	19.0	19.0	12.0
26	7.5	2.0	1.0	0.0	2.0	3.5	14.5	16.5	23.5	21.0	17.5	9.0
27	5.5	0.0	2.0	0.0	7.5	4.5	13.5	17.5	23.5	21.0	19.0	14.5
28	6.5	2.0	1.0	3.5	6.5	3.5	14.5	17.5	24.5	21.0	21.0	12.0
29	6.5	1.0	0.0	3.5	--	5.5	12.0	16.5	23.5	22.0	20.0	14.5
30	4.5	2.0	0.0	0.0	--	4.5	10.0	16.5	21.0	22.0	17.5	14.5
31	4.5	--	0.0	0.0	--	2.0	--	15.5	--	23.5	16.5	--
AVG	8.0	4.0	1.5	0.5	3.0	4.0	9.0	15.5	19.0	20.5	19.5	15.5

06764200 South Platte River near Julesburg, Colo.--Continued

DRAINAGE AREA.--23,200 sq mi, approximately.

RECORDS AVAILABLE.--Chemical analyses: July 1969 to September 1970.

REMARKS.--Records of discharge are given for South Platte River at Julesburg, Colo. (sta. 06764000).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
NOV.										
03...	4.7	258	1590	2.16	966	760	494	3.3	1980	8.4
DEC.										
01...	12	267	1410	1.92	3730	658	405	3.2	1760	8.0
29...	4.2	238	1360	1.85	3890	678	415	3.0	1730	7.9
FEB.										
02...	9.6	335	1390	1.89	5820	657	381	3.2	1770	7.9
MAR.										
02...	6.2	304	1510	2.05	2870	700	432	3.0	1860	7.8
30...	8.2	--	1490	2.03	3190	736	477	--	1900	8.2
APR.										
30...	13	263	1170	1.59	5120	561	344	2.8	1550	8.2
MAY										
28...	1.8	--	1310	1.78	1470	639	413	--	1690	8.2
JUNE										
30...	2.9	--	672	.91	7530	340	187	--	950	8.1
JULY										
30...	.3	288	1300	1.77	838	563	384	3.2	1640	7.9
AUG.										
31...	2.9	--	1450	1.97	192	652	--	--	1830	--
SEPT.										
30...	13	--	1310	1.78	2980	600	--	--	1600	--

ARKANSAS RIVER BASIN

07083000 Halfmoon Creek near Malta, Colo.
(Hydrologic bench-mark station)

LOCATION.--Lat 39°10'20", long 106°23'20", in SE¼SE¼ sec.13, T.10 S., R.81 W., Lake County, at gaging station, 1.4 miles upstream from culvert, 3.3 miles upstream from mouth, and 4.3 miles southwest of Malta.

DRAINAGE AREA.--23.6 sq mi.

PERIOD OF RECORD.--Chemical analyses: November 1966 to September 1970.

Water temperatures: May 1967 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.											
16...	15	3.5	10	3.9	1.5	.6	51	6.0	1.0	.1	.6
NOV.											
20...	10	5.7	13	3.9	1.4	.0	60	3.8	1.1	.1	.2
DEC.											
23...	7.8	5.7	10	5.4	1.6	.6	54	4.0	1.8	.1	.4
JAN.											
13...	3.9	5.9	10	5.4	1.9	.6	57	4.8	1.8	.3	.6
FEB.											
08...	4.8	6.6	12	4.4	1.7	.5	50	6.2	1.2	.2	8.0
APR.											
28...	5.8	5.4	10	3.7	1.5	.6	48	5.0	1.3	.1	.6
JUNE											
10...	107	3.7	7.0	2.2	1.1	.5	28	3.8	1.4	.D	.4
JULY											
08...	115	3.3	6.6	1.8	.8	.5	30	1.0	.8	.3	.0
AUG.											
06...	39	4.1	8.3	2.7	1.2	.6	41	3.8	.9	.1	.3
SEPT.											
12...	29	4.3	10	3.1	1.3	.7	49	5.0	.9	.1	.6

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMP-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
OCT 16, 1969	1100	00.0	15	4	.16	--	--	--	--	--	--	--	--	--	--	--	
JUN 10, 1970	1325	06.0	107	5	1.4	--	--	--	--	--	--	--	--	--	--	--	
JUL 8.....	0830	06.5	115	5	1.6	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1210	11.0	39	2	.21	--	--	--	--	--	--	--	--	--	--	--	
SEP 12.....	1000	06.0	29	1	.08	--	--	--	--	--	--	--	--	--	--	--	

07083000 Halfmoon Creek near Malta, Colo.--Continued

EXTREMES, 1969-70.--Water temperatures: Maximum, 16°C Aug. 1, 13; minimum, freezing point on many days during October to May.

EXTREMES, May 1967 to September 1970.--Water temperatures: Maximum, 17°C July 28, 1969; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.										
16...	.00	0	76	.10	3.08	42	0	.1	85	7.4
NOV.										
20...	.00	0	47	.06	1.27	48	0	.1	90	8.0
DEC.										
23...	.00	0	51	.07	1.07	48	4	.1	92	7.9
JAN.										
13...	.00	0	56	.08	.59	48	1	.1	96	7.8
FEB.										
08...	.01	1	56	.08	.73	48	7	.1	95	8.1
APR.										
28...	.00	3	52	.07	.81	41	1	.1	88	7.7
JUNE										
10...	.00	4	36	.05	10.4	26	3	.1	54	7.7
JULY										
08...	.01	0	29	.04	9.00	24	0	.1	48	7.6
AUG.										
06...	.07	0	36	.05	3.79	32	0	.1	65	8.0
SEPT.										
12...	.05	3	43	.06	3.37	38	0	.1	80	8.2

07083000 Halfmoon Creek near Malta, Colo.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	09.0	03.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
2	07.0	02.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
3	05.0	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
4	02.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
5	04.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
6	04.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
7	05.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
8	05.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
9	05.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
10	03.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
11	02.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
12	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
13	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
14	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
15	01.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
16	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
17	01.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
18	01.0	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
19	03.0	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
20	01.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
21	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
22	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
23	03.5	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
24	02.5	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
25	02.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
26	03.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
27	04.0	00.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
28	02.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
29	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	--	--	00.0	00.0
30	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	--	--	00.0	00.0
31	00.0	00.0	--	--	00.0	00.0	00.0	00.0	--	--	00.0	00.0
AVG	2.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

07083000 Halfmoon Creek near Malta, Colo.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	00.0	00.0	01.0	00.0	07.5	01.0	10.0	03.0	16.0	08.0	12.5	06.0
2	00.0	00.0	03.0	00.0	08.0	01.0	11.5	03.5	12.0	08.0	11.0	05.5
3	00.0	00.0	04.5	00.0	08.0	01.5	11.5	04.0	14.0	08.5	13.0	05.0
4	00.0	00.0	04.0	00.0	06.0	02.0	10.5	04.5	13.5	09.0	09.5	04.5
5	00.0	00.0	03.0	00.0	08.0	01.5	10.5	05.5	13.5	08.0	08.5	05.5
6	00.0	00.0	04.0	00.0	08.0	01.5	10.5	06.0	12.5	08.0	08.0	06.0
7	00.0	00.0	05.0	00.0	06.5	02.0	09.0	06.5	12.5	08.0	11.5	03.5
8	00.0	00.0	04.5	00.0	07.5	02.5	11.5	06.0	14.5	08.5	12.0	04.5
9	00.0	00.0	05.0	00.5	05.5	02.0	09.0	06.0	15.5	07.5	12.5	05.0
10	00.0	00.0	07.5	00.0	06.5	02.0	11.5	05.5	15.5	07.5	12.0	04.5
11	00.0	00.0	08.5	00.5	06.5	02.0	11.5	06.0	15.5	06.5	10.0	04.5
12	00.0	00.0	07.0	00.5	09.0	02.0	12.0	06.0	14.5	06.5	10.5	05.0
13	00.0	00.0	07.0	00.5	09.0	02.5	13.5	05.5	16.0	06.5	08.5	05.5
14	00.0	00.0	05.5	00.5	08.0	03.0	12.0	06.5	12.0	07.0	07.5	05.0
15	00.0	00.0	08.0	00.5	10.0	02.5	14.5	07.0	11.0	08.5	09.5	02.5
16	00.0	00.0	10.0	00.5	10.0	02.0	14.5	06.5	14.0	05.5	10.0	04.0
17	00.0	00.0	09.0	00.5	10.0	02.0	13.0	07.0	14.0	06.5	10.0	03.0
18	00.0	00.0	08.5	00.5	10.0	02.5	11.5	07.0	14.0	06.5	11.0	03.5
19	00.0	00.0	06.0	01.0	09.0	02.5	12.0	06.0	12.0	07.5	11.5	04.0
20	00.0	00.0	07.0	01.0	08.0	02.5	14.0	06.0	10.0	08.0	11.0	04.5
21	00.0	00.0	07.5	01.0	08.5	03.0	13.5	06.5	09.5	08.0	08.0	03.5
22	00.0	00.0	07.5	01.0	08.5	03.0	12.0	08.0	11.0	06.0	05.5	00.5
23	00.0	00.0	07.0	01.0	09.5	03.0	14.5	08.0	11.0	06.0	08.5	01.0
24	00.0	00.0	07.0	01.0	10.0	03.0	14.0	07.5	12.5	06.0	07.0	02.5
25	03.0	00.0	07.5	01.0	10.0	03.5	14.5	07.5	13.5	06.0	04.0	02.0
26	02.5	00.0	07.5	01.5	10.5	03.0	12.5	07.5	11.0	07.0	06.5	00.0
27	00.5	00.0	05.5	01.5	09.5	03.5	11.5	06.5	11.5	06.0	08.0	00.5
28	02.0	00.0	05.5	01.5	10.0	04.5	12.5	06.5	11.5	06.0	08.0	01.0
29	00.0	00.0	07.0	01.5	08.5	04.0	13.5	06.5	12.0	06.5	07.5	02.0
30	01.0	00.0	08.0	02.0	10.0	04.0	14.5	06.5	11.5	08.0	07.0	03.0
31	--	--	06.5	01.5	--	--	14.5	07.5	13.0	06.0	--	--
AVG	0.3	0.0	6.2	0.6	8.5	2.5	12.3	6.2	12.9	7.1	9.3	3.5

07099200 Arkansas River near Portland, Colo.

LOCATION.--Lat 38°20'16", long 104°56'24", in NW¼SW¼ sec.6, T.20 S., R.67 W., Fremont County, at gaging station, 1.2 miles downstream from Willow Spring Creek and 5.3 miles southeast of Portland.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
20...	905	10.0	13	61	18	24	2.1	172	118	7.8	.8
NOV.											
19...	405	2.0	13	74	24	28	2.5	190	171	10	.6
JAN.											
22...	359	3.0	12	70	23	31	2.4	181	164	10	.7
FEB.											
04...	277	4.0	12	74	26	32	3.0	191	190	12	1.0
MAR.											
16...	310	6.0	9.9	67	22	31	2.5	162	153	12	.7
APR.											
20...	614	11.0	12	60	23	30	3.5	198	123	12	.7
MAY											
20...	2746	13.0	8.9	32	7.8	10	1.9	93	50	3.9	.5
JUNE											
17...	1940	18.0	9.0	29	8.5	10	1.9	89	48	4.3	.5
AUG.											
04...	1180	19.0	9.3	43	9.7	14	2.1	122	65	5.7	.6
SEPT.											
10...	762	17.0	12	49	16	18	2.3	136	100	5.0	.2

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMP-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
OCT 19, 1969	1330	10.0	905	318	777	15	20	--	--	--	44	54	71	86	100	--	VPWC
NOV 7.....	1300	09.0	626	100	169	--	--	--	--	--	--	--	--	--	--	--	
NOV 19.....	1220	02.0	405	42	46	--	--	--	--	--	--	--	--	--	--	--	
DEC 13.....	1030	02.0	445	68	82	--	--	--	--	--	--	--	--	--	--	--	
JAN 22, 1970	1345	03.0	359	45	44	--	--	--	--	--	--	--	--	--	--	--	
FEB 4.....	1600	03.0	277	45	34	--	--	--	--	--	--	--	--	--	--	--	
FEB 20.....	1150	05.0	285	24	18	--	--	--	--	--	--	--	--	--	--	--	
MAR 3.....	1515	09.0	305	38	31	--	--	--	--	--	--	--	--	--	--	--	
MAR 16.....	1130	06.0	305	17	14	--	--	--	--	--	--	--	--	--	--	--	
APR 7.....	1510	12.0	400	151	163	35	47	--	--	--	89	93	95	99	100	--	VPWC
APR 20.....	1325	11.0	620	254	425	19	26	--	--	--	68	80	90	99	100	--	VPWC
MAY 7.....	1430	15.0	1540	3160	13100	11	12	--	20	--	55	79	88	97	98	100	VPWC
MAY 20.....	1130	13.0	2660	2130	15300	7	8	--	11	--	26	43	73	86	92	99	SVPWC
JUN 4.....	0935	13.0	2300	1360	8450	3	4	--	--	--	18	29	61	93	100	--	VPWC
JUN 17.....	1450	19.0	1940	412	2160	6	8	--	11	--	30	48	74	94	100	--	VPWC
JUL 1.....	0900	16.0	3590	808	7830	7	8	--	13	--	29	48	77	98	100	--	VPWC
JUL 15.....	1310	20.0	1790	407	1970	6	7	--	--	--	25	40	64	93	100	--	VPWC
AUG 4.....	1000	19.0	1180	336	1070	--	--	--	--	--	--	--	--	--	--	--	
AUG 18.....	1540	23.0	1260	159	541	--	--	--	--	--	--	--	--	--	--	--	
SEP 10.....	1330	17.0	778	122	256	--	--	--	--	--	--	--	--	--	--	--	
SEP 23.....	1330	11.5	1300	216	758	--	--	--	--	--	--	--	--	--	--	--	

07099200 Arkansas River near Portland, Colo.--Continued

DRAINAGE AREA.--4,280 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1964 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
20...	2.3	.10	0	392	.53	958	223	82	.7	518	7.4
NOV.											
19...	2.9	.03	7	442	.60	483	284	128	.7	646	7.8
JAN.											
22...	3.3	.19	0	433	.59	420	220	122	.8	630	7.5
FEB.											
04...	3.3	.13	0	494	.67	369	290	133	.8	690	7.3
MAR.											
16...	1.6	.04	5	405	.55	339	258	108	.8	610	8.3
APR.											
20...	.7	.13	0	354	.48	587	245	83	.8	580	7.6
MAY											
20...	1.0	.06	0	163	.22	1210	113	37	.4	262	7.5
JUNE											
17...	.9	.07	5	172	.23	901	108	35	.4	254	7.7
AUG.											
04...	1.7	.18	0	214	.29	682	148	48	.5	352	7.9
SEPT.											
10...	.6	3.0	20	275	.37	566	188	76	.6	436	8.1

07099400 Arkansas River above Pueblo, Colo.

LOCATION.--Lat 38°16'17", long 104°43'06", in NE¼NE¼ sec.36, T.20 S., R.66 W., Pueblo County, at gaging station, 450 ft downstream from headgate of West Pueblo ditch, 0.4 mile downstream from Rock Canyon Barrier Dam, and 7 miles west of Pueblo.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
20...	848	8.0	13	63	22	24	2.6	173	127	8.4	.8
NOV.											
19...	490	.5	12	74	25	30	2.4	188	179	11	.6
JAN.											
22...	435	2.0	12	72	24	35	2.5	183	185	11	.7
FEB.											
04...	338	4.0	11	82	24	36	2.9	192	198	12	1.0
MAR.											
16...	172	9.0	8.3	71	26	36	2.7	177	203	12	.7
APR.											
20...	495	8.0	13	66	24	30	3.6	205	139	10	.6
MAY											
20...	2450	15.0	9.3	33	7.3	11	1.9	93	52	3.8	.5
JUNE											
17...	1620	16.0	9.4	30	7.5	11	2.0	91	48	4.0	.5
AUG.											
03...	848	25.0	9.6	46	11	15	2.4	124	80	7.0	.6
SEPT.											
10...	753	15.0	10	49	16	18	2.3	131	102	8.5	.2

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMP-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
OCT 19, 1969	1130	08.0	848	315	721	18	24	--	--	--	54	69	88	96	100	--	VPWC
NOV 7.....	1630	09.0	540	73	106	--	--	--	--	--	--	--	--	--	--	--	
NOV 19.....	0900	00.5	490	170	225	--	--	--	--	--	--	--	--	--	--	--	
DEC 13.....	1600	04.0	402	48	52	--	--	--	--	--	--	--	--	--	--	--	
JAN 22, 1970	1145	02.0	435	147	173	--	--	--	--	--	--	--	--	--	--	--	
FEB 4.....	1230	04.0	338	56	51	--	--	--	--	--	--	--	--	--	--	--	
FEB 20.....	1345	08.0	184	9	4.5	--	--	--	--	--	--	--	--	--	--	--	
MAR 4.....	0845	04.0	168	15	6.8	--	--	--	--	--	--	--	--	--	--	--	
MAR 16.....	1345	09.0	172	15	7.0	--	--	--	--	--	--	--	--	--	--	--	
APR 8.....	0830	10.0	276	142	106	33	45	--	--	--	92	97	100	--	--	--	VPWC
APR 20.....	1045	08.0	470	180	228	25	33	--	--	--	80	90	98	100	--	--	VPWC
MAY 7.....	1145	14.0	1210	1810	5910	16	18	--	28	--	65	82	89	94	97	100	VPWC
MAY 20.....	1510	15.0	2450	1710	11300	10	12	--	18	--	42	65	85	94	96	100	VPWC
JUN 3.....	1350	15.0	2040	1140	6280	8	9	--	13	--	34	56	81	95	99	100	VPWC
JUN 17.....	1120	16.0	1620	1870	8180	3	3	--	5	--	13	21	46	85	92	99	SVPWC
JUN 30.....	1710	20.0	3310	1210	10800	7	8	--	14	--	33	51	77	96	100	--	VPWC
JUL 15.....	1020	19.0	1640	346	1530	9	11	--	21	--	43	56	77	94	100	--	VPWC
AUG 3.....	1630	25.0	848	322	737	--	--	--	--	--	--	--	--	--	--	--	
AUG 18.....	1255	20.0	1020	664	1830	--	--	--	--	--	--	--	--	--	--	--	
SEP 10.....	1000	15.0	753	170	346	--	--	--	--	--	--	--	--	--	--	--	
SEP 23.....	1215	11.0	1000	159	429	--	--	--	--	--	--	--	--	--	--	--	

07099400 Arkansas River above Pueblo, Colo.--Continued

DRAINAGE AREA.--4,670 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
20...	3.4	.09	0	368	.50	843	246	104	.7	545	7.3
NOV.											
19...	1.7	.00	0	448	.61	593	288	133	.8	656	7.6
JAN.											
22...	3.1	.13	0	465	.63	546	280	130	.9	673	7.7
FEB.											
04...	3.5	.14	0	513	.70	468	305	148	.9	716	7.3
MAR.											
16...	1.3	.02	0	453	.62	210	281	136	.9	667	8.2
APR.											
20...	1.9	.17	0	442	.60	591	265	97	.8	625	7.7
MAY											
20...	1.8	.08	0	176	.24	1160	112	36	.5	270	7.6
JUNE											
17...	.8	.09	0	166	.23	726	106	31	.5	265	7.8
AUG.											
03...	.4	.00	3	243	.33	556	160	59	.5	382	7.5
SEPT.											
10...	.6	.50	10	285	.39	579	188	81	.6	435	7.9

07130500 Arkansas River below John Martin Reservoir, Colo.
(Irrigation network station)

LOCATION.--Lat 38°05'02", long 102°55'10", in NW¼NW¼ sec.4, T.23 S., R.49 W., Bent County, at gaging station, 1.1 miles upstream from Caddoa Creek, 1.7 miles downstream from John Martin Dam, and 2.9 miles southeast of Hasty.

