1968

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

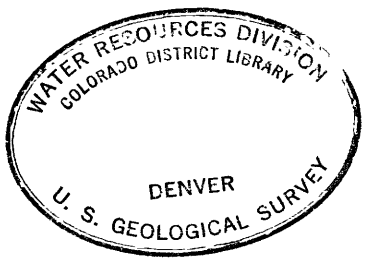
United States Department of the Interior
Geological Survey - Water Resources Division

Water Resources Data for Colorado 1968

Part 2: Water Quality Records

Prepared in cooperation with

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



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

Water resources records, 1968, 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

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

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Water Resources Data for Colorado, 1968

Part 2: Water Quality Records

INTRODUCTION

Water-resources investigations of the U.S. Geological Survey include 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 1968 water year are presented in this report. Data for a few water quality stations in bordering States and selected data on the chemical quality of ground water in Colorado 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 1963 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. The records for Colorado are contained in Parts 5-6, 7-8, and 9-14 of the water-supply paper series. (See table, p. 15.) These publications are available in most public libraries. 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. This report is primarily for local and immediate use, and its distribution is limited. The records pertaining to surface waters will be published in the Geological Survey water-supply papers at 5-year intervals.

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, 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 AND ABBREVIATIONS

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 discharges 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.

Equivalents per million (epm) is a unit for expressing the concentration of chemical constituents in solution in terms of the interacting values of the electrically charged particles, or ions. One equivalent per million of a positively charged ion will react with one equivalent per million of a negatively charged ion. Parts per million is converted to equivalents per million by multiplying by the reciprocal of the combining weight of the ion. (See table below.)

Conversion factors: Parts per million to equivalents per million

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})	0.11119	Hydroxide (OH^{-1})	0.05880
Arsenic (As^{+3})	.04004	Iodide (I^{-1})	.00788
Barium (Ba^{+2})	.01456	Iron (Fe^{+3})	.05372
Beryllium (Be^{+2})	.22192	Lead (Pb^{+2})	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})	.14411
Bromide (Br^{-1})	.01251	Magnesium (Mg^{+2})	.08226
Cadmium (Cd^{+2})	.01779	Manganese (Mn^{+2})	.03640
Calcium (Ca^{+2})	.04990	Nickel (Ni^{+2})	.03406
Carbonate (CO_3^{-2})	.03333	Nitrate (NO_3^{-1})	.01613
Chloride (Cl^{-1})	.02821	Phosphate (PO_4^{-3})	.03159
Chromium (Cr^{+6})	.11539	Potassium (K^{+1})	.02557
Cobalt (Co^{+2})	.03394	Sodium (Na^{+1})	.04350
Copper (Cu^{+2})	.03148	Strontium (Sr^{+2})	.02282
Fluoride (F^{-1})	.05264	Sulfate (SO_4^{-2})	.02082
Hydrogen (H^{+1})	.99209	Zinc (Zn^{+2})	.03060

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.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimes 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 station.

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.

Parts per million (ppm) is a unit for expressing the concentration of chemical constituents by weight, usually as grams of constituents per million grams of solution. In the laboratory the results are expressed in weights of solutes in a given volume of water. To express the results in parts per million, the data must be converted. For most waters, this conversion is made by assuming that a liter of water weighs 1 kilogram; thus milligrams per liter is equivalent to parts per million. Parts per million, for suspended sediment, is computed as 1 million times the ratio of the weight of sediment to the weight of the mixture of water and sediment.

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) = ppm 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 parts per million 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, 1968, is called the "1968 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.

STATION NUMBERS AND WELL 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 06-7540.00, includes the part number "6" plus a six-digit station number. In this report, the nonessential zeros are not shown. For example, the complete number 06-7540.00 appears as 6-7540, 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.

The well numbers used in this report indicate their location. The numbering system, which is illustrated on page 8, is based on the U. S. Bureau of Land Management's system of land subdivision. The number shows

the location of the well or test hole by quadrant, township, range, section, and position within the section. The capital letter at the beginning of the location number indicates the quadrant in which the well is located. Four quadrants are formed by the intersection of the base line and the principal meridian--A indicates the northeast quadrant, B the northwest, C the southwest, and D the southeast. The first numeral indicates the township, the second the range, and the third the section in which the well is located. Lowercase letters following the section number locate the well within the section. The first letter denotes the quarter section, the second the quarter-quarter section, the third the quarter-quarter-quarter section, and the fourth the quarter-quarter-quarter-quarter section. The letters are assigned within the section in a counterclockwise direction beginning with (a) in the northeast quarter of the section. Letters are assigned within each quarter section, quarter-quarter section, and quarter-quarter-quarter section in the same manner. Where two or more locations are within the smallest subdivision, consecutive numbers beginning with 2 are added to the letters in the order in which the wells or test