DRAINAGE AREA.--18,917 sq mi, of which 785 sq mi is probably noncontributing.

PERIOD OF RECORD.--Chemical analyses: August 1942 to August 1943, October 1945 to July 1949, January 1951 to September 1970.

Water temperatures: January 1951 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 4,830 micromhos Oct. 18, 28; minimum daily, 937 micromhos June 30.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
06...	75	13.0	10	285	124	317	6.7	272	1600	90	.9
NOV.											
03...	5.2	12.0	9.1	285	153	384	6.8	304	1880	110	1.0
DEC.											
02...	26	9.5	12	297	209	462	7.4	402	1950	148	.8
10...	3.0	4.5	14	305	185	403	7.0	374	1850	145	1.2
JAN.											
06...	3.0	4.0	15	240	185	411	7.3	120	1960	135	1.0
19...	2.6	6.0	19	337	180	517	6.8	411	2150	155	1.3
FEB.											
05...	3.0	4.0	14	329	190	462	6.7	436	2050	148	.9
09...	2.6	15.0	13	313	199	446	6.8	421	2050	142	1.3
MAR.											
09...	2.8	7.0	15	331	180	488	7.0	405	1950	144	.9
10...	43	--	9.9	287	136	316	7.0	266	1550	85	.9
APR.											
07...	3.3	16.0	12	329	175	470	7.3	369	1930	134	1.0
13...	31	16.0	6.9	298	144	355	7.2	256	1650	96	.9
MAY											
11...	1130	16.0	2.8	281	140	339	7.1	228	1610	88	1.0
JUNE											
02...	595	15.0	9.6	131	46	114	4.3	189	525	31	.8
JULY											
14...	828	23.0	9.4	145	52	157	7.4	183	684	38	1.0
AUG.											
19...	230	23.0	14	240	96	272	8.8	249	1200	55	1.1
SEPT.											
09...	337	20.5	12	179	76	212	7.7	209	948	50	1.0

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	4320	3550	4650	--	4160	--	3590	3070	1020	944	2500	1790
2.....	4680	--	4700	4650	4370	4120	4000	3070	1360	1010	2630	2010
3.....	2390	3590	4710	4520	4120	4090	3830	3070	1220	1020	2540	2130
4.....	2330	4330	4320	--	4230	4080	4160	3090	1310	997	2440	2270
5.....	2500	4670	4020	4600	4520	4060	4100	3080	1420	971	2810	2090
6.....	2950	4550	--	4630	--	4140	4100	3070	1400	997	2890	2160
7.....	3140	4670	--	4550	--	--	4140	3090	1370	1180	2970	2140
8.....	3110	--	4680	4520	--	--	4060	3070	1360	1220	2610	1750
9.....	2600	--	4430	4600	4590	4060	4010	3090	1300	1150	2340	2030
10.....	2380	4590	4600	--	4290	3230	4170	3080	1360	1240	2170	1960
11.....	2460	--	4640	--	4210	3210	3350	3050	1270	1230	1920	1590
12.....	2830	4650	4540	4030	4450	3170	3290	3070	1390	1290	1620	1790
13.....	4700	4630	--	4600	4200	3290	3340	3100	1330	1770	1810	1590
14.....	4700	4630	--	4410	--	--	3340	3090	1320	1730	1610	1690
15.....	4740	--	4690	3970	--	--	3220	3060	1440	1640	1970	1500
16.....	4820	--	4690	4610	4190	3140	3270	3090	1380	1360	2240	1520
17.....	4790	4430	4690	--	4110	3740	3230	3090	1400	1170	2400	1260
18.....	4830	4480	4670	--	4090	4190	3120	3110	1510	2250	2480	1260
19.....	3980	4450	4700	4300	4260	4110	3120	3130	1420	1610	2570	1330
20.....	4130	4400	--	4250	4390	4040	3080	3140	1450	1300	2280	1430
21.....	4680	4660	--	4530	--	--	3160	3100	1440	1550	2230	1290
22.....	4810	--	4390	4330	--	--	3090	3190	1280	2050	1980	1390
23.....	4790	--	4710	4520	--	4090	3090	3180	1330	2050	1620	1430
24.....	4410	4740	4430	--	4200	4130	3090	3190	1360	2170	1560	1480
25.....	4560	4710	--	--	4320	3910	3080	3180	1270	1920	1440	1910
26.....	4140	4720	--	4530	4230	4080	3080	3180	1100	1590	1460	1960
27.....	4430	--	--	4520	4300	4040	3090	3160	964	1750	1530	1640
28.....	4830	4690	--	4550	--	--	3090	2900	961	1880	1520	1540
29.....	4820	--	4730	4610	--	3100	3090	1500	970	1950	1550	1780
30.....	3710	--	4390	--	--	3920	3080	1180	937	2040	1690	1690
31.....	3790	--	4580	--	--	4170	--	1190	--	2460	1720	--
AVERAGE	3910	--	--	--	--	--	3450	2920	1290	1530	2100	1710

07130500 Arkansas River below John Martin Reservoir, Colo.--Continued

EXTREMES, 1969-70.--Continued.

Water temperatures: Maximum, 25°C on several days during July and August; minimum, 1.5°C Nov. 28, Dec. 2, 8.

EXTREMES, 1951-70.--Dissolved solids (1951-69): Maximum, 4,530 mg/l Feb. 1-3, 1965; minimum, 296 mg/l June 18, 1965.

Hardness (1951-69): Maximum, 1,910 mg/l Aug. 8, 1955; minimum, 224 mg/l July 6, 1960, June 18, 1965.

Specific conductance: Maximum daily, 5,180 micromhos Apr. 21, 1955; minimum daily, 476 micromhos June 18, 1965.

Water temperatures: Maximum, 29°C Aug. 6, 1951; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
OCT.										
06...	5.7	0	2800	3.50	567	1220	997	3.9	2980	7.6
NOV.										
03...	3.4	0	3200	4.05	44.9	1340	1090	4.6	3400	7.8
DEC.										
02...	2.2	0	3640	4.47	256	1600	1270	5.0	3880	7.5
10...	2.4	49	3650	4.96	29.6	1520	1210	4.5	3840	7.5
JAN.										
06...	3.8	52	3530	4.80	28.6	1360	1260	4.8	3750	7.3
19...	3.0	61	3640	4.95	25.6	1580	1240	5.7	3890	7.6
FEB.										
05...	2.8	44	3810	5.18	30.9	1600	1240	5.0	3990	7.7
09...	2.4	46	3740	5.09	26.3	1600	1250	4.9	3950	7.6
MAR.										
09...	3.0	0	3680	4.52	27.8	1570	1240	5.4	3970	7.9
10...	4.0	0	2780	3.44	323	1280	1060	3.9	3060	8.0
APR.										
07...	1.9	0	3590	4.41	32.0	1540	1240	5.2	3890	7.9
13...	3.0	0	2970	3.66	249	1340	1130	4.2	3270	8.1
MAY										
11...	2.5	0	2870	3.51	876	1280	1090	4.1	3080	8.1
JUNE										
02...	9.4	0	1040	1.31	1670	516	361	2.2	1340	7.9
JULY										
14...	3.3	20	1260	1.62	2820	577	427	2.8	1580	8.2
AUG.										
19...	4.5	43	2220	3.02	1380	994	790	3.8	2530	8.0
SEPT.										
09...	4.0	36	1770	2.41	1610	759	584	3.3	2090	8.3

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.5	10.5	03.0	--	07.0	--	06.0	11.0	14.5	22.0	25.0	20.0
2	14.5	--	01.5	07.0	07.0	09.0	10.0	12.0	14.0	24.0	25.0	20.0
3	17.0	10.0	03.0	02.0	07.0	09.0	10.0	11.5	15.0	22.0	25.0	21.0
4	16.0	09.0	03.0	--	07.0	08.5	10.0	14.0	15.0	22.0	23.0	20.0
5	14.5	10.5	03.0	07.0	08.0	08.5	10.0	11.5	16.0	22.0	23.0	19.0
6	12.0	10.5	--	07.0	--	08.5	10.0	14.0	18.0	24.0	25.0	19.0
7	13.0	10.5	--	07.0	--	--	14.0	14.5	20.0	24.0	25.0	18.5
8	13.0	--	01.5	07.0	--	--	10.0	14.0	20.0	24.0	25.0	19.0
9	14.0	--	04.0	07.0	08.5	09.0	10.0	14.5	19.0	23.5	25.0	19.0
10	14.0	10.5	04.5	--	09.0	08.0	10.0	14.5	18.0	24.0	25.0	16.5
11	13.5	--	10.0	--	08.5	08.0	10.0	14.5	14.5	24.0	24.0	16.5
12	08.5	10.5	10.0	06.0	08.5	08.0	10.0	17.0	15.0	24.0	22.0	16.5
13	10.0	10.5	--	06.0	08.5	08.0	10.5	18.0	18.0	22.0	22.0	14.5
14	10.0	10.0	--	09.0	--	--	14.0	15.5	20.5	25.0	22.0	13.5
15	10.0	--	11.0	07.0	--	--	11.0	15.0	20.5	25.0	22.0	15.0
16	12.0	--	10.0	10.0	08.0	07.0	10.5	15.0	20.5	22.0	22.0	15.0
17	12.0	10.5	11.0	--	09.0	07.0	10.5	15.5	20.0	24.0	22.0	18.5
18	12.0	09.0	10.0	--	08.0	08.0	10.5	18.5	20.5	22.0	21.5	18.0
19	10.0	09.0	10.0	09.0	08.0	07.0	11.0	13.5	20.0	25.0	21.5	19.0
20	10.5	11.0	--	09.0	08.0	07.0	11.0	20.0	22.0	25.0	21.0	20.0
21	10.5	13.0	--	09.0	--	--	11.0	19.0	20.0	20.0	21.0	18.0
22	10.5	--	05.5	10.0	--	--	11.0	19.0	21.0	20.0	21.0	15.5
23	11.5	--	10.0	10.0	--	10.0	11.0	18.5	23.0	25.0	21.0	13.0
24	11.5	11.5	09.5	--	09.0	11.0	11.0	18.5	24.0	25.0	21.0	15.0
25	11.5	11.5	--	--	09.0	09.0	11.0	18.5	22.0	25.0	20.0	14.0
26	10.5	11.0	--	10.0	10.0	10.0	11.5	20.0	22.0	25.0	21.0	10.5
27	10.5	--	--	10.0	10.0	10.0	13.0	21.0	22.0	25.0	21.0	11.0
28	10.5	01.5	--	11.0	--	--	14.0	21.0	22.0	21.5	21.0	13.0
29	10.5	--	09.0	09.5	--	10.0	14.0	20.0	22.0	25.0	21.0	14.0
30	10.5	--	05.5	--	--	10.0	14.0	20.0	22.0	25.0	21.0	15.0
31	10.0	--	09.0	--	--	09.0	--	20.0	--	25.0	21.0	--
AVG	11.9	--	--	--	--	8.6	11.0	16.4	19.3	23.5	22.4	16.5

07133000 Arkansas River at Lamar, Colo.

LOCATION.--Lat 38°06'24", long 102°37'04", in SE¼ sec.30, T.22 S., R.46 W., Prowers County, at gaging station at downstream side of bridge on U.S. Highways 50 and 287, 1.4 miles north of courthouse in Lamar.

DRAINAGE AREA.--19,780 sq mi, of which 950 sq mi is probably noncontributing.

PERIOD OF RECORD.--Chemical analyses: November 1963 to September 1965, September 1969 to September 1970.

CHEMICAL ANALYSES, SEPTEMBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	PHOS-PHATE (PO4) (MG/L)	SUS-PENDED SOLIDS (MG/L)	CHEM-ICAL OXYGEN DEMAND (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
SEPT.												
16...	22	17	288	1910	103	--	.00	845	5.9	--	3440	7.8
16...	22	17	390	1910	103	--	5.5	845	5.9	--	3440	7.6
OCT.												
07...	3.8	21.5	282	2190	145	.02	.00	680	70	--	4200	7.8
NOV.												
10...	11	12.0	309	2660	152	.04	.10	35	12	--	4580	8.0
10...	11	12.0	323	2660	152	--	.10	--	--	--	4550	8.0
DEC.												
08...	13	6.5	352	2700	155	.13	.06	27	2.1	--	4590	8.0
JAN.												
14...	24	4.0	337	2720	159	.10	.22	71	14	--	4590	8.1
FEB.												
06...	15	.0	322	2610	165	.02	.02	48	33	--	4610	7.7
MAR.												
09...	12	3.5	346	2690	164	.04	.16	49	31	--	4820	7.9
APR.												
10...	156	11.0	341	2480	158	.19	.30	39	28	--	4740	8.1
MAY												
08...	440	13.5	276	1630	90	.01	4.0	1460	52	--	3150	7.9
JUNE												
02...	175	17.0	590	745	44	.01	1.8	3450	156	3	1720	7.8
JULY												
10...	5.2	26.0	329	2020	126	.01	.31	74	14	30	3970	8.0
AUG.												
18...	6.7	31.0	297	2250	142	.03	.00	40	33	10	4270	8.1
SEPT.												
09...	6.2	13.0	339	2160	136	.01	.03	81	21	50	4270	8.2

07137500 Arkansas River near Coolidge, Kans.

LOCATION.--Lat 38°01'34", long 102°00'41", in NE¼NW¼ sec.26, T.23 S., R.43 W., Hamilton County, at gaging station at bridge, 1 mile south of Coolidge and 1.9 miles downstream from Colorado-Kansas State line.

DRAINAGE AREA.--25,410 sq mi, of which 1,708 sq mi is probably noncontributing.

RECORDS AVAILABLE.--Chemical analyses: November 1963 to September 1968, October 1969 to September 1970. Water temperatures: October 1964 to September 1968 (discontinued).

CHEMICAL ANALYSES, SEPTEMBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM PLUS PO-TAS-SIUM (NA+K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	PHOS-PHATE (PO4) (MG/L)
SEPT.										
15...	176	19.0	320	153	506 a/	270	2070	124	--	.06
15...	176	19.0	421	203	506 a/	680	2070	124	--	22
OCT.										
01...	184	16.0	361	175	505 a/	260	2440	160	.06	.00
07...	139	17.0	353	175	641	266	2460	154	.01	.02
NOV.										
10...	146	8.5	373	182	--	294	2500	153	.04	3.6
DEC.										
08...	153	1.0	349	168	--	288	2310	139	.16	.38
JAN.										
19...	97	.0	361	197	720	328	2660	168	.05	.12
FEB.										
09...	122	.5	--	--	581	276	2420	155	.02	.08
MAR.										
02...	128	7.0	379	178	619	281	2370	155	.10	.22
APR.										
13...	125	9.0	--	--	538	305	2300	158	.03	.37
MAY										
11...	375	16.0	--	--	362	234	1740	106	.01	2.3
JUNE										
01...	464	13.0	--	--	242	210	1110	72	.04	1.3
JULY										
13...	385	24.5	--	--	150	190	710	44	.02	1.8
AUG.										
18...	19	26.5	345	164	435	262	1970	154	.02	.00
SEPT.										
08...	52	28.0	--	--	504	250	2140	156	.00	.16

a/ Sodium (NA) (MG/L)

07137500 Arkansas River near Coolidge, Kans.--Continued

EXTREMES, 1964-68.--Specific conductance: Maximum daily, 4,970 micromhos Dec. 17, 1964; minimum daily, 454 micromhos June 18, 1965.

Water temperatures: Maximum, 34°C July 9, 1967; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, SEPTEMBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SUS-PENDED SOLIDS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
SEPT.									
15...	--	--	--	--	1210	3280	5.8	3710	7.6
15...	--	--	--	--	1330	3280	5.1	3710	7.8
OCT.									
01...	2960	4.03	1950	1620	1410	16	3.2	4140	7.6
07...	3910	5.36	1480	1600	1380	0	7.0	4150	7.8
NOV.									
10...	3350	4.56	1320	1680	1440	72	--	4370	8.2
DEC.									
08...	3110	4.23	1290	1560	1560	116	--	3990	8.0
JAN.									
19...	4270	5.81	1120	1 10	1440	48	7.6	4550	8.1
FEB.									
09...	--	5.70	1380	1700	1470	100	6.1	4300	7.7
MAR.									
02...	3840	5.22	1330	1680	1450	60	6.0	4260	7.7
APR.									
13...	--	--	--	1700	1450	106	5.7	4390	7.9
MAY									
11...	--	--	--	1360	1170	669	4.3	3360	8.1
JUNE									
01...	--	--	--	903	731	4540	3.5	2400	7.9
JULY									
13...	--	--	--	630	474	6450	2.6	1680	7.6
AUG.									
18...	3200	4.35	164	1540	1320	65	4.8	4060	8.0
SEPT.									
08...	--	--	--	1500	1350	72	5.6	4150	8.2

PART 8. WESTERN GULF OF MEXICO BASINS

RIO GRANDE BASIN

08251500 Rio Grande near Lobatos, Colo.

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, at gaging station at highway bridge, 6 miles north of Colorado-New Mexico State line, 7 miles downstream from Culebra Creek, 10 miles east of Lobatos, and 14 miles east of Antonito.

DRAINAGE AREA.--7,700 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

PERIOD OF RECORD.--Chemical analyses: September 1969 to September 1970.

CHEMICAL ANALYSES, SEPTEMBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	AMMONIA NITRO-GEN (N) (MG/L)	PHOS-PHATE (PO4) (MG/L)	SUS-PENDED SOLIDS (MG/L)	CHEM-ICAL OXYGEN DEMAND (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
SEPT.												
10...	157	17	139	58	9.1	--	.34	59	56	--	365	7.2
10...	157	17	141	58	9.1	--	.87	59	56	--	365	7.2
OCT.												
15...	872	5.0	76	26	43	.07	.38	35	16	--	196	6.7
15...	872	5.0	76	--	--	.07	.38	35	16	--	197	6.6
NOV.												
13...	520	6.0	101	42	6.8	.12	.23	5	6.7	--	269	7.7
13...	520	6.0	100	42	6.8	--	.23	--	--	--	266	8.6
DEC.												
03...	660	.0	117	40	5.8	.17	.27	0	.0	--	281	7.9
JAN.												
07...	280	.0	128	70	7.5	.12	.33	7	2.0	--	338	7.4
07...	280	.0	137	70	7.5	.12	.33	7	2.0	--	342	6.7
FEB.												
04...	340	.0	105	39	5.7	.02	.21	5	25	5	268	7.5
MAR.												
04...	508	5.0	103	60	7.5	.00	.51	13	14	3	280	6.6
APR.												
08...	496	11.0	124	76	10	.04	.54	50	12	4	382	8.2
MAY												
06...	496	13.5	120	76	10	.01	.63	35	14	10	381	7.3
JUNE												
10...	490	14.0	193	233	24	.01	.43	19	31	36	828	8.1
JULY												
08...	258	18.5	155	131	15	.01	.40	27	9.7	25	540	7.8
AUG.												
12...	85	19.0	199	99	16	.03	.00	44	20	35	566	8.2
SEPT.												
15...	800	14.0	71	31	6.2	.00	.20	315	12	35	160	7.6

PART 9. COLORADO RIVER BASIN

COLORADO RIVER MAIN STEM

09019000 Colorado River below Lake Granby, Colo.

LOCATION.--Lat 40°08'39", long 105°52'00", in SE¼SE¼ sec.11, T.2 N., R.76 W., Grand County, at gaging station 0.3 mile downstream from Granby Dam, 1 mile upstream from Walden Hollow, and 5 miles northeast of Granby.

CHEMICAL ANALYSES, JULY 1969 TO AUGUST 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
JULY									
09...	81	8.0	7.3	1.9	2.7	.9	32	3.8	.9
AUG.									
20...	31	9.0	8.0	1.7	2.7	1.0	32	3.6	1.3
20...	31	9.0	7.6	1.7	2.7	1.0	32	3.6	1.3
SEPT.									
17...	33	9.0	8.0	1.4	2.5	.9	33	3.8	1.3
17...	33	9.0	7.8	1.6	2.5	.9	32	3.8	1.3
OCT.									
21...	15	8.0	6.7	1.6	2.4	.7	32	1.4	1.2
NOV.									
21...	18	5.0	6.4	2.4	2.4	.8	32	2.0	1.7
DEC.									
30...	20	3.0	6.4	2.4	2.3	.7	35	3.5	1.6
JAN.									
23...	20	3.5	7.6	1.1	2.4	.9	33	3.8	1.7
FEB.									
18...	19	2.0	8.8	1.7	2.5	1.0	33	4.8	2.6
MAR.									
17...	18	4.0	8.0	1.9	2.5	1.1	32	6.5	1.7
APR.									
22...	18	3.0	8.4	1.0	2.2	.9	30	3.2	1.4
MAY									
21...	59	4.0	8.3	1.9	2.3	1.0	33	6.5	1.4
JUNE									
17...	81	8.0	7.4	.9	2.6	.9	26	4.0	1.3
JULY									
21...	89	7.0	6.4	2.9	2.5	1.0	35	3.0	1.6
AUG.									
25...	29	8.0	7.5	1.1	2.3	1.0	31	2.2	1.7

COLORADO RIVER MAIN STEM

09019000 Colorado River below Lake Granby, Colo.--Continued

DRAINAGE AREA.--312 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to August 1970.

CHEMICAL ANALYSES, JULY 1969 TO AUGUST 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
JULY								
09...	50	.07	10.9	26	1	.2	58	6.8
AUG.								
20...	49	.07	4.10	27	1	.2	58	6.2
20...	49	.07	4.10	26	0	.2	58	6.3
SEPT.								
17...	50	.07	4.45	26	0	.2	58	6.3
17...	50	.07	4.45	26	0	.2	58	6.7
OCT.								
21...	40	.05	1.62	23	0	.2	55	6.8
NOV.								
21...	41	.06	1.99	26	0	.2	57	7.5
DEC.								
30...	42	.06	2.27	26	0	.2	56	7.7
JAN.								
23...	30	.04	1.62	24	0	.2	56	7.6
FEB.								
18...	44	.06	2.26	29	2	.2	56	7.0
MAR.								
17...	46	.06	2.24	28	2	.2	56	7.2
APR.								
22...	44	.06	2.14	25	0	.2	56	6.4
MAY								
21...	41	.06	6.53	30	3	.2	59	7.2
JUNE								
17...	44	.06	9.62	22	1	.2	55	7.5
JULY								
21...	40	.05	9.61	28	0	.2	54	7.6
AUG.								
25...	40	.05	3.13	23	0	.2	61	7.8

09034500 Colorado River at Hot Sulphur Springs, Colo.

LOCATION.--Lat 40°04'27", long 106°06'24", Grand County, at bridge at Hot Sulphur Springs, 1 mile downstream from gaging station and 3.5 miles upstream from Beaver Creek.

DRAINAGE AREA.--825 sq mi (at gaging station).

PERIOD OF RECORD.--Chemical analyses: April 1947 to September 1970.

Water temperatures: April 1949 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 191 micromhos Apr. 20; minimum daily, 67 micromhos May 31.

Water temperatures: Maximum, 19°C Aug. 25; minimum, freezing point on many days during December to April.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
21...	107	2.0	12	19	3.8	6.7	1.4	89	4.2	2.0	.3
NOV.											
21...	77	2.0	14	19	3.4	34	2.6	141	11	11	1.0
DEC.											
30...	76	.0	13	15	4.7	6.7	1.4	78	6.0	1.9	.3
JAN.											
23...	70	.0	12	15	4.4	6.7	1.3	76	4.8	1.3	.2
FEB.											
18...	70	.0	12	17	2.9	7.0	1.9	78	5.0	2.2	.2
MAR.											
17...	74	1.0	12	19	3.4	7.8	4.3	81	10	2.4	.2
APR.											
22...	127	3.0	11	20	2.9	6.5	2.9	89	5.5	3.1	.2
MAY											
21...	2120	10.0	11	11	.7	5.0	1.7	38	7.5	3.8	.3
JUNE											
18...	580	15.0	11	17	2.2	4.7	1.7	70	5.2	1.6	.2
JULY											
21...	247	16.0	13	21	3.2	5.9	1.2	86	5.0	1.7	.3
AUG.											
25...	88	13.0	15	16	4.6	6.6	1.6	84	2.8	1.1	.3
SEPT.											
17...	65	13.5	13	19	3.1	7.2	1.6	89	6.2	2.0	.1

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	142	86	145	132	147	155	147	132	72	102	152	161
2.....	153	--	150	136	144	142	140	103	70	102	151	145
3.....	139	123	150	144	144	140	144	131	74	101	151	162
4.....	141	144	149	147	143	143	168	145	74	145	139	164
5.....	147	158	154	142	151	143	152	112	73	147	151	161
6.....	149	165	154	142	142	143	133	114	80	149	151	118
7.....	148	161	159	141	147	144	--	114	80	118	152	--
8.....	143	145	154	137	148	144	148	111	92	130	--	159
9.....	151	145	173	150	147	166	161	106	92	103	--	159
10.....	152	145	173	148	147	150	157	111	92	120	147	159
11.....	149	156	178	143	142	152	158	108	107	--	146	156
12.....	151	146	172	141	144	150	158	107	108	144	140	148
13.....	151	147	160	141	146	143	175	71	110	144	140	150
14.....	150	146	174	143	139	143	174	98	105	135	139	154
15.....	150	--	159	143	140	144	179	99	105	82	143	154
16.....	145	150	159	143	139	144	169	85	94	121	142	153
17.....	144	149	157	144	139	149	168	86	106	140	143	154
18.....	149	--	156	151	144	149	172	80	106	142	140	147
19.....	152	--	158	141	145	148	171	82	80	142	144	146
20.....	150	--	157	140	144	147	191	79	79	143	144	151
21.....	152	--	159	140	144	148	190	77	81	146	142	153
22.....	151	149	153	139	146	143	150	72	81	131	146	125
23.....	149	178	154	138	--	142	138	69	74	146	143	117
24.....	147	157	164	141	145	143	162	70	90	138	141	116
25.....	147	153	159	145	146	146	120	69	90	138	143	116
26.....	145	152	--	144	145	--	119	69	74	138	141	117
27.....	--	152	158	143	145	--	119	73	75	82	141	128
28.....	110	149	157	150	150	146	125	--	71	133	140	130
29.....	115	149	151	148	--	146	121	69	80	136	142	117
30.....	137	150	151	150	--	146	125	71	80	136	158	119
31.....	121	--	150	148	--	160	--	67	--	134	146	--
AVERAGE	144	148	158	143	144	146	152	92	86	128	144	142

50%

09034500 Colorado River at Hot Sulphur Springs, Colo.--Continued

EXTREMES, 1947-70.--Dissolved solids (1947-50, 1952-69): Maximum, 167 mg/l Jan. 25-28, 1967; minimum, 38 mg/l June 21-30, 1947.

Hardness (1947-50, 1952-69): Maximum, 98 mg/l Feb. 12-16, 1967; minimum, 20 mg/l June 21-30, 1947.

Specific conductance: Maximum daily, 263 micromhos Mar. 5, 1967; minimum daily, 48 micromhos June 27, 1947.

Water temperatures (1949-70): Maximum, 24°C Aug. 8, 1957, July 6, 11, 14, 21, 1966; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
21...	.1	.07	0	97	.13	28.0	64	0	.4	150	7.6
NOV.											
21...	.1	.07	0	172	.23	35.8	63	0	1.9	279	7.8
DEC.											
30...	.3	.03	0	96	.13	19.7	58	0	.4	141	6.8
JAN.											
23...	.9	.08	0	86	.12	16.3	56	0	.4	132	7.3
FEB.											
18...	1.8	.03	0	98	.13	18.5	55	0	.4	139	7.1
MAR.											
17...	5.4	.18	0	106	.14	21.2	60	0	.4	157	8.0
APR.											
22...	.2	.07	0	107	.15	36.7	62	0	.4	157	6.7
MAY											
21...	1.0	.06	0	68	.09	389	32	1	.4	70	6.8
JUNE											
18...	.2	.04	0	89	.12	139	52	0	.3	119	7.7
JULY											
21...	.2	.03	30	99	.13	66.0	66	0	.3	140	7.6
AUG.											
25...	.3	.05	0	97	.13	23.0	59	0	.4	144	7.9
SEPT.											
17...	.2	1.0	20	108	.15	19.0	60	0	.4	156	7.7

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.5	05.0	00.0	00.5	00.5	00.5	02.0	03.0	08.0	16.0	18.0	15.0
2	14.5	--	00.0	00.5	00.0	00.0	01.0	03.0	10.0	17.0	18.0	16.0
3	04.5	05.5	00.5	00.5	00.0	00.0	01.0	03.0	10.0	16.0	18.0	15.0
4	04.5	05.5	00.5	00.5	00.0	00.0	01.0	02.0	10.0	16.0	18.0	15.0
5	05.0	04.5	00.5	00.5	00.0	00.0	02.0	02.0	10.0	16.0	17.0	15.0
6	05.0	05.0	00.5	00.5	00.5	00.5	03.0	02.0	10.0	15.0	17.0	15.0
7	05.5	03.5	00.0	00.5	00.0	00.0	--	00.0	10.0	13.0	18.0	--
8	04.5	05.0	00.5	01.0	00.5	00.0	02.0	02.0	10.0	15.0	--	15.0
9	05.5	04.5	00.0	00.5	00.5	00.5	01.0	02.0	10.0	15.0	--	16.0
10	04.5	05.0	00.5	00.5	00.0	00.0	01.0	02.0	10.0	16.0	18.0	16.0
11	05.5	05.0	00.0	00.5	00.0	00.0	02.0	02.0	10.0	--	17.0	15.0
12	05.0	04.5	00.5	00.0	00.0	00.0	02.0	03.0	11.0	17.0	16.0	12.0
13	08.5	04.5	00.5	00.5	00.5	00.0	01.0	04.0	12.0	18.0	16.0	13.0
14	07.0	03.5	00.5	00.5	00.5	00.0	00.0	04.0	11.0	17.0	16.0	14.0
15	08.0	--	00.5	00.5	--	00.5	02.0	04.0	11.0	18.0	16.0	13.0
16	08.5	04.5	00.5	00.5	00.5	00.5	02.0	05.0	11.0	17.0	17.0	14.0
17	07.0	03.5	00.5	00.5	00.0	00.0	03.0	07.0	15.0	18.0	15.0	12.0
18	08.0	--	00.5	00.5	00.5	00.0	01.0	07.0	15.0	17.0	18.0	16.0
19	09.0	--	00.0	00.5	00.0	00.0	01.0	08.0	15.0	17.0	17.0	17.0
20	07.0	--	00.5	00.5	00.5	00.0	00.0	10.0	14.0	16.0	18.0	17.0
21	07.0	--	00.0	00.5	00.5	00.0	00.0	10.0	12.0	16.0	17.0	11.0
22	07.0	03.5	00.0	00.5	00.5	00.0	02.0	08.0	12.0	16.0	16.0	11.0
23	05.5	05.5	00.0	00.5	--	00.5	02.0	09.0	12.0	17.0	15.0	13.0
24	05.5	05.0	00.0	01.5	00.0	00.0	00.0	09.0	13.0	16.0	15.0	13.0
25	05.5	05.0	00.0	00.5	00.0	00.0	02.0	09.0	15.0	16.0	19.0	13.0
26	06.0	03.5	--	00.5	00.5	--	02.0	09.0	14.0	16.0	16.0	13.0
27	--	03.5	00.0	00.5	00.5	--	01.0	09.0	15.0	18.0	16.0	13.0
28	05.5	01.5	00.0	00.0	00.5	00.0	04.0	--	15.0	17.0	17.0	13.0
29	05.5	01.5	00.0	00.0	--	00.0	02.0	09.0	14.0	16.0	16.0	13.0
30	06.0	01.5	00.0	00.5	--	00.0	01.0	08.0	13.0	16.0	16.0	13.0
31	05.0	--	00.5	00.0	--	00.0	--	08.0	--	17.0	15.0	--
AVG	6.7	4.1	0.2	0.4	0.2	0.1	1.5	5.4	11.9	16.3	16.7	14.0

09069000 Eagle River at Gypsum, Colo.

LOCATION.--Lat 39°39'00", long 106°57'06", Eagle County, at bridge at Gypsum, about 400 ft upstream from Gypsum Creek, about 520 ft upstream from bridge on U.S. Highways 6 and 24, and about 550 ft upstream from gaging station.

DRAINAGE AREA.--844 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1947 to September 1970.

Water temperatures: April 1949 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 1,210 micromhos Dec. 30; minimum daily, 171 micromhos May 28.

Water temperatures: Maximum, 16°C July 20, Aug. 3, 20; minimum, freezing point on many days during November to February.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
27...	340	8.0	7.7	99	23	41	2.4	167	200	58	.2
NOV.											
20...	201	.5	9.0	125	28	68	2.9	194	255	110	.2
DEC.											
22...	208	2.0	8.4	106	24	58	2.7	167	243	84	.0
JAN.											
26...	208	1.0	8.4	118	28	54	3.4	147	245	108	.2
FEB.											
25...	170	2.0	8.3	111	27	46	4.2	166	248	63	.3
MAR.											
24...	170	1.5	7.5	112	27	58	2.9	177	279	77	.2
APR.											
22...	233	8.5	16	85	23	49	2.5	152	200	64	.2
MAY											
21...	3510	7.0	5.8	26	6.3	3.8	1.4	76	26	3.1	.4
JUNE											
22...	2880	11.0	4.9	29	6.0	4.9	1.0	74	38	5.9	.2
JULY											
28...	464	14.0	7.6	106	17	23	2.4	151	213	32	.4
AUG.											
26...	280	16.0	9.1	105	16	27	2.3	180	180	37	.5
SEPT.											
23...	464	8.0	36	95	24	23	2.4	165	192	29	.2

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	837	803	912	945	958	915	984	--	215	199	631	743
2.....	852	787	914	983	919	866	946	573	230	258	609	694
3.....	838	839	937	1020	922	895	952	529	219	270	662	673
4.....	867	883	911	1000	883	934	934	485	196	276	654	734
5.....	806	794	859	1000	946	967	943	412	196	268	610	763
6.....	857	794	871	977	946	920	938	351	189	303	597	759
7.....	821	798	983	936	919	961	877	329	196	316	617	486
8.....	775	801	1050	970	925	918	819	328	220	312	605	609
9.....	810	825	1000	986	1030	915	802	319	188	324	542	646
10.....	823	857	1030	901	1020	931	781	337	239	296	610	693
11.....	812	820	990	933	990	942	740	318	197	299	654	725
12.....	830	857	903	912	939	953	722	290	261	330	544	744
13.....	832	647	964	921	937	931	810	262	269	363	682	765
14.....	816	831	914	954	931	934	781	250	262	334	711	390
15.....	771	853	1020	970	946	897	817	261	261	380	724	476
16.....	784	867	1020	945	974	934	812	268	254	389	719	530
17.....	842	819	1000	945	942	926	821	248	242	408	735	602
18.....	785	871	1000	930	987	950	719	197	225	425	782	620
19.....	679	1040	1000	915	983	976	719	240	203	440	773	643
20.....	771	901	961	921	1050	1070	741	200	196	447	758	661
21.....	822	833	940	915	1080	953	815	199	195	476	672	689
22.....	788	1050	--	895	1000	926	771	182	197	497	600	697
23.....	794	856	937	866	908	950	819	186	199	507	525	645
24.....	785	907	928	921	891	961	773	183	203	479	647	659
25.....	534	939	911	901	899	878	783	179	193	515	686	640
26.....	820	950	919	918	897	928	751	192	210	438	721	638
27.....	767	1010	911	954	967	979	666	175	230	553	750	644
28.....	812	1090	943	927	939	947	492	171	201	545	765	619
29.....	774	973	1100	896	--	961	475	184	206	576	741	611
30.....	774	1040	1210	1160	--	926	514	192	245	595	788	622
31.....	786	--	1090	1150	--	934	--	192	--	615	796	--
AVERAGE	795	877	970	953	954	938	783	274	217	401	674	647

09069000 Eagle River at Gypsum, Colo.--Continued

EXTREMES, 1947-70.--Dissolved solids (1947-69): Maximum, 1,370 mg/l Aug. 11, 12, 1952; minimum, 100 mg/l June 13-25, 1968.

Hardness (1947-50, 1957-69): Maximum, 600 mg/l Dec. 7-9, 1964; minimum, 70 mg/l June 23, 1957.

Specific conductance: Maximum daily, 1,850 micromhos Aug. 6, 1949; minimum daily, 155 micromhos May 23, 1958.

Water temperatures (1949-70): Maximum, 24°C Aug. 24, 1949; minimum, freezing point on many days during winter months.

REMARKS.--Records of discharge are given for Eagle River below Gypsum, Colo.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
27...	.8	.00	0	547	.74	502	344	207	1.0	813	7.6
NOV.											
20...	.1	.00	0	738	1.00	401	428	269	.1	1100	7.7
DEC.											
22...	1.1	.00	0	631	.86	354	364	227	1.3	943	7.9
JAN.											
26...	18	.08	0	756	1.03	425	410	289	1.2	1110	7.6
FEB.											
25...	3.3	.08	0	636	.86	292	388	252	1.0	916	7.7
MAR.											
24...	2.6	.00	0	669	.91	307	398	253	1.3	984	8.0
APR.											
22...	1.0	.13	0	518	.70	326	299	174	1.2	773	7.9
MAY											
21...	9.0	.00	0	123	.17	1170	90	28	.2	190	7.4
JUNE											
22...	.3	.01	50	137	.19	1070	96	35	.2	215	7.8
JULY											
28...	.6	.00	50	518	.70	649	332	203	.6	725	8.4
AUG.											
26...	.5	.01	0	528	.72	399	328	180	.6	767	8.1
SEPT.											
23...	1.1	.00	3	512	.70	641	334	199	.5	712	8.1

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	05.5	01.0	00.0	00.0	01.0	04.5	06.5	04.5	11.0	14.0	12.0
2	13.0	04.5	00.0	00.0	00.0	05.5	05.0	06.5	05.0	10.0	14.0	11.5
3	11.0	03.0	00.0	00.0	00.0	02.0	05.5	06.5	06.5	11.0	16.0	14.0
4	11.5	04.0	00.0	00.0	01.0	05.0	04.5	07.0	07.0	12.0	15.0	11.5
5	11.0	05.5	00.0	00.0	02.0	03.5	06.0	05.0	08.0	12.0	15.5	09.5
6	07.0	05.5	00.0	00.0	01.5	06.5	08.5	05.5	08.5	13.0	15.0	11.0
7	07.0	04.5	00.0	00.0	02.0	06.0	10.0	06.0	09.0	14.0	15.0	10.0
8	07.0	04.5	00.0	00.0	02.0	05.5	10.5	04.0	08.5	11.5	14.5	10.0
9	09.5	04.0	00.0	00.0	03.0	05.0	07.0	03.5	09.0	14.0	14.5	12.0
10	08.5	05.5	00.0	00.0	01.5	05.5	10.5	04.5	08.5	13.0	13.5	10.0
11	06.0	05.5	00.0	00.0	03.0	05.0	09.0	06.0	07.0	13.0	13.5	13.0
12	06.5	05.5	01.0	00.0	03.5	06.0	10.0	07.0	10.5	11.5	13.0	11.5
13	06.0	05.5	01.0	00.0	03.0	01.5	07.0	05.0	08.5	12.0	11.5	11.5
14	06.0	04.5	00.5	00.0	03.5	03.0	05.5	04.5	09.5	11.5	13.5	13.5
15	05.5	04.5	00.0	00.0	04.0	05.0	08.0	03.0	08.5	13.0	13.0	12.0
16	06.5	04.5	00.0	00.0	01.0	03.0	09.0	05.5	08.5	14.5	14.0	09.0
17	06.5	03.0	00.0	00.5	02.0	02.0	08.5	06.0	14.0	13.0	12.0	13.5
18	06.0	00.0	00.5	00.0	01.0	04.0	06.0	05.0	13.0	12.0	13.0	14.0
19	06.0	00.0	01.0	00.0	01.5	03.0	05.0	05.5	08.5	15.0	15.5	10.0
20	08.0	00.0	01.0	00.0	01.5	03.5	07.0	05.5	09.5	16.0	16.0	10.5
21	06.5	00.5	00.5	00.5	04.0	01.5	08.0	06.0	10.5	12.0	15.5	10.0
22	05.5	00.0	--	01.0	01.0	01.5	08.0	06.5	11.5	14.5	15.0	08.5
23	08.5	00.0	01.5	00.0	04.0	04.0	07.0	06.5	10.0	13.5	15.5	08.5
24	06.0	00.0	00.5	00.0	04.5	08.0	08.0	08.0	11.0	13.0	13.0	09.0
25	06.5	00.5	01.0	01.0	01.5	04.0	07.0	05.5	10.5	14.0	13.0	06.0
26	06.0	00.0	00.0	01.5	01.0	04.0	08.0	06.0	09.0	14.5	13.0	06.0
27	06.5	00.0	00.0	01.5	03.0	04.5	07.0	06.5	09.5	13.5	12.0	07.0
28	06.0	00.0	00.0	00.0	01.5	05.0	07.0	07.0	09.5	12.0	14.0	06.5
29	06.5	00.0	00.0	01.0	--	05.5	04.5	06.5	11.0	13.0	11.5	10.0
30	04.5	00.0	00.0	00.0	--	04.5	06.0	05.5	09.5	13.0	12.0	07.0
31	04.5	--	00.0	00.0	--	04.0	--	08.5	--	13.5	13.0	--
AVG	7.3	2.6	0.3	0.2	2.0	4.1	7.2	5.8	9.1	12.8	13.8	10.2

09071100 Colorado River near Glenwood Springs, Colo.
(Irrigation network station)

LOCATION.--Lat 39°34'12", long 107°13'34", Garfield County, at Shoshone powerplant, 6 miles upstream from Glenwood Springs and 6.5 miles upstream from Roaring Fork River.

DRAINAGE AREA.--4,560 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1941 to September 1970.

Water temperatures: May 1949 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 819 micromhos Dec. 31; minimum daily, 196 micromhos May 25.

Water temperatures: Maximum, 20°C Aug. 6-8; minimum, freezing point on many days during November to February.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
28...	1680	6.5	8.4	53	17	44	2.3	137	88	60	.4
NOV.											
21...	1250	.0	8.8	61	19	64	2.6	152	98	95	.4
DEC.											
23...	1280	2.0	8.7	48	11	57	2.4	120	71	79	.2
JAN.											
27...	1280	1.0	9.6	50	11	57	2.6	124	77	81	.3
FEB.											
25...	1290	4.0	8.8	50	11	51	2.5	119	76	75	.4
MAR.											
24...	1140	5.0	6.5	49	11	59	.2	128	94	79	.4
APR.											
22...	1430	4.0	14	46	12	59	3.3	131	84	45	.3
MAY											
21...	13500	10.0	9.5	30	5.6	8.0	1.9	95	24	7.1	.3
JUNE											
22...	7570	13.0	7.0	34	5.5	13	2.0	104	38	15	.3
JULY											
28...	2140	16.5	9.1	51	9.2	36	2.1	121	74	47	.5
AUG.											
26...	1630	17.5	12	51	13	48	2.2	126	85	66	.6
SEPT.											
23...	1750	11.5	11	58	12	46	2.5	137	90	70	.3

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	679	575	632	740	706	610	617	426	220	273	518	580
2.....	682	636	643	671	700	607	621	412	240	288	540	591
3.....	677	645	645	715	642	603	620	483	233	302	540	580
4.....	700	647	640	716	639	593	611	393	233	313	545	594
5.....	658	643	645	737	662	600	625	355	225	323	527	608
6.....	659	635	690	703	650	598	619	343	222	327	509	587
7.....	658	634	643	775	649	617	602	299	231	357	580	517
8.....	673	637	710	778	647	627	558	311	230	381	548	547
9.....	672	661	692	759	678	639	566	308	231	393	553	574
10.....	667	635	690	739	689	607	530	307	249	400	536	591
11.....	626	649	659	631	650	595	489	293	268	417	541	609
12.....	656	622	638	611	622	605	512	293	275	447	542	628
13.....	652	626	596	611	586	630	516	275	286	450	542	638
14.....	658	625	617	626	605	621	538	253	282	475	542	505
15.....	637	618	617	634	600	--	527	247	279	484	546	514
16.....	635	644	642	629	598	598	555	251	277	483	553	573
17.....	667	611	635	622	608	601	551	236	271	489	542	611
18.....	715	611	635	631	620	580	529	239	259	501	553	626
19.....	652	677	638	623	644	618	493	225	255	505	553	634
20.....	658	691	600	620	662	624	523	219	245	517	553	645
21.....	685	662	589	--	650	644	553	213	240	532	556	651
22.....	681	--	581	608	630	624	573	210	241	546	536	606
23.....	664	630	604	607	594	609	591	198	245	544	--	600
24.....	--	646	584	607	600	607	608	199	245	529	527	374
25.....	656	670	617	604	598	620	--	196	237	544	539	571
26.....	671	686	617	636	599	582	566	198	237	544	580	571
27.....	672	585	638	629	599	605	459	198	247	--	589	571
28.....	662	652	641	628	--	623	382	198	256	503	584	577
29.....	644	--	--	707	--	621	357	203	252	499	593	565
30.....	643	615	700	733	--	621	392	208	267	506	583	568
31.....	646	--	819	706	--	602	--	212	--	518	609	--
AVERAGE	663	638	643	667	634	611	540	271	249	446	551	580

09071100 Colorado River near Glenwood Springs, Colo.--Continued

EXTREMES, 1941-70.--Dissolved solids (1941-69): Maximum, 2,030 mg/l Aug. 10, 1947; minimum, 105 mg/l June 1-10, 1942.

Hardness (1941-69): Maximum, 1,480 mg/l Aug. 10, 1947; minimum, 72 mg/l June 1-20, 1942.

Specific conductance: Maximum daily, 2,260 micromhos Aug. 10, 1947; minimum daily, 153 micromhos May 24, 1948.

Water temperatures (1949-70): Maximum, 22°C July 31, 1954, Aug. 19, 1955; minimum, freezing point on many days during winter months.

REMARKS.--Discharges obtained by subtracting the daily mean flow in Roaring Fork River at Glenwood Springs from the daily mean flow in Colorado River below Glenwood Springs.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
28...	.2	.00	0	357	.49	1620	200	88	1.4	576	7.4
NOV.											
21...	2.5	.01	0	432	.59	1460	232	107	1.8	718	7.5
DEC.											
23...	2.2	.02	0	364	.50	1260	164	66	1.9	598	7.6
JAN.											
27...	.8	.03	0	371	.50	1280	170	68	1.9	618	7.4
FEB.											
25...	.6	.03	0	357	.49	1240	168	70	1.7	599	7.7
MAR.											
24...	.2	.01	0	589	.80	1810	172	65	1.8	612	7.9
APR.											
22...	1.5	.04	0	370	.50	1430	164	57	2.0	588	7.6
MAY											
21...	1.2	.01	0	141	.19	5140	99	21	.4	218	7.4
JUNE											
22...	1.3	.25	80	162	.22	3310	108	23	.5	267	7.9
JULY											
28...	.1	.00	5	307	.42	1770	164	62	1.2	497	8.5
AUG.											
26...	.4	.03	0	364	.50	1600	180	77	1.6	590	8.0
SEPT.											
23...	--	.00	40	371	.50	1750	194	82	1.4	612	8.3

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.5	03.5	00.5	00.0	00.0	03.5	03.5	06.5	09.5	14.0	19.5	17.0
2	10.5	03.5	00.5	00.0	00.5	03.5	04.0	06.0	09.5	14.5	19.0	17.0
3	08.5	03.0	00.5	00.0	00.5	03.5	05.0	10.0	10.5	15.0	19.0	16.0
4	09.0	03.0	00.5	00.0	00.5	03.5	06.5	10.0	11.5	15.0	19.5	14.5
5	07.0	03.5	00.5	00.0	00.5	03.5	06.0	10.5	11.0	15.5	19.5	14.0
6	08.5	03.5	00.0	00.0	00.5	03.5	06.5	11.0	11.0	14.5	20.0	14.0
7	08.5	04.0	00.5	00.0	00.0	03.5	08.0	09.0	13.5	15.0	20.0	13.0
8	09.0	03.5	00.0	00.0	00.5	05.5	08.5	09.5	11.0	16.0	20.0	14.5
9	09.5	03.5	00.5	00.0	01.0	04.5	08.0	10.0	10.0	17.0	18.5	15.5
10	09.5	04.0	00.5	00.0	01.5	04.0	08.0	07.0	09.5	17.0	19.0	15.0
11	06.0	04.5	00.5	00.0	01.5	04.0	06.5	10.5	09.5	17.0	19.0	14.5
12	05.0	04.5	00.5	00.0	01.0	03.5	05.0	10.5	10.0	18.0	19.5	14.0
13	05.5	04.0	00.5	00.0	01.0	03.5	04.0	10.5	10.5	17.0	19.5	14.5
14	06.0	04.0	00.0	00.0	00.0	04.5	06.0	10.5	11.5	17.0	18.5	13.5
15	05.5	03.0	00.5	00.0	00.5	--	05.0	08.0	12.0	18.0	15.5	13.0
16	04.5	04.5	00.5	00.0	01.0	05.0	05.0	07.0	12.0	18.0	15.5	13.5
17	06.0	03.0	03.0	00.5	01.0	03.5	06.0	09.0	12.0	18.5	16.5	13.0
18	06.0	00.5	01.0	00.0	01.0	03.0	06.5	09.0	12.0	18.5	17.0	13.5
19	06.0	00.5	00.5	00.0	00.5	01.5	04.5	09.0	13.0	17.0	17.0	14.5
20	06.0	00.5	00.0	00.0	00.0	02.0	04.0	09.0	14.0	17.0	18.0	15.0
21	05.5	00.5	00.5	--	00.5	02.0	04.5	09.0	14.5	18.0	16.5	13.0
22	04.0	--	00.0	00.5	01.5	04.0	04.5	09.5	14.0	18.5	16.5	13.5
23	06.0	01.0	00.0	00.5	01.0	04.5	05.0	09.0	13.0	18.5	--	11.5
24	--	00.5	00.5	00.5	01.5	05.0	06.0	10.0	13.5	18.5	18.0	11.5
25	06.5	00.5	00.0	00.0	02.0	06.0	--	09.0	14.5	19.0	18.0	10.5
26	06.0	00.5	00.0	00.5	02.0	03.5	09.5	09.5	14.5	18.5	18.0	10.0
27	07.0	00.5	00.0	00.5	02.0	03.0	09.0	10.0	15.0	--	17.0	10.5
28	06.0	00.5	00.0	00.5	--	03.5	09.0	10.0	15.5	19.5	17.0	10.5
29	04.0	--	--	00.5	--	04.5	08.5	09.5	15.5	18.5	17.0	11.0
30	04.0	00.0	00.0	00.5	--	04.5	06.0	10.0	14.5	19.0	17.0	12.0
31	03.5	--	00.0	00.0	--	04.0	--	10.0	--	19.5	18.0	--
AVG	6.6	2.4	0.4	0.1	0.8	3.7	6.1	9.2	12.2	17.2	18.1	13.4

09085000 Roaring Fork River at Glenwood Springs, Colo.

LOCATION.--Lat 39°32'37", long 107°19'44", in SW¼SE¼ sec.9, T.6 S., R.89 W., Garfield County, at gaging station at Glenwood Springs, 2,100 ft upstream from mouth.

DRAINAGE AREA.--1,451 sq mi.

PERIOD OF RECORD.--Chemical analyses: November 1958 to August 1961, May 1962 to September 1967, August 1969 to August 1970.

Water temperatures: May 1962 to September 1967.

CHEMICAL ANALYSES, AUGUST 1969 TO AUGUST 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG. 26...	656	18.0	88	17	31	2.1	200	134	40
SEPT. 25...	752	16.0	83	18	30	1.8	169	136	43
OCT. 28...	815	6.0	81	13	24	1.3	158	130	31
NOV. 21...	593	1.0	77	18	31	1.6	169	132	39
DEC. 23...	521	2.0	75	20	23	1.8	164	131	34
JAN. 27...	406	3.0	87	15	28	1.9	181	152	34
FEB. 24...	382	6.0	76	15	29	1.7	135	152	32
APR. 22...	716	5.0	84	11	16	1.6	143	151	17
MAY 21...	4840	11.0	38	4.9	4.8	1.2	8	46	4.2
JUNE 23...	5300	14.5	32	4.6	5.3	.9	85	35	6.7
JULY 28...	1390	14.5	73	3.9	18	1.5	133	92	24
AUG. 26...	752	14.5	80	17	32	2.0	150	127	43

09085000 Roaring Fork River at Glenwood Springs, Colo.--Continued

EXTREMES, 1962-67.--Dissolved solids: Maximum, 509 mg/l Sept. 1-30, 1966; minimum, 124 mg/l July 1-13, 1965.

Hardness: Maximum, 320 mg/l Oct. 1-13, 1963; minimum, 93 mg/l July 1-13, 1965.

Specific conductance: Maximum daily, 870 micromhos Oct. 1, 1966; minimum daily, 189 micromhos May 26, 1964.

Water temperatures: Maximum, 22.0°C July 30, 1966; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, AUGUST 1969 TO AUGUST 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
AUG. 26...	436	.59	772	287	123	.8	675	7.2
SEPT. 25...	435	.59	883	284	145	.8	654	7.2
OCT. 28...	383	.52	843	254	124	.7	587	7.7
NOV. 21...	415	.56	664	266	127	.8	634	7.5
DEC. 23...	422	.57	594	272	138	.6	621	7.6
JAN. 27...	427	.58	468	280	132	.7	653	7.9
FEB. 24...	391	.53	403	250	139	.8	602	8.0
APR. 22...	379	.52	733	254	136	.4	556	8.1
MAY 21...	159	.22	2080	116	45	.2	252	7.7
JUNE 23...	142	.19	2030	98	29	.2	220	7.9
JULY 28...	319	.43	1200	198	80	.6	467	8.7
AUG. 26...	431	.59	875	270	147	.8	648	8.2

09095500 Colorado River near Cameo, Colo.

LOCATION.--Lat 39°11'20", long 108°16'56", Mesa County, at Grand Valley project diversion dam, 3.7 miles upstream from Cameo, 0.4 mile upstream from Plateau Creek, and 5.9 miles downstream from gaging station.

DRAINAGE AREA.--8,050 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: October 1933 to September 1970.

Water temperatures: April 1949 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 1,380 micromhos Dec. 24; minimum daily, 272 micromhos May 25.

Water temperatures: Maximum, 21.5°C Aug. 4-6; minimum, freezing point on many days during December to January.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
22...	2840	7.0	3.9	75	19	86	3.2	172	153	110	.4
NOV.											
26...	2010	3.0	8.0	71	20	120	3.6	178	148	156	.4
DEC.											
23...	1600	3.0	6.9	66	18	119	3.8	162	132	158	.4
JAN.											
14...	1750	.5	9.0	68	19	128	4.6	172	134	162	.4
FEB.											
11...	1650	3.0	7.0	72	19	145	5.3	168	158	205	.4
MAY											
01...	3900	7.0	9.7	54	11	63	3.2	136	96	78	.3
JUNE											
26...	14100	15.5	6.6	32	6.6	21	1.4	97	38	25	.3
JULY											
29...	3660	19.0	8.3	61	14	73	3.1	143	112	96	.4
AUG.											
31...	2100	23.0	10	65	17	112	5.7	167	160	140	.5
SEPT.											
25...	2560	10.5	12	71	17	103	3.7	167	147	134	.4

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1050	1050	1060	1360	1160	1060	1020	571	298	336	833	1030
2.....	1060	1050	1070	1360	1180	1040	1020	623	317	435	832	1030
3.....	980	1050	1090	1360	1180	1050	1020	619	326	455	832	946
4.....	980	1050	1150	1350	1180	1050	889	619	327	428	896	943
5.....	977	1050	1170	1360	1180	1090	1020	621	330	446	957	971
6.....	977	1050	1160	1360	1180	1100	1020	535	345	452	957	1100
7.....	980	1020	1150	1360	1170	1100	1020	472	323	442	837	803
8.....	980	1040	1160	1360	1180	1100	1020	430	330	453	840	795
9.....	967	1040	1150	1360	1180	1100	1020	453	327	532	837	797
10.....	968	1030	1170	1090	1180	987	1020	460	375	535	832	850
11.....	952	1040	1170	1080	1180	987	887	449	369	536	846	847
12.....	955	1040	1170	1070	1180	987	884	447	--	543	855	906
13.....	952	1040	1160	1080	1050	983	887	404	372	534	945	904
14.....	974	1020	1350	1080	1050	983	886	360	386	590	931	904
15.....	949	--	1350	1070	1050	983	886	320	366	590	940	792
16.....	949	1030	1350	1070	1050	983	914	320	376	631	972	781
17.....	949	1030	1360	1080	1050	987	914	317	371	631	972	787
18.....	949	1020	1360	1060	1050	980	915	317	370	651	972	809
19.....	912	1020	1370	1090	1050	987	915	319	344	668	966	787
20.....	915	1020	1360	1060	1050	987	915	291	337	677	981	907
21.....	917	1030	1370	1070	1040	1030	549	287	311	679	966	903
22.....	910	1030	1360	1070	1050	1040	546	298	310	807	972	982
23.....	987	1030	1360	1080	1050	1040	545	291	315	816	997	977
24.....	994	1030	1380	1100	1050	1040	541	280	308	--	1000	952
25.....	979	1070	1370	1100	1050	970	547	272	305	--	1010	944
26.....	958	1070	1360	1100	1050	964	541	278	309	746	1010	916
27.....	953	1070	1370	1100	1040	967	530	284	323	746	1010	908
28.....	950	1070	1360	1100	1070	967	543	284	324	744	1010	940
29.....	947	1070	1370	1100	--	958	543	284	325	742	1010	943
30.....	1000	1080	1370	1100	--	964	550	284	329	753	1010	957
31.....	1010	--	--	1100	--	964	--	284	--	753	983	--
AVERAGE	967	1040	1270	1160	1100	1010	816	389	336	598	935	903

09095500 Colorado River near Cameo, Colo.--Continued

EXTREMES, 1933-70.--Dissolved solids (1933-43, 1950-69): Maximum, 1,080 mg/l Sept. 22, 1962; minimum, 143 mg/l June 11-20, 1935.

Hardness (1933-35, 1957-69): Maximum, 474 mg/l Sept. 22, 1962; minimum, 98 mg/l June 21-30, 1935.

Specific conductance (1941-70): Maximum daily, 1,860 micromhos June 16, 1964; minimum daily, 244 micromhos July 2, 1947, July 3, 1957.

Water temperatures (1949-70): Maximum, 24°C Aug. 16, 1962; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
22...	2.7	.00	0	568	.77	4360	268	127	2.3	913	7.5
NOV.											
26...	3.6	.01	0	649	.88	3520	260	115	3.2	1050	8.1
DEC.											
23...	6.2	.03	0	618	.84	2670	239	106	3.3	1020	7.9
JAN.											
14...	7.5	.02	0	641	.87	3030	250	109	3.5	1060	7.8
FEB.											
11...	8.6	.01	0	734	1.00	3270	260	122	3.9	1230	7.4
MAY											
01...	3.2	.02	0	389	.53	4100	178	66	2.1	625	7.7
JUNE											
26...	1.3	.03	4	188	.26	7160	107	28	.9	310	7.9
JULY											
29...	3.2	.00	5	463	.93	4580	212	90	2.2	744	8.4
AUG.											
31...	--	.00	8	623	.85	3530	232	95	3.2	1020	7.5
SEPT.											
25...	3.2	.01	3	599	.81	4140	246	109	2.9	959	8.1

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	06.5	00.5	00.5	01.0	07.0	07.0	08.5	09.5	15.0	20.0	19.0
2	14.0	06.5	00.5	00.0	01.0	07.0	07.0	10.0	10.0	15.5	20.0	18.5
3	13.5	06.5	00.5	00.0	01.0	06.0	07.0	11.0	11.5	16.5	21.0	18.0
4	13.5	06.5	00.5	00.0	01.0	06.0	07.0	11.5	11.5	17.0	21.5	18.0
5	13.5	06.5	00.5	00.0	01.5	06.0	07.0	12.0	11.5	17.0	21.5	18.5
6	11.0	06.5	00.5	00.0	01.5	06.0	07.0	12.0	11.5	17.0	21.5	13.5
7	09.0	06.0	00.5	00.0	01.5	--	07.0	11.5	11.5	17.0	--	11.0
8	08.5	05.5	00.0	00.0	01.5	06.5	07.0	09.5	11.5	17.0	21.0	15.5
9	10.5	05.5	00.0	00.0	01.5	07.0	07.0	08.5	11.5	17.0	20.5	15.5
10	10.5	05.5	00.0	00.0	01.5	07.0	08.0	09.0	10.0	17.0	20.5	16.0
11	09.5	05.5	00.0	00.0	01.5	07.0	08.5	08.5	10.0	17.0	20.0	16.0
12	07.0	05.5	00.0	00.0	01.5	07.0	08.5	10.5	--	17.0	20.0	16.0
13	06.5	05.5	00.0	00.0	02.0	07.0	08.5	10.5	13.5	17.0	20.0	16.0
14	06.5	05.5	00.5	00.0	02.0	07.0	08.5	10.0	14.0	18.5	19.5	16.0
15	07.0	--	00.5	00.0	02.0	07.0	08.5	11.0	13.5	19.0	19.5	15.0
16	07.0	05.5	00.5	00.0	02.0	07.0	08.5	11.0	13.5	19.5	19.5	14.5
17	06.5	05.5	00.5	00.0	02.0	07.0	08.5	11.0	13.5	19.5	19.5	13.5
18	06.5	04.5	00.5	00.0	02.0	07.0	08.5	11.0	13.5	19.0	20.0	13.5
19	08.0	04.5	00.5	00.5	02.0	07.0	08.5	11.0	14.5	19.5	19.0	13.5
20	08.0	03.5	00.5	00.5	02.0	04.5	08.5	10.5	14.0	19.5	19.0	11.5
21	08.0	01.0	00.5	00.5	02.0	04.0	08.0	10.5	14.0	19.5	19.5	11.5
22	08.0	01.5	00.5	00.5	01.5	05.5	08.0	11.0	14.0	19.5	19.5	12.0
23	08.0	01.5	00.5	00.0	01.5	06.0	08.0	11.0	14.0	19.5	19.5	12.0
24	08.0	01.0	00.5	01.0	01.5	06.5	08.0	11.5	14.5	--	19.5	11.0
25	08.0	00.5	00.0	01.0	01.5	06.5	08.0	11.5	14.5	--	19.5	11.0
26	08.5	00.5	00.0	01.0	01.5	06.5	08.0	11.5	15.0	19.5	20.0	10.0
27	06.5	00.5	00.0	01.0	05.0	06.5	08.5	11.5	15.5	19.5	20.0	11.0
28	06.5	00.5	00.0	01.0	05.5	06.5	08.5	11.5	--	19.5	20.0	12.0
29	06.0	00.5	00.0	00.0	--	06.5	08.5	11.5	16.0	19.5	19.5	13.0
30	06.5	00.5	00.0	00.0	--	06.0	08.5	11.0	15.0	19.5	19.5	13.0
31	07.0	--	--	00.0	--	06.0	--	09.5	--	19.5	19.0	--
AVG	8.7	3.9	0.3	0.2	1.8	6.4	7.9	10.6	12.9	18.1	19.9	14.1

09152500 Gunnison River near Grand Junction, Colo.
(Irrigation network station)

LOCATION.--Lat 38°59', long 108°27', near center of sec.14, T.2 S., R.1 E., Mesa County, at gaging station at bridge on State Highway 141, 0.4 mile downstream from Whitewater Creek, 0.5 mile south of Whitewater, and 8 miles southeast of Grand Junction.

DRAINAGE AREA.--7,928 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1931 to September 1970.

Water temperatures: April 1949 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 1,910 micromhos Oct. 12; minimum daily, 340 micromhos June 29.

Water temperatures: Maximum, 22°C Aug. 3; minimum, freezing point on many days during December to January.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
22...	2040	9.0	14	106	51	62	3.8	192	432	15	.6
NOV.											
25...	2380	5.5	12	89	36	63	3.2	173	357	10	.2
DEC.											
30...	2030	1.0	13	77	33	58	3.0	169	302	9.5	.2
JAN.											
30...	2040	1.0	13	70	30	52	3.0	167	248	10	.3
FEB.											
09...	2110	6.0	11	66	30	50	5.3	160	242	9.0	.5
MAR.											
06...	2400	9.5	12	65	28	52	2.7	154	234	8.9	.4
APR.											
24...	1990	12.0	16	78	28	58	3.0	171	271	12	.4
MAY											
18...	8680	13.0	11	46	11	20	2.2	109	101	3.4	.3
JUNE											
29...	11300	15.0	14	38	9.6	15	2.4	103	80	3.9	.3
JULY											
29...	1700	19.0	14	150	43	79	4.3	184	515	13	.7
AUG.											
25...	1700	20.5	16	133	42	73	3.7	197	450	11	.8
SEPT.											
25...	3100	11.5	10	106	39	62	3.7	183	387	7.1	.6

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1160	1190	834	782	771	680	695	678	434	657	1230	1240
2.....	1180	1030	838	797	744	815	724	704	565	711	1220	1210
3.....	1160	1010	838	759	713	971	702	721	604	864	1210	1230
4.....	1230	1000	870	728	736	892	653	702	551	435	1220	1210
5.....	1220	1020	901	708	759	805	597	573	582	488	1240	1240
6.....	1210	1010	881	754	759	752	700	552	582	692	1180	1150
7.....	1150	997	1020	707	777	714	680	498	448	941	1170	1070
8.....	1080	981	1480	708	761	689	676	471	500	960	1220	1040
9.....	1090	978	1620	681	749	682	686	462	693	562	1190	1090
10.....	1400	962	1190	713	767	691	654	520	706	657	1190	1110
11.....	1750	1000	878	735	789	693	668	505	690	620	1220	1080
12.....	1910	987	821	755	755	698	700	458	716	432	1200	1080
13.....	1190	972	827	777	765	688	733	412	670	422	1190	990
14.....	1150	975	809	771	801	660	737	403	503	520	1220	1000
15.....	1110	960	813	771	773	658	751	422	503	1130	1220	891
16.....	1100	1000	809	765	730	764	793	433	606	1150	1210	901
17.....	1070	1040	805	786	718	731	780	435	721	1210	1290	934
18.....	1140	1020	799	805	704	745	765	404	673	1170	1200	948
19.....	1110	931	803	837	670	706	900	405	646	1130	1180	957
20.....	1100	874	807	836	677	664	921	392	634	1130	902	984
21.....	1070	895	853	860	705	667	851	378	387	584	1300	1000
22.....	1210	899	870	841	732	666	870	406	396	1040	1190	997
23.....	1200	902	893	859	709	663	856	386	537	1190	1130	1020
24.....	1100	891	878	866	706	647	821	342	612	1190	1140	1000
25.....	1170	871	866	884	697	646	798	360	547	1170	1170	1000
26.....	1240	876	888	891	684	639	778	448	537	1190	1160	1010
27.....	1250	871	861	864	685	639	680	458	399	1010	1180	990
28.....	1140	850	853	879	681	638	603	463	349	1020	1180	997
29.....	1040	830	801	864	--	636	575	490	340	1170	1230	1010
30.....	1160	828	795	759	--	640	622	544	512	1230	1220	1000
31.....	1070	--	781	725	--	675	--	446	--	1190	1230	--
AVERAGE	1200	955	902	789	732	704	732	479	554	898	1190	1050

09152500 Gunnison River near Grand Junction, Colo.--Continued

EXTREMES, 1931-70.--Dissolved solids (1931-67): Maximum, 2,820 mg/l Sept. 11-20, 1934; minimum, 203 mg/l May 11-20, 1944, May 22-26, 1964.

Hardness (1931-35, 1943-69): Maximum, 1,370 mg/l Sept. 1-20, 1934; minimum, 105 mg/l May 1-6, 1969.

Specific conductance (1941-70): Maximum daily, 2,730 micromhos Sept. 10, 1956; minimum daily, 280 micromhos May 23, 1948.

Water temperatures (1949-70): Maximum, 30°C Aug. 13, 1958; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
22...	4.4	.00	0	84	.11	463	472	315	1.2	1110	7.6
NOV.											
25...	3.0	.00	0	681	.93	4380	370	228	1.4	923	8.0
DEC.											
30...	2.9	.00	9	607	.83	3330	330	191	1.4	830	8.0
JAN.											
30...	3.1	.03	0	533	.72	2940	300	163	1.3	760	7.7
FEB.											
09...	2.7	.01	0	536	.73	3050	290	159	1.3	760	7.7
MAR.											
06...	2.9	.04	0	516	.70	3340	278	147	1.4	732	8.1
APR.											
24...	3.5	.02	0	582	.79	3130	310	170	1.4	797	7.9
MAY											
18...	3.4	.07	0	278	.38	6520	160	71	.7	395	7.5
JUNE											
29...	1.7	.09	0	225	.31	6870	134	50	.6	334	7.6
JULY											
29...	5.8	.01	15	982	1.34	4510	550	393	1.5	1210	8.5
AUG.											
25...	5.3	.06	0	902	1.23	4140	504	342	1.4	1150	7.9
SEPT.											
25...	3.8	.04	9	770	1.05	6450	424	274	1.3	988	8.2

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	08.0	02.0	00.0	02.0	06.0	04.0	08.5	12.0	16.5	20.5	19.5
2	11.0	07.0	02.0	00.0	02.0	06.D	05.0	07.0	13.0	16.5	19.0	17.0
3	12.0	05.5	04.0	00.0	01.0	05.0	06.5	09.5	14.5	18.D	22.0	17.0
4	10.0	05.5	03.0	00.0	03.0	05.5	05.5	11.0	15.0	16.5	21.5	16.0
5	10.0	06.0	04.0	00.0	03.5	06.0	06.0	11.0	14.0	17.D	21.5	15.0
6	09.5	07.0	02.0	00.0	03.5	06.0	07.0	11.0	15.0	18.0	21.0	12.0
7	10.0	07.0	03.0	00.0	04.5	06.0	09.D	10.5	13.5	19.0	20.5	14.0
8	10.5	06.5	01.5	00.0	05.0	06.0	09.5	10.0	13.5	20.5	21.5	15.0
9	11.0	07.0	01.5	00.5	04.0	06.5	08.5	09.0	14.0	18.5	21.5	16.5
10	11.0	06.0	01.0	00.0	04.5	06.5	10.0	09.0	12.0	18.0	20.5	16.5
11	10.0	07.0	01.5	01.0	03.5	04.5	09.5	11.0	12.0	17.0	18.0	16.0
12	08.0	08.0	03.0	02.0	05.5	04.5	07.0	11.5	11.0	16.5	19.5	16.5
13	07.0	07.0	02.0	01.5	07.0	05.5	06.5	10.5	14.5	19.0	18.5	15.5
14	09.0	07.0	03.0	01.5	08.0	05.5	07.0	10.5	14.5	16.5	20.5	15.5
15	09.0	05.5	03.0	01.5	04.5	07.0	08.0	09.5	14.5	19.0	20.0	14.5
16	09.0	08.0	01.5	01.5	04.0	05.5	08.0	11.0	14.5	19.5	18.5	14.5
17	08.5	06.5	03.0	03.0	04.5	06.5	08.0	11.5	15.5	20.5	20.0	14.0
18	10.0	04.5	02.0	01.0	03.0	04.0	07.0	13.0	16.0	20.0	19.0	13.5
19	09.0	04.0	03.0	00.0	03.0	03.5	07.0	12.0	16.5	21.0	21.0	14.5
20	08.0	03.5	03.5	03.0	03.5	04.5	06.0	10.5	16.5	21.5	18.5	15.5
21	08.0	03.5	04.5	01.0	04.5	05.0	07.0	11.5	15.0	21.5	18.5	14.5
22	08.5	04.0	06.0	01.0	04.0	05.5	06.5	11.5	15.0	19.0	19.0	13.0
23	08.5	05.0	05.5	04.5	06.5	06.0	07.0	12.0	16.0	16.0	18.5	13.5
24	09.5	07.0	05.0	04.5	06.0	06.5	07.0	12.0	18.0	19.5	19.0	13.5
25	09.5	06.5	04.5	04.5	05.5	06.5	09.0	12.0	17.0	21.0	18.5	11.5
26	04.5	05.5	04.5	07.0	06.0	05.5	10.0	13.0	16.5	19.5	18.0	10.5
27	08.5	05.5	02.0	08.0	04.5	04.5	10.5	13.5	16.5	18.5	20.0	11.5
28	09.5	02.0	01.0	07.0	05.0	01.5	06.0	13.5	18.5	18.5	19.0	12.0
29	10.0	03.0	01.0	01.5	--	06.0	06.0	14.0	15.5	19.0	20.0	12.0
30	07.0	01.0	00.5	01.0	--	07.0	05.0	14.5	15.5	21.0	20.0	14.5
31	06.5	--	00.0	01.5	--	05.5	--	12.0	--	20.0	19.0	--
AVG	9.2	5.6	2.7	1.8	4.3	5.4	7.3	11.1	14.8	18.7	19.7	14.5

09163500 Colorado River near Colorado-Utah State line

LOCATION.--Lat 39°09'00", long 108°57'00", in sec.25, T.10 S., R.104 W., Mesa County, at gaging station 4.8 miles downstream from Salt Creek, 6.5 miles southwest of Mack, Colo., and 7.2 miles upstream from Colorado-Utah State line.

CHEMICAL ANALYSES, SEPTEMBER 1969 TO AUGUST 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
SEPT.									
10...	3810	20.0	143	54	134	5.0	222	552	95
10...	3810	20.0	147	54	134	5.0	238	552	95
OCT.									
07...	5380	10.0	118	42	107	4.7	205	412	78
NOV.									
19...	4720	3.0	93	39	101	3.5	191	325	86
DEC.									
29...	3810	.5	82	38	91	3.6	181	269	84
JAN.									
20...	4050	2.0	77	39	96	4.2	182	262	100
FEB.									
10...	3810	3.0	80	30	99	2.6	174	264	89
MAR.									
11...	4630	5.0	75	28	86	3.4	180	226	82
APR.									
09...	4030	12.0	63	31	87	3.8	165	221	80
MAY									
05...	7960	13.5	69	22	60	3.4	165	178	52
JULY									
02...	13200	18.0	52	14	38	2.4	117	122	31
AUG.									
14...	3570	22.0	122	41	111	4.3	192	400	85

DOLORES RIVER BASIN

09177100 San Miguel River below Uravan, Colo.

LOCATION.--Lat 38°23'08", long 108°45'28", in SW¼NW¼ sec.28, T.48 N., R.17 W., Montrose County, at bridge just below Atkinson Creek, and 1.9 miles northwest of Uravan.

CHEMICAL ANALYSES, AUGUST 1969 TO JULY 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG.									
28...	86	20.0	144	72	81	5.4	128	644	65
SEP.									
18...	199	15.5	106	46	46	3.6	132	367	72
18...	199	15.5	117	40	46	3.6	119	367	72
OCT.									
16...	196	8.5	91	50	38	3.6	65	388	42
16...	196	8.5	88	50	38	3.3	58	388	32
NOV.									
13...	150	5.5	110	57	56	4.4	61	546	45
DEC.									
11...	107	.0	105	58	69	8.5	177	497	64
JAN.									
15...	107	1.0	113	124	88	13	128	840	94
FEB.									
12...	100	4.5	104	73	73	7.5	138	578	66
MAR.									
12...	166	5.5	111	63	75	6.1	148	495	70
JUNE									
04...	1200	13.0	48	12	13	1.8	86	106	11
18...	700	15.0	51	16	15	2.0	103	128	8.8
JULY									
16...	293	19.5	64	33	34	3.9	113	252	36

09163500 Colorado River near Colorado-Utah State line--Continued

DRAINAGE AREA.--17,900 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: September 1969 to August 1970.

CHEMICAL ANALYSES, SEPTEMBER 1969 TO AUGUST 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
SEPT.								
10...	1140	1.50	11700	577	395	2.4	1490	7.8
10...	1140	1.52	11700	591	396	2.4	1490	7.7
OCT.								
07...	925	1.26	13400	469	301	2.1	1260	7.7
NOV.								
19...	803	1.09	10200	392	235	2.2	1150	7.6
DEC.								
29...	714	.97	7350	360	212	2.1	1060	7.1
JAN.								
20...	737	1.00	8060	352	203	2.2	1060	7.8
FEB.								
10...	693	.94	7130	323	180	2.4	1040	7.7
MAR.								
11...	636	.86	7950	304	156	2.2	956	7.8
APR.								
09...	620	.84	6750	285	150	2.2	925	7.9
MAY								
05...	509	.69	10900	261	126	1.6	769	8.0
JULY								
02...	350	.48	12500	186	90	1.2	534	7.6
AUG.								
14...	940	1.28	9060	474	313	2.2	1300	8.3

DOLORES RIVER BASIN

09177100 San Miguel River below Uravan, Colo.--Continued

PERIOD OF RECORD.--Chemical analyses: August 1969 to July 1970.

CHEMICAL ANALYSES, AUGUST 1969 TO JULY 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
AUG.								
28...	1100	1.46	256	657	552	1.4	1490	7.1
SEP.								
18...	736	1.00	395	454	345	.9	1030	7.3
18...	704	1.00	395	457	359	.9	1030	7.0
OCT.								
16...	714	.97	378	432	379	.8	1000	6.7
16...	692	.94	366	424	376	.8	961	6.7
NOV.								
13...	888	1.21	360	512	461	1.1	1230	7.0
DEC.								
11...	893	1.21	258	500	354	1.3	1350	7.8
JAN.								
15...	1450	1.96	419	796	691	1.3	2160	7.4
FEB.								
12...	1000	1.36	270	561	448	1.3	1530	7.2
MAR.								
12...	964	1.31	432	536	415	1.4	1430	7.4
JUNE								
04...	260	.35	842	169	98	.4	402	7.5
18...	306	.42	578	192	108	.5	450	7.6
JULY								
16...	491	.67	388	296	203	.9	780	7.6

09179500 Dolores River at Gateway, Colo.

LOCATION.--Lat 38°40'52", long 108°05'18", Mesa County, 500 ft downstream from bridge on State Highway 141, and 0.3 miles west of Gateway.

CHEMICAL ANALYSES, JANUARY TO JULY 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
JAN.									
15...	200	1.0	106	45	398	20	164	325	587
FEB.									
12...	195	1.D	104	48	411	22	166	343	609
MAR.									
12...	231	5.D	103	61	519	26	166	358	B25
APR.									
24...	597	13.0	78	30	127	7.7	181	2D6	164
JUNE									
04...	193D	11.5	44	10	24	2.3	108	7.2	29
18...	1270	2D.0	53	14	52	4.0	128	100	72
JULY									
16...	394	21.0	68	23	174	9.4	108	176	255

09179500 Dolores River at Gateway, Colo.--Continued

DRAINAGE AREA.--4,350 sq mi.

PERIOD OF RECORD.--Chemical analyses: January 1970 to July 1970.

REMARKS.--Records of discharge are given for Dolores River near Cisco, Utah.

CHEMICAL ANALYSES, JANUARY TO JULY 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
JAN.								
15...	1590	2.12	859	447	313	8.2	2680	7.5
FEB.								
12...	1700	2.23	895	457	321	8.4	2780	7.5
MAR.								
12...	2050	2.68	1280	505	369	10	3380	7.5
APR.								
24...	737	1.00	1190	317	169	3.1	1190	8.0
JUNE								
04...	256	.35	1330	153	64	.8	414	7.8
18...	397	.54	1360	191	86	1.6	635	7.8
JULY								
16...	813	1.11	865	264	176	4.7	1350	7.6

09251000 Yampa River near Maybell, Colo.

LOCATION.--Lat 40°32'20", long 108°05'18", Moffat County, at county bridge, 1 mile north of Maybell and about 3.5 miles downstream from gaging station.

DRAINAGE AREA.--3,410 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: November 1950 to September 1970.

Water temperatures: November 1950 to September 1970.

Sediment records: December 1950 to May 1958.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 926 micromhos Mar. 31; minimum daily, 110 micromhos June 3.

Water temperatures: Maximum, 25.5°C Sept. 22, 25, 27, 30; minimum, 0.5°C on many days during December and January.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
NOV.											
04...	405	4.0	7.9	36	19	36	2.5	170	81	14	.3
DEC.											
02...	341	2.0	9.3	45	21	45	2.1	209	93	20	.3
JAN.											
06...	325	.0	11	43	22	45	2.4	210	104	18	.2
FEB.											
03...	411	.5	9.4	50	23	50	2.9	210	132	18	.4
MAR.											
03...	552	2.5	7.9	46	26	51	4.5	194	152	18	.3
31...	546	2.0	4.0	48	31	59	2.4	133	172	18	.3
APR.											
28...	4420	8.0	18	45	16	26	3.0	152	98	10	.3
MAY											
12...	6630	10.0	9.3	29	8.4	9.8	2.1	110	32	4.2	.2
JUNE											
09...	8240	11.5	7.6	14	4.4	5.5	1.2	59	14	2.2	.2
JULY											
07...	3040	18.5	7.0	17	4.3	7.9	1.4	64	18	3.8	.2
AUG.											
04...	582	22.0	8.2	31	12	23	2.0	142	49	11	.3
24...	370	23.0	15	30	17	29	2.4	149	61	14	.5
SEPT.											
22...	261	15.5	2.0	33	13	32	2.3	153	69	16	.3

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	441	559	530	509	654	765	751	352	121	268	392	411
2.....	442	560	550	509	636	769	749	355	122	250	436	413
3.....	391	560	550	503	647	707	607	263	110	350	437	410
4.....	482	561	547	506	636	705	699	265	141	235	416	412
5.....	462	562	550	505	650	708	556	231	116	337	418	410
6.....	438	562	547	505	648	708	706	289	130	352	395	412
7.....	436	562	542	505	650	708	707	266	136	344	411	468
8.....	543	563	548	509	651	708	707	183	146	349	416	472
9.....	440	561	546	513	651	707	708	214	147	324	447	469
10.....	439	559	549	511	649	710	712	157	140	323	447	472
11.....	543	559	550	512	649	710	706	152	225	382	446	470
12.....	390	551	568	509	649	710	711	196	226	380	449	470
13.....	558	550	562	509	648	713	710	204	228	308	448	483
14.....	563	549	565	511	651	708	710	209	225	316	448	472
15.....	562	551	563	513	653	708	734	193	227	321	448	471
16.....	560	551	562	513	646	689	736	178	226	370	448	472
17.....	563	549	568	509	760	704	736	168	226	329	448	470
18.....	562	551	567	511	764	724	736	166	228	328	448	470
19.....	564	551	566	514	765	720	735	163	226	430	448	471
20.....	559	550	565	511	768	718	735	147	124	433	448	484
21.....	567	551	565	521	766	718	735	146	225	432	448	484
22.....	563	552	564	594	762	721	730	147	127	430	403	484
23.....	563	551	562	593	765	722	733	138	159	432	445	483
24.....	562	550	504	586	764	715	735	140	140	430	371	483
25.....	564	550	500	591	768	720	737	146	124	432	396	485
26.....	556	553	502	627	766	721	708	135	124	432	403	483
27.....	454	550	502	621	761	752	705	138	115	432	403	367
28.....	479	556	499	620	765	739	440	151	223	432	403	451
29.....	556	556	498	660	--	746	335	145	227	432	402	413
30.....	560	555	501	657	--	709	334	137	128	432	402	387
31.....	559	--	504	659	--	926	--	135	--	435	403	--
AVERAGE	513	554	541	545	697	725	678	190	168	370	424	453

09251000 Yampa River near Maybell, Colo.--Continued

EXTREMES, 1950-70.--Dissolved solids (1950-69): Maximum, 656 mg/l Aug. 11, 1968; minimum, 64 mg/l June 13, 1964.

Hardness (1950-69): Maximum, 384 mg/l Aug. 11, 1968; minimum, 43 mg/l June 1-21, 1959.

Specific conductance: Maximum daily, 947 micromhos Sept. 24, 1955; minimum daily, 94 micromhos June 14, 1959.

Water temperatures: Maximum, 29°C Aug. 5, 1963; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
NOV.											
04...	.0	.01	9	296	.40	324	170	30	1.2	458	7.7
DEC.											
02...	.0	.01	11	352	.48	324	200	28	1.4	553	7.9
JAN.											
06...	1.0	.00	9	365	.50	320	201	29	1.4	563	7.7
FEB.											
03...	1.5	.05	6	408	.55	453	220	48	1.5	643	7.4
MAR.											
03...	2.4	.26	9	413	.56	616	221	62	1.5	628	8.0
31...	.1	.00	7	454	.62	669	247	78	1.6	696	8.6
APR.											
28...	3.8	.01	5	283	.38	3380	179	54	.8	427	7.7
MAY											
12...	1.9	.01	0	156	.21	2790	106	16	.4	242	7.8
JUNE											
09...	.4	.02	4	89	.12	1980	54	6	.3	128	7.2
JULY											
07...	.2	.10	0	97	.13	796	60	8	.4	153	7.5
AUG.											
04...	.1	.01	0	212	.29	333	128	12	.9	344	8.2
24...	.1	.01	0	243	.33	243	144	73	1.0	395	8.6
SEPT.											
22...	.2	.00	70	312	.42	220	136	10	1.2	417	8.1

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	09.5	00.5	00.5	01.5	03.0	05.0	06.0	12.0	17.0	--	24.0
2	15.5	10.0	00.5	00.5	01.0	01.5	06.0	12.0	14.0	15.5	21.0	21.0
3	13.0	06.5	00.5	01.0	01.5	03.0	06.0	10.0	11.5	18.0	25.0	22.0
4	10.0	10.0	00.5	00.5	01.0	00.5	05.0	15.0	12.0	18.5	22.0	24.0
5	12.0	09.5	00.5	00.5	01.5	01.5	06.0	10.0	14.0	15.5	21.0	21.0
6	13.0	09.5	00.5	01.0	01.0	03.0	06.5	11.0	13.0	16.5	25.0	24.0
7	13.0	09.0	00.5	00.5	01.0	03.0	05.5	11.5	13.0	18.5	22.0	23.5
8	11.0	06.5	00.5	00.5	01.0	03.0	06.5	12.0	14.0	16.5	25.0	21.5
9	12.0	09.5	00.5	00.5	01.5	02.0	05.5	11.0	13.5	19.5	22.0	24.5
10	12.0	09.5	00.5	00.5	01.0	02.0	05.5	10.5	13.5	18.0	22.0	23.5
11	13.0	06.5	00.5	00.5	01.0	02.0	06.5	10.0	14.0	19.5	22.0	22.0
12	11.5	09.0	00.5	00.5	01.0	03.5	06.0	10.5	13.5	19.5	25.0	24.5
13	12.0	09.0	00.5	00.5	01.0	03.5	05.5	11.0	14.0	17.0	21.0	23.5
14	11.0	09.0	00.5	00.5	01.5	02.0	06.5	10.5	14.0	20.5	24.5	22.0
15	11.0	06.5	00.5	00.5	01.5	02.0	06.5	11.0	14.0	20.5	22.0	23.5
16	11.0	05.5	00.5	00.5	01.5	03.5	05.5	11.5	15.0	16.5	24.5	24.5
17	11.5	04.5	00.5	00.5	02.0	03.5	06.5	13.0	14.0	21.0	22.0	23.5
18	10.0	03.5	00.5	00.5	01.5	03.5	05.5	10.5	15.0	21.0	24.5	23.0
19	11.0	03.0	00.5	01.0	02.0	04.5	06.5	13.0	14.0	18.0	22.0	25.0
20	10.0	03.0	00.5	01.0	02.0	04.5	06.0	13.0	14.0	21.0	24.5	23.5
21	10.0	03.5	00.5	01.0	01.5	03.5	06.0	13.0	14.0	18.0	24.0	24.0
22	09.5	03.0	00.5	01.5	03.0	04.5	05.5	12.0	14.5	21.0	24.0	25.5
23	10.0	03.0	00.5	02.0	01.5	03.5	08.5	12.0	15.0	21.0	24.5	23.5
24	10.0	02.0	00.5	02.0	03.0	04.5	06.5	11.5	15.0	18.5	21.0	23.5
25	09.5	02.0	00.5	01.5	01.5	05.0	06.0	14.5	14.0	18.5	25.0	25.5
26	08.0	03.0	00.5	01.5	02.0	04.5	06.0	13.0	15.5	21.0	24.5	24.0
27	09.5	02.0	00.5	01.0	03.0	05.5	06.5	13.5	13.5	19.0	21.0	25.5
28	10.0	03.0	00.5	01.0	01.5	05.0	06.0	12.0	15.0	21.0	25.0	23.5
29	06.5	02.0	00.5	01.0	--	06.0	07.0	14.5	14.5	22.0	21.5	24.0
30	10.0	03.0	00.5	00.5	--	05.0	07.0	12.0	15.5	19.5	24.5	25.5
31	06.5	--	00.5	00.5	--	05.5	--	14.5	--	20.0	24.5	--
AVG	11.0	5.8	0.5	0.8	1.5	3.4	6.1	11.7	13.9	18.9	23.2	23.6

09260000 Little Snake River near Lily, Colo.

LOCATION.--Lat 40°32'50", long 108°25'25", in NW¼NE¼ sec.20, T.7 N., R.98 W., Moffat County, at gaging station 170 ft downstream from highway bridge, 6 miles north of Lily, and 10 miles upstream from mouth.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
NOV.											
04...	179	.0	14	45	12	66	1.8	203	90	26	.3
DEC.											
02...	79	.0	18	63	17	72	1.9	269	122	24	.3
JAN.											
06...	90	.0	18	56	16	60	1.9	253	104	14	.2
FEB.											
03...	130	.0	15	51	14	54	2.3	222	96	20	.4
MAR.											
03...	338	.5	10	47	12	49	1.7	213	86	16	.4
APR.											
28...	1580	4.5	27	57	16	61	2.5	222	135	18	.4
MAY											
12...	2460	10.0	11	32	7.8	18	1.5	122	43	7.0	.3
JUNE											
09...	3210	14.0	10	16	4.4	7.9	1.0	74	12	2.7	.2
JULY											
07...	756	17.0	11	25	5.4	19	1.6	114	31	6.3	.3
AUG.											
04...	94	18.0	13	53	14	72	4.0	220	129	24	.4
24...	17	23.5	12	64	18	105	4.7	226	207	40	.6
SEPT.											
22...	68	12.5	12	52	15	84	3.0	216	146	26	.4

09260000 Little Snake River near Lily, Colo.--Continued

DRAINAGE AREA.--3,730 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: September 1969 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
NOV.											
04...	1.4	.16	0	379	.52	183	161	0	2.3	579	7.9
DEC.											
02...	.1	.13	9	482	.66	103	228	7	2.1	698	7.9
JAN.											
06...	1.1	.05	8	415	.56	102	208	0	1.8	626	7.8
FEB.											
03...	.5	.01	6	385	.52	135	184	2	1.7	587	7.0
MAR.											
03...	1.7	.14	7	331	.45	302	164	0	1.7	517	8.0
APR.											
28...	1.4	.02	0	416	.58	1780	208	26	1.8	617	7.6
MAY											
12...	1.7	.17	0	186	.25	1240	112	12	.7	282	7.9
JUNE											
09...	.3	.06	0	103	.14	893	58	0	.4	142	7.6
JULY											
07...	.0	.10	0	162	.22	331	86	0	.9	251	7.7
AUG.											
04...	.1	.10	0	437	.59	111	188	0	2.3	662	8.4
24...	.1	.01	0	588	.80	27.0	235	50	3.0	882	8.2
SEPT.											
22...	.3	.10	80	476	.65	88.0	191	2	2.6	724	8.3

09306500 White River near Watson, Utah

LOCATION.--Lat 39°59', long 109°11', in sec.2, T.10 S., R.24 E., Uintah County, at bridge on State Highway 45, 350 ft upstream from gaging station, about 1 mile downstream from Evacuation Creek, and 7 miles north of Watson.

DRAINAGE AREA.--4,020 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: December 1950 to September 1970.

Water temperatures: December 1950 to September 1970.

EXTREMES, 1969-70.--Specific conductance: Maximum daily, 1,440 micromhos Oct. 19; minimum daily, 318 micromhos May 29.

Water temperatures: Maximum, 20.0°C Aug. 17; minimum, freezing point on many days during January to March.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.											
13...	518	2.0	15	68	23	73	1.7	225	154	56	.4
28...	1340	6.5	9.1	68	24	70	1.8	219	150	55	--
NOV.											
25...	433	.0	--	72	24	52	1.7	237	144	30	--
DEC.											
11...	490	.0	--	71	30	60	1.7	265	169	36	--
JAN.											
12...	1470	.0	16	89	31	72	2.1	300	185	34	.3
FEB.											
09...	400	2.0	13	68	25	61	2.2	231	171	35	.3
MAR.											
11...	428	2.0	11	79	31	74	2.0	320	197	34	.3
APR.											
16...	622	7.0	16	72	28	64	1.9	253	185	27	.4
MAY											
12...	1500	13.0	12	56	20	31	1.8	293	90	14	.3
JUNE											
11...	3940	10.0	9.3	45	20	46	2.6	159	103	35	.3
JULY											
14...	908	25.0	13	59	18	29	1.9	201	100	16	.3
AUG.											
17...	451	21.0	14	63	24	47	1.8	226	138	24	.3
SEPT.											
15...	488	12.5	11	67	22	52	2.2	208	148	22	.4

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	689	699	858	832	--	773	713	608	339	378	--	737
2.....	673	711	833	871	910	797	851	650	338	388	--	743
3.....	675	709	830	--	919	783	822	690	360	422	669	746
4.....	651	732	746	--	868	799	825	698	359	436	698	810
5.....	710	724	719	873	831	797	827	693	372	452	722	737
6.....	672	761	--	839	836	819	806	656	341	466	696	727
7.....	652	805	--	787	--	837	838	598	332	505	672	889
8.....	651	776	665	826	781	837	900	548	323	515	741	744
9.....	658	767	736	847	773	847	861	494	350	494	687	676
10.....	655	701	785	852	736	866	831	470	352	532	681	651
11.....	766	667	813	796	775	846	822	490	689	673	658	659
12.....	767	719	811	858	782	823	807	528	505	640	667	664
13.....	817	744	869	782	780	817	768	514	487	535	665	666
14.....	797	737	705	733	719	835	765	468	--	543	675	697
15.....	771	733	702	687	--	974	785	432	420	532	720	708
16.....	856	733	702	683	--	846	770	436	390	536	681	664
17.....	832	749	682	--	746	878	790	432	366	588	675	644
18.....	927	668	769	--	832	878	779	443	374	591	723	642
19.....	1440	690	748	703	884	854	948	417	353	594	811	646
20.....	970	681	717	703	780	871	795	379	336	604	703	651
21.....	857	824	705	714	724	857	795	375	334	611	707	640
22.....	812	719	693	660	777	837	819	366	344	601	704	640
23.....	817	759	719	680	811	826	817	342	340	666	692	645
24.....	811	696	938	735	745	821	826	325	356	735	674	640
25.....	798	710	751	758	704	816	828	326	374	660	674	655
26.....	793	--	779	718	741	851	867	333	374	649	683	657
27.....	802	734	--	671	730	868	882	331	372	657	772	647
28.....	771	743	--	756	782	846	856	322	355	680	714	638
29.....	744	745	957	791	--	856	704	318	363	688	750	636
30.....	699	798	935	762	--	819	629	--	377	641	939	638
31.....	676	--	926	--	--	832	--	327	--	725	732	--
AVERAGE	780	732	781	766	790	838	810	466	378	572	709	684

09306500 White River near Watson, Utah--Continued

EXTREMES, 1950-70.--Dissolved solids (1950-54, 1955-69): Maximum, 2,380 mg/l July 21, 1966; minimum, 209 mg/l May 23-31, 1964.

Hardness (1954-69): Maximum, 1,410 mg/l Aug. 4, 1955; minimum, 144 mg/l Feb. 3, 1965.

Specific conductance: Maximum daily, 4,450 micromhos Aug. 4, 1955; minimum daily, 316 micromhos June 27, 1968.

Water temperatures: Maximum, 31°C Aug. 8, 1954; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.											
13...	3.2	.00	0	517	.70	723	266	82	2.0	812	7.6
28...	--	--	--	509	.69	1840	267	87	1.9	784	8.2
NOV.											
25...	--	--	--	487	.66	569	277	83	1.4	739	8.1
DEC.											
11...	--	--	--	537	.73	710	300	83	1.5	812	7.7
JAN.											
12...	.7	.06	0	592	.81	2350	351	105	1.7	862	7.9
FEB.											
09...	1.0	.24	0	496	.67	536	272	83	1.6	752	8.1
MAR.											
11...	.4	.25	0	568	.77	656	324	62	1.8	837	8.2
APR.											
16...	.2	.00	0	519	.71	872	294	80	1.6	785	8.4
MAY											
12...	5.3	.35	0	325	.44	1320	223	0	.9	551	.1
JUNE											
11...	1.8	.03	0	352	.48	3750	194	64	1.4	575	7.8
JULY											
14...	.0	.04	0	360	.49	883	222	57	.8	540	7.8
AUG.											
17...	.2	.02	0	434	.59	528	254	62	1.3	660	8.4
SEPT.											
15...	1.0	.01	0	457	.62	602	258	68	1.4	681	8.6

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	05.0	03.0	00.0	--	00.0	03.0	07.0	07.0	12.5	--	13.5
2	11.0	02.0	02.5	04.5	00.0	00.0	03.5	09.0	07.5	12.5	--	13.5
3	10.0	02.0	02.0	--	00.0	00.0	03.5	09.0	08.5	13.5	13.5	13.5
4	09.0	02.0	03.0	--	00.0	04.0	03.0	10.0	09.0	--	13.5	13.5
5	08.0	02.0	02.5	04.0	00.0	04.0	02.0	12.5	10.0	--	13.5	13.5
6	06.0	02.0	--	04.0	00.0	00.5	04.5	09.0	11.0	13.5	13.5	12.5
7	06.0	02.0	--	00.0	--	01.0	04.5	10.0	09.0	13.5	13.5	13.5
8	06.0	02.0	04.0	00.0	00.0	00.0	04.5	10.0	10.0	13.5	13.5	13.0
9	07.0	01.0	04.0	00.0	00.0	01.0	09.0	09.5	09.5	13.5	12.0	12.0
10	07.0	01.0	03.0	00.0	00.0	00.0	07.0	09.0	--	13.5	13.5	15.0
11	05.0	01.0	02.5	00.0	00.0	00.0	07.0	09.0	07.0	13.0	13.5	15.5
12	03.0	02.0	03.0	00.0	01.0	00.0	04.5	10.5	09.0	13.0	13.5	14.5
13	02.0	02.0	03.0	00.0	00.0	00.0	07.0	10.0	12.0	13.5	13.5	13.5
14	02.0	01.0	03.0	00.0	00.0	02.5	05.5	10.0	--	13.5	13.5	15.5
15	04.0	01.0	03.0	00.0	--	03.0	09.5	09.0	10.0	13.5	14.0	14.5
16	05.0	01.0	03.0	00.0	--	03.5	07.5	10.0	10.0	13.5	14.5	13.5
17	--	01.0	03.0	--	00.0	02.5	03.5	10.0	10.0	13.5	20.0	13.5
18	05.0	02.0	03.0	--	00.0	00.5	04.0	10.5	12.5	14.5	18.5	13.5
19	04.0	02.0	--	00.0	00.0	02.5	04.5	11.0	10.5	--	15.5	13.5
20	03.0	02.0	05.0	00.0	00.0	01.0	04.5	11.0	11.0	13.5	13.5	13.5
21	03.0	02.0	04.0	00.0	00.0	01.0	05.5	11.0	--	13.5	13.5	13.5
22	04.0	02.0	02.0	00.0	00.0	01.0	05.5	12.0	10.5	13.5	13.5	13.5
23	04.0	02.0	04.0	00.0	00.0	01.0	05.5	13.0	13.0	13.5	13.5	13.5
24	06.0	02.0	03.5	00.0	00.0	02.5	06.0	14.5	12.0	13.5	13.5	13.5
25	05.0	01.0	05.0	00.0	00.0	01.0	07.0	13.0	12.5	13.5	13.5	12.0
26	04.0	--	03.0	00.0	00.0	02.5	08.0	12.5	10.0	13.5	18.5	11.0
27	05.0	02.5	--	00.0	00.0	01.0	07.0	14.5	11.0	14.5	13.5	10.0
28	05.0	02.5	--	00.0	00.0	01.5	07.0	12.0	12.0	13.5	13.5	10.0
29	04.0	02.5	06.0	00.0	--	--	07.0	12.5	12.0	13.5	14.5	10.0
30	03.0	02.5	05.0	00.0	--	04.0	04.5	--	13.0	13.5	14.0	09.5
31	03.0	--	06.5	--	--	01.0	--	13.5	--	13.5	13.5	--
AVG	5.3	1.8	3.5	0.4	0.0	1.4	5.5	10.8	10.3	13.4	14.1	13.0

09352900 Vallecito Creek near Bayfield, Colo.
(Hydrologic bench-mark station)

LOCATION.--Lat 37°28'39", long 107°32'35", in NW¼ sec.16, T.37 N., R.6 W., (projected), La Plata County, temperature recorder at gaging station, 60 ft upstream from Fall Creek, 0.8 mile downstream from Bear Creek, 6.7 miles north of Vallecito Dam, and 18 miles north of Bayfield.

DRAINAGE AREA.--72.1 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1963 to September 1968.

Water temperatures: November 1962 to September 1970.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	09.0	06.0	03.0	02.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
2	09.0	08.0	03.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
3	08.0	01.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
4	04.0	01.0	02.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
5	04.0	01.0	03.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
6	05.0	01.0	03.0	02.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
7	06.0	03.0	03.0	02.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
8	07.0	04.0	03.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
9	07.0	06.0	03.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
10	06.0	06.0	03.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
11	06.0	05.0	04.0	03.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
12	05.0	05.0	04.0	03.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
13	05.0	02.0	03.0	02.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
14	05.0	04.0	03.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
15	05.0	04.0	02.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
16	05.0	04.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
17	05.0	04.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
18	05.0	05.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
19	05.0	05.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
20	06.0	04.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
21	06.0	05.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
22	05.0	05.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
23	05.0	04.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
24	05.0	04.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
25	05.0	04.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
26	06.0	05.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
27	06.0	05.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
28	05.0	05.0	01.0	01.0	01.0	01.0	00.0	00.0	00.0	00.0	00.0	00.0
29	05.0	02.0	01.0	01.0	01.0	01.0	00.0	00.0	--	--	00.0	00.0
30	02.0	01.0	01.0	01.0	01.0	01.0	00.0	00.0	--	--	00.0	00.0
31	03.0	01.0	--	--	01.0	01.0	00.0	00.0	--	--	00.0	00.0
AVG	5.4	3.8	1.9	1.2	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
MAY 12, 1970	1115	04.0	350	6	5.7	--	--	--	--	--	--	--	--	--	--	--	
MAY 21.....	1630	08.0	632	17	29	--	--	--	--	--	--	--	--	--	--	--	
MAY 21.....	1920	08.0	829	15	34	--	--	--	--	--	--	--	--	--	--	--	
JUN 5.....	1000	04.0	326	2	1.8	--	--	--	--	--	--	--	--	--	--	--	
JUN 18.....	1420	09.0	356	7	6.7	--	--	--	--	--	--	--	--	--	--	--	
JUL 9.....	1015	09.0	285	4	3.1	--	--	--	--	--	--	--	--	--	--	--	
AUG 11.....	1040	10.0	77	1	.19	--	--	--	--	--	--	--	--	--	--	--	
SEP 3.....	0930	07.0	92	2	.50	--	--	--	--	--	--	--	--	--	--	--	

09352900 Vallecito Creek near Bayfield, Colo.--Continued

EXTREMES, 1969-70.--Water temperatures: Maximum, 16.0°C on several days during July and August; minimum, freezing point on many days during January to April.

EXTREMES, 1962-70.--Water temperatures: Maximum, 17°C July 21, 1963; minimum, freezing point on many days during winter months.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	00.0	00.0	01.0	01.0	06.0	03.0	12.0	07.0	15.0	13.0	12.0	10.0
2	00.0	00.0	05.0	01.0	07.0	03.0	11.0	10.0	16.0	14.0	10.0	09.0
3	00.0	00.0	06.0	03.0	07.0	03.0	10.0	10.0	16.0	14.0	10.0	07.0
4	00.0	00.0	06.0	02.0	07.0	04.0	11.0	10.0	17.0	15.0	10.0	08.0
5	01.0	00.0	05.0	02.0	06.0	04.0	11.0	10.0	17.0	15.0	08.0	08.0
6	01.0	01.0	06.0	03.0	08.0	04.0	12.0	11.0	16.0	14.0	08.0	07.0
7	01.0	01.0	06.0	03.0	08.0	06.0	12.0	11.0	16.0	14.0	08.0	05.0
8	02.0	01.0	05.0	02.0	06.0	06.0	12.0	11.0	16.0	15.0	09.0	06.0
9	02.0	02.0	05.0	02.0	06.0	06.0	13.0	09.0	16.0	13.0	09.0	07.0
10	02.0	02.0	07.0	03.0	06.0	06.0	13.0	09.0	16.0	13.0	--	--
11	02.0	02.0	07.0	04.0	06.0	04.0	13.0	11.0	14.0	10.0	--	--
12	02.0	01.0	07.0	04.0	06.0	04.0	13.0	11.0	14.0	09.0	--	--
13	02.0	01.0	08.0	03.0	08.0	05.0	16.0	11.0	13.0	12.0	--	--
14	02.0	01.0	08.0	03.0	09.0	06.0	15.0	11.0	13.0	12.0	--	--
15	02.0	01.0	08.0	03.0	09.0	05.0	15.0	12.0	12.0	12.0	--	--
16	02.0	01.0	08.0	04.0	09.0	05.0	13.0	11.0	12.0	12.0	--	--
17	02.0	02.0	07.0	04.0	10.0	05.0	13.0	11.0	12.0	10.0	--	--
18	02.0	02.0	06.0	05.0	10.0	05.0	13.0	11.0	12.0	10.0	--	--
19	02.0	02.0	06.0	05.0	10.0	05.0	13.0	12.0	12.0	11.0	--	--
20	02.0	01.0	08.0	04.0	11.0	06.0	16.0	11.0	12.0	11.0	--	--
21	02.0	02.0	08.0	05.0	10.0	07.0	16.0	13.0	11.0	09.0	09.0	08.0
22	02.0	01.0	07.0	03.0	09.0	07.0	13.0	13.0	11.0	09.0	08.0	05.0
23	02.0	01.0	05.0	03.0	12.0	07.0	16.0	13.0	11.0	09.0	06.0	04.0
24	03.0	01.0	07.0	03.0	12.0	08.0	16.0	12.0	13.0	09.0	06.0	04.0
25	04.0	02.0	05.0	03.0	13.0	08.0	13.0	12.0	12.0	10.0	05.0	03.0
26	04.0	02.0	05.0	03.0	14.0	08.0	13.0	11.0	11.0	10.0	04.0	02.0
27	03.0	02.0	04.0	03.0	14.0	10.0	13.0	12.0	13.0	10.0	05.0	02.0
28	03.0	01.0	06.0	03.0	13.0	11.0	15.0	12.0	13.0	10.0	05.0	03.0
29	02.0	01.0	05.0	03.0	13.0	09.0	15.0	12.0	12.0	10.0	06.0	04.0
30	02.0	01.0	07.0	03.0	12.0	08.0	15.0	13.0	12.0	11.0	06.0	05.0
31	--	--	06.0	03.0	--	--	14.0	13.0	12.0	11.0	--	--
AVG	1.8	1.1	6.1	3.0	9.2	5.9	13.4	11.1	13.4	11.5	--	--

CHEMICAL ANALYSES, JULY 1969 TO OCTOBER 1970

PART 9. COLORADO RIVER BASIN

09038500 WILLIAMS FORK BELOW WILLIAMS FORK RESERVOIR (LAT 40 02 07 LONG 106 12 17)

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BI-CAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
JULY, 1969									
09...	14	10.0	13	2.9	2.9	1.5	53	4.2	1.2
OCT.									
21...	260	9.0	13	2.9	2.5	1.4	57	1.8	1.7
JAN., 1970									
23...	7.0	3.0	16	2.6	2.9	1.6	66	3.0	1.8
APR.									
22...	8.0	4.0	17	2.2	2.9	1.7	68	4.8	1.3

09057700 BLUE RIVER AT MOUTH, NEAR KREMMLING (LAT 40 01 55 LONG 106 23 09)

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BI-CAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
JULY, 1969									
09...	1640	10.0	21	4.5	3.5	1.6	61	24	1.4
OCT.									
21...	807	9.5	22	4.0	3.6	1.5	69	22	1.9
JAN., 1970									
23...	620	6.0	25	4.3	4.1	1.7	77	26	2.0
APR.									
22...	789	6.0	28	5.4	5.0	1.9	90	30	1.1

09070400 EAGLE RIVER AT MOUTH, NEAR DOTSERO (LAT 39 38 36 LONG 107 03 20)

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BI-CAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
AUG., 1969									
26...	251	18.0	112	22	41	2.7	189	215	54
NOV.									
20...	201	.0	125	28	50	2.5	208	245	73
FEB., 1970									
25...	170	4.0	105	21	40	2.7	170	219	56
MAY									
21...	3510	7.5	32	4.4	3.9	1.5	85	27	4.0

09070500 COLORADO RIVER NEAR DOTSERO (LAT 39 38 40 LONG 107 04 40)

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUC-RIDE (F) (MG/L)
NOV., 1969											
20...	1120	.5	9.7	52	13	26	2.2	134	92	31	.2
FEB., 1970											
25...	1220	4.0	7.6	42	8.9	19	--	115	71	22	--
MAY											
21...	13000	11.0	9.1	24	6.8	5.4	1.7	88	23	2.1	.3
SEPT.											
23...	1540	11.0	11	53	11	20	1.9	124	77	21	.4

09105000 PLATEAU CREEK NEAR CAMEO (LAT 39 11 00 LONG 108 16 10)

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUC-RIDE (F) (MG/L)
NOV., 1969											
21...	130	1.5	26	48	39	69	46	394	95	9.7	.4
FEB., 1970											
11...	114	2.0	20	58	28	60	5.1	362	88	11	.6
JUNE											
01...	710	13.5	13	28	9.2	16	2.1	152	21	2.9	.3
AUG.											
31...	124	18.0	33	52	37	75	8.6	437	86	9.0	.8

09149500 UNCOMPAHGRE RIVER AT DELTA (LAT 38 44 30 LONG 108 04 50)

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUC-RIDE (F) (MG/L)
NOV., 1969											
25...	225	2.5	13	180	88	172	4.2	210	925	18	.7
FEB., 1970											
09...	130	1.5	11	216	88	184	3.2	274	1000	8.0	.7
MAY											
18...	1190	13.0	11	81	22	39	2.8	138	254	6.5	.6
AUG.											
25...	438	18.0	17	191	44	104	3.9	243	662	9.7	.4

CHEMICAL ANALYSES, JULY 1969 TO OCTOBER 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM ADSORP-TION RATIO	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
PART 9. COLORADO RIVER BASIN								
09038500 WILLIAMS FORK BELOW WILLIAMS FORK RESERVOIR (LAT 40 02 07 LONG 106 12 17)								
JULY, 1969								
09...	67	.09	2.5	44	1	.2	97	7.2
OCT.								
21...	66	.09	46.3	44	0	.2	98	6.9
JAN., 1970								
23...	72	.10	1.4	50	0	.2	111	7.5
APR.								
22...	83	.11	1.8	51	0	.2	119	6.6
09057700 BLUE RIVER AT MOUTH, NEAR KREMMLING (LAT 40 01 55 LONG 106 23 09								
JULY, 1969								
09...	98	.13	434	70	20	.2	156	7.3
OCT.								
21...	96	.13	209	72	16	.2	164	7.1
JAN., 1970								
23...	106	.14	177	80	17	.2	182	7.6
APR.								
22...	134	.18	285	93	19	.2	217	6.8
09070400 EAGLE RIVER AT MOUTH, AT DOTSERO (LAT 39 38 36 LONG 107 03 20)								
AUG., 1969								
26...	576	.78	390	372	218	.9	859	7.4
NOV.								
20...	688	.94	373	428	257	1.1	1000	7.2
FEB., 1970								
25...	556	.76	255	349	210	.9	830	7.7
MAY								
21...	130	.18	1230	97	27	.2	203	7.6

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIOS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
09070500 COLORADO RIVER NEAR DOTSERO (LAT 39 38 40 LONG 107 04 40)											
NOV., 1969											
20...	.3	.00	0	308	.42	931	184	74	.8	477	7.7
FEB., 1970											
25...	.3	.00	--	224	.30	738	142	48	.7	367	7.9
MAY											
21...	.9	.01	4	166	.23	5830	87	15	.3	196	6.9
SEPT.											
23...	.2	.00	50	271	.37	1130	177	75	.7	426	7.7
09105000 PLATEAU CREEK NEAR CAMEO (LAT 39 11 00 LONG 108 16 10)											
NOV., 1969											
21...	1.2	.24	0	478	.65	168	281	0	1.8	753	7.9
FEB., 1970											
11...	2.3	.11	9	448	.61	138	260	0	1.6	706	7.7
JUNE											
01...	.8	.05	0	179	.24	343	109	0	.7	273	7.9
AUG.											
31...	1.2	5.0	90	546	.74	183	282	0	1.9	833	7.7
09149500 UNCOMPAHGRE RIVER AT DELTA (LAT 38 44 30 LONG 108 04 50)											
NOV., 1969											
25...	13	.02	0	1640	2.07	996	810	638	2.6	1900	7.9
FEB., 1970											
09...	14	.02	0	1870	2.26	656	900	675	2.7	2140	7.6
MAY											
18...	4.8	.04	0	544	.74	1750	292	179	1.0	728	7.8
AUG.											
25...	7.2	.11	0	1230	1.58	1460	656	457	1.8	1520	8.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970--Continued

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
PART 9. COLORADO RIVER BASIN--Continued											
09346000 NAVAJO RIVER AT EDITH (LAT 37 00 10 LONG 106 54 25)											
OCT., 1969											
14...	95	6.0	22	28	5.8	9.2	1.7	77	48	1.0	.2
JAN., 1970											
12...	42	.0	24	28	5.6	9.6	1.6	77	48	.8	.2
APR.											
13...	77	6.0	21	30	7.0	9.9	1.6	87	48	.6	.2
JUNE											
08...	551	6.5	19	17	3.6	5.6	1.1	57	20	.2	.3
JULY											
13...	104	12.5	21	20	4.3	6.3	1.3	66	25	.6	.3
09346400 SAN JUAN RIVER NEAR CARRACAS (LAT 37 00 47 LONG 107 18 39)											
OCT., 1969											
14...	420	9.0	19	24	5.9	14	1.7	85	46	1.8	.2
NOV.											
17...	310	5.0	10	31	9.2	21	2.3	89	77	2.0	.2
DEC.											
09...	154	.0	21	32	7.9	21	2.2	101	70	2.0	.0
JAN., 1970											
13...	220	.0	21	34	7.3	26	3.0	102	77	3.6	.3
FEB.											
09...	160	.5	16	34	8.1	27	2.7	106	82	3.8	.3
MAR.											
09...	207	8.5	16	44	13.0	30	3.3	127	114	3.8	.3
APR.											
13...	395	6.5	18	30	7.7	17	2.1	102	54	1.8	.3
MAY											
11...	1460	12.0	16	15	2.9	6.9	.8	60	17	.2	.2
JUNE											
08...	1510	11.5	16	20	3.4	6.8	1.2	64	20	.4	.2
JULY											
13...	415	20.0	16	22	4.6	9.9	1.8	80	28	1.1	.3
09349800 PIEDRA RIVER NEAR ARBOLES (LAT 37 05 17 LONG 107 23 52)											
OCT., 1969											
14...	250	10.0	13	33	4.5	8.9	1.1	99	39	1.5	.2
NOV.											
17...	201	--	22	38	5.6	11	1.7	108	52	1.9	.3
DEC.											
09...	133	.0	14	57	7.6	20	2.5	141	95	2.4	.3
JAN., 1970											
12...	182	.0	14	52	6.9	20	2.3	134	90	2.4	.3
FEB.											
09...	66	4.5	14	58	7.6	20	2.7	142	99	3.4	.3
MAR.											
09...	96	9.2	16	56	7.7	20	2.8	135	95	3.0	.4
APR.											
13...	256	7.0	11	42	6.5	8.9	2.6	116	46	1.6	.2
MAY											
11...	998	10.5	9.6	22	3.2	4.2	1.0	74	19	.2	.3
JUNE											
08...	714	13.0	12	22	2.9	5.2	1.2	65	20	.4	.2
JULY											
13...	159	21.5	12	34	4.4	11	2.0	91	43	1.7	.3
09354500 LOS PINOS RIVER AT LA BOCA (LAT 37 00 40 LONG 107 35 55)											
OCT., 1969											
15...	542	9.5	4.6	20	2.9	5.3	.5	76	11	.9	.3
NOV.											
18...	258	2.0	12	22	3.8	7.9	1.2	86	14	1.6	.3
DEC.											
09...	175	2.0	5.8	23	3.8	8.7	.9	94	14	.4	.2
JAN., 1970											
13...	120	.0	5.3	28	4.7	13	1.1	122	18	1.8	.3
FEB.											
09...	60	5.0	3.1	30	5.0	14	1.0	132	18	2.6	.3
MAR.											
09...	64	8.0	3.7	34	5.9	19	1.4	142	26	4.0	.3
APR.											
14...	92	5.5	4.6	34	5.8	11	1.4	130	19	1.9	.3
MAY											
11...	88	11.0	5.4	29	5.1	17	2.1	123	24	4.1	.4
JUNE											
08...	345	14.5	6.7	28	4.5	12	2.4	115	18	3.0	.4
JULY											
13...	175	24.5	8.1	30	4.9	12	2.8	130	14	2.0	.4

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970--Continued

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
PART 9. COLORADO RIVER BASIN--Continued											
09346000 NAVAJO RIVER AT EDITH (LAT 37 00 10 LONG 106 54 25)											
OCT., 1969											
14...	.1	--	--	160	.22	41	90	27	.4	226	7.7
JAN., 1970											
12...	.0	--	--	166	.23	19	93	30	.4	228	8.0
APR.											
13...	.0	--	--	156	.21	32	99	28	.4	242	7.8
JUNE											
08...	.2	--	--	94	.13	140	55	8	.3	138	7.5
JULY											
13...	.0	--	.0	113	.15	32	66	12	.3	162	7.5
09346400 SAN JUAN RIVER NEAR CARRACAS (LAT 37 00 47 LONG 107 18 39)											
OCT., 1969											
14...	.3	--	--	156	.21	177	84	14	.7	237	8.0
NOV.											
17...	.0	--	--	200	.27	167	114	41	.9	310	7.8
DEC.											
09...	.5	--	--	215	.29	89	112	29	.9	325	7.6
JAN., 1970											
13...	.0	--	--	231	.31	137	114	27	1.1	339	8.3
FEB.											
09...	.0	--	--	233	.32	101	119	32	1.1	356	8.0
MAR.											
09...	.6	--	--	298	.40	166	160	56	1.0	446	7.6
APR.											
13...	.2	--	100	184	.25	196	98	14	.7	278	7.9
MAY											
11...	.6	--	--	98	.13	386	48	.0	.4	137	7.6
JUNE											
08...	.4	--	--	101	.14	411	56	4.0	.4	146	7.7
JULY											
13...	.1	--	20	124	.17	139	74	8.0	.5	193	7.1
09349800 PIEDRA RIVER NEAR ARBOLES (LAT 37 05 17 LONG 107 23 52)											
OCT., 1969											
14...	.0	--	--	155	.21	105	98	17	.4	239	8.0
NOV.											
17...	.0	--	--	172	.23	93	117	28	.4	278	7.8
DEC.											
09...	.3	--	--	277	.38	99	174	58	.7	426	8.0
JAN., 1970											
12...	.0	--	--	262	.36	129	160	50	.7	399	8.2
FEB.											
09...	.0	--	--	282	.38	50	176	60	.7	429	8.2
MAR.											
09...	.1	--	--	274	.37	73	168	58	.7	418	8.0
APR.											
13...	.2	--	120	179	.24	124	120	25	.4	282	7.7
MAY											
11...	.4	--	--	105	.14	283	69	8	.2	158	7.6
JUNE											
08...	.2	--	--	106	.14	204	67	14	.3	145	7.7
JULY											
13...	.2	--	30	158	.21	68	102	22	.5	250	8.3
09354500 LOS PINOS RIVER AT LA BOCA (LAT 37 00 40 LONG 107 35 55)											
OCT., 1969											
15...	.1	--	--	80	.11	117	58	.0	.3	140	7.8
NOV.											
18...	.6	--	--	90	.12	63	71	.0	.4	167	7.7
DEC.											
09...	.4	--	--	105	.14	50	73	.0	.4	181	7.8
JAN., 1970											
13...	.4	--	--	136	.18	44	89	.0	.6	225	8.1
FEB.											
09...	.0	--	--	144	.20	23	97	.0	.6	245	8.2
MAR.											
09...	.2	--	--	165	.22	28	106	.0	.8	286	7.8
APR.											
14...	.1	--	80	138	.19	34	100	.0	.5	244	7.8
MAY											
11...	1.5	--	--	156	.21	37	92	.0	.8	257	7.6
JUNE											
08...	1.0	--	--	140	.19	130	85	.0	.6	219	7.7
JULY											
13...	.6	--	20	144	.20	68	94	.0	.5	236	7.7

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970--Continued

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
PART 9. COLORADO RIVER BASIN--Continued											
09363500 ANIMAS RIVER NEAR CEDAR HILL, NEW MEX. (LAT 37 02 15 LONG 107 52 25)											
SEPT., 1969											
11...	696	14.0	9.1	55	8.0	14	2.5	134	79	8.1	.5
OCT.											
15...	714	9.0	7.4	54	8.0	13	1.6	134	85	11	.4
NOV.											
18...	520	.0	5.7	62	9.4	16	2.4	144	95	12	.4
DEC.											
10...	346	.0	8.0	72	12.0	20	2.8	160	114	13	.3
JAN., 1970											
14...	320	.0	8.1	76	11.0	22	3.0	160	120	15	.7
FEB.											
10...	254	1.2	6.9	76	12.0	22	3.2	168	108	26	.4
MAR.											
10...	254	5.1	7.8	88	22.0	34	3.6	176	195	22	.5
APR.											
14...	425	5.3	12	72	11.0	14	2.5	165	97	11	.3
MAY											
12...	2050	11.2	5.8	39	5.3	5.0	.9	100	44	3.1	.3
JUNE											
09...	2228	8.5	5.6	38	5.0	5.8	1.1	88	48	4.3	.3
JULY											
14...	828	15.0	6.3	45	6.3	11	1.9	102	63	8.4	.4
AUG.											
11...	505	24.5	8.0	62	9.5	19	3.1	129	92	16	.5
09366500 - LA PLATA R. AT COLORADO-NEWMEXICO STATE LINE (LAT 36 59 59 LONG 108 11 17)											
AUG., 1969											
27...	5.6	24	--	96	68	40	4.4	191	388	19	--
SEPT.											
11...	30	13.0	--	83	42	27	2.0	175	261	14	--
DEC.,											
19...	13	6.0	--	128	97	44	2.0	263	518	27	--
MAR., 1970											
31...	9.8	10.0	--	145	76	56	2.2	254	535	26	--
MAY											
13...	92	17.0	--	54	25	15	2.0	147	145	5.8	--
09371000 - MANCOS R. NR. TOWAOC COLO (LAT 37 01 39 LONG 108 44 27)											
AUG., 1969											
27...	11	21	--	192	107	113	5.0	182	930	16	--
DEC.,											
19...	35	3.0	--	160	97	103	2.6	238	785	15	--
MAR., 1970											
31...	20	7.0	--	210	119	129	3.2	254	1040	30	--
MAY											
13...	46	13.0	--	96	41	41	3.3	170	342	7.3	--
SEP.											
10...	42	16.0	--	156	72	67	4.1	187	642	10	--
09372000 - MCELMO CR. NR. COLORADO-UTAH STATE LINE (LAT 37 19 27 LONG 109 00 54)											
AUG., 1969											
27...	49	25	--	240	156	157	5.3	292	1200	38	--
SEPT.											
10...	133	19.0	--	240	126	120	5.1	239	1060	30	
DEC.,											
19...	45	2.0	--	337	277	273	4.3	338	2180	54	--
MAR., 1970											
31...	51	4.0	--	369	253	203	4.8	420	1940	58	--
MAY											
13...	14	19.0	--	269	197	241	8.6	257	1630	48	--

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970--Continued

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
PART 9. COLORADO RIVER BASIN--Continued											
09363500 ANIMAS RIVER NEAR CEDAR HILL, NEW MEX. (LAT 37 02 15 LONG 107 52 25)											
SEPT., 1969											
11...	.6	--	--	258	.35	485	170	60	.5	403	7.5
OCT.											
15...	.9	--	--	257	.35	495	178	68	.4	411	8.0
NOV.											
18...	1.2	--	--	270	.37	379	195	77	.5	449	7.7
DEC.											
10...	.2	--	--	336	.46	314	230	99	.6	529	8.0
JAN., 1970											
14...	1.6	--	--	337	.46	291	238	107	.6	547	8.1
FEB.											
10...	.7	--	--	361	.49	248	240	102	.6	559	8.2
MAR.											
10...	1.7	--	--	479	.65	328	304	160	.8	710	7.9
APR.											
14...	.8	--	120	300	.41	344	230	95	.4	471	8.0
MAY											
12...	1.2	--	--	174	.24	963	120	38	.2	263	7.7
JUNE											
09...	.7	--	--	162	.22	974	112	40	.2	249	7.7
JULY											
14...	.1	--	40	200	.27	447	140	56	.4	326	7.5
AUG.											
11...	.0	--	--	310	.42	422	198	78	.6	465	8.6
09366500 - LA PLATA R. AT COLORADO-NEWMEXICO STATE LINE (LAT 36 59 59 LONG 108 11 17)											
AUG., 1969											
27...	--	--	--	764	1.04	11.6	--	326	.8	1020	8.5
SEPT.											
11...	--	--	--	570	.78	46.1	382	218	.6	785	8.5
DEC.,											
19...	--	--	--	1100	1.29	38.6	720	504	.7	1340	8.1
MAR., 1970											
31...	--	--	--	1080	1.31	28.6	676	468	.9	1330	8.1
MAY											
13...	--	--	--	345	.47	86.2	238	122	.4	501	7.5
09371000 - MANCOS R. NR. TOWAOC COLO (LAT 37 01 39 LONG 108 44 27)											
AUG., 1969											
27...	--	--	--	1570	1.99	49.6	--	761	1.6	1830	8.4
DEC.,											
19...	--	--	--	1360	1.74	129	800	597	1.6	1590	8.4
MAR., 1970											
31...	--	--	--	1760	2.26	99.3	1020	807	1.8	1970	8.0
MAY											
13...	--	--	--	677	.92	85.5	408	269	.9	896	7.5
SEP.											
10...	--	--	--	1140	1.55	131	688	516	1.1	1370	8.8
09372000 - MCELMO CR. NR. COLORADO-UTAH STATE LINE (LAT 37 19 27 LONG 109 00 54)											
AUG., 1969											
27...	--	--	--	2180	2.64	294	--	1000	1.9	2390	8.3
SEPT.											
10...	--	--	--	1100	2.31	610	1120	924	1.6	2100	8.1
DEC.,											
19...	--	--	--	3350	4.52	414	1980	1650	2.7	3370	8.4
MAR., 1970											
31...	--	--	--	3220	4.12	444	1960	1620	2.0	3340	7.9
MAY											
13...	--	--	--	2700	3.43	106	1480	1270	2.7	2910	7.7

PART 9. COLORADO RIVER BASIN

09341200 WOLF CREEK NEAR PAGOSA SPRINGS, COLO. (LAT 37 26 47 LONG 106 53 00)

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
MAY 6, 1970	1100	06.0	35	35	3.3	--	--	--	--	--	--	--	--	--	--	--	
MAY 19.....	1220	12.0	135	44	16	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1730	09.0	164	86	38	--	--	--	--	--	--	--	--	--	--	--	
JUN 3.....	1110	09.0	118	12	3.8	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1045	09.0	91	6	1.5	--	--	--	--	--	--	--	--	--	--	--	
JUL 8.....	0920	09.0	27	10	.73	--	--	--	--	--	--	--	--	--	--	--	
AUG 5.....	0900	12.0	9.3	4	.10	--	--	--	--	--	--	--	--	--	--	--	
SEP 2.....	0930	08.0	8.4	5	.11	--	--	--	--	--	--	--	--	--	--	--	

09347200 MIDDLE FORK PIEDRA RIVER NEAR PAGOSA SPRINGS, COLO. (LAT 37 29 12 LONG 107 09 46)

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
MAY 6, 1970	1530	06.0	57	41	6.3	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1330	14.0	149	24	9.7	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1900	10.0	197	88	47	--	--	--	--	--	--	--	--	--	--	--	
JUN 3.....	1430	09.0	138	6	2.2	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1350	11.0	114	6	1.8	--	--	--	--	--	--	--	--	--	--	--	
JUL 8.....	1300	14.0	37	12	1.2	--	--	--	--	--	--	--	--	--	--	--	
AUG 5.....	1200	17.0	20	8	.43	--	--	--	--	--	--	--	--	--	--	--	
SEP 2.....	1200	16.0	28	2	.15	--	--	--	--	--	--	--	--	--	--	--	

09357500 ANIMAS RIVER AT HOWARDSVILLE, COLO. (LAT 37 50 00 LONG 107 36 00)

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
MAY 7, 1970	1530	04.0	196	322	170	15	17	--	--	--	62	86	99	100	--	--	VPWC
MAY 20.....	1100	04.0	425	30	34	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1835	04.0	552	113	168	--	--	--	--	--	--	--	--	--	--	--	
JUN 4.....	1200	05.0	485	54	71	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1720	10.0	415	36	40	--	--	--	--	--	--	--	--	--	--	--	
JUL 9.....	1410	12.0	238	4	2.6	--	--	--	--	--	--	--	--	--	--	--	
AUG 3.....	1010	11.0	69	2	.37	--	--	--	--	--	--	--	--	--	--	--	
SEP 4.....	1015	08.0	69	11	2.0	--	--	--	--	--	--	--	--	--	--	--	

09358900 MINERAL CREEK ABOVE SILVERTON, COLO. (LAT 37 51 04 LONG 107 43 31)

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
MAY 7, 1970	1100	04.0	42	92	10	31	36	--	--	--	80	90	98	100	--	--	VPWC
MAY 20.....	1315	04.0	110	42	12	--	--	--	--	--	77	83	90	98	100	--	VPWC
MAY 20.....	1650	04.0	160	181	78	14	24	--	--	--	59	72	80	88	89	100	SVPWC
JUN 4.....	1000	05.0	108	53	15	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1545	10.0	83	44	9.9	--	--	--	--	--	--	--	--	--	--	--	
JUL 9.....	1145	09.0	57	10	1.5	--	--	--	--	--	--	--	--	--	--	--	
AUG 3.....	1115	10.0	14	4	.15	--	--	--	--	--	--	--	--	--	--	--	
SEP 4.....	0915	06.0	12	8	.26	--	--	--	--	--	--	--	--	--	--	--	

INDEX

	Page
Animas River, near Cedar Hill	66-67
near Howardsville	68
Arkansas River, above Pueblo	30-31
at Lamar	34
below John Martin Reservoir	32-33
near Coolidge, Kans	34-35
near Portland	28-29
Blue River at mouth, near Kremmling	62-63
Carter Lake near Berthoud	19
Collection and examination of data	8-9
Colorado River, at Hot Sulphur Springs	38-39
below Lake Granby	36-37
near Cameo	46-47
near Colorado-Utah State line	50-51
near Dotsero	62-63
near Glenwood Springs	42-43
Cooperation	2
Definition of terms	3-7
Dolores River at Gateway	52-53
Downstream order and station numbers	7-8
Eagle River, at Gypsum	40-41
at mouth, at Dotsero	62-63
Gunnison River near Grand Junction	48-49
Halfmoon Creek near Malta	24-27
Horsetooth Reservoir near Fort Collins	18
Introduction	1
La Plata River at Colorado-New Mexico State line	66-67
Little Snake River near Lily	56-57
Los Pinos River at La Boca	64-65
Mancos River near Towaoc	66-67
McElmo Creek near Colorado-Utah State line	66-67
Middle Fork Piedra River near Pagosa Springs	68
Mineral Creek above Silverton	68
Miscellaneous analyses of streams in Colorado	62-68

Page

North Platte River near Northgate..... 14-15

Piedra River near Arboles..... 64-65
Plateau Creek near Cameo..... 62-63

Rio Grande near Lobatos..... 36
Roaring Fork River at Glenwood Springs..... 44-45

San Juan River near Carracas..... 64-65
San Miguel River below Uravan..... 50-51
Sediment..... 10
Selected references..... 12-13
Solutes..... 9
South Platte River, at Balzac..... 20-21
  at Henderson..... 16-17
  at Julesburg..... 22-23
  at Littleton..... 14
  near Kersey..... 20-21
Special networks..... 7

Temperature..... 10

Uncompahgre River at Delta..... 62-63

Vallecito Creek near Bayfield..... 60-61

White River near Watson, Utah..... 58-59
Williams Fork below Williams Fork Reservoir..... 62-63
Wolf Creek near Pagosa Springs..... 68

Yampa River near Maybell..... 54-55

GPO 836-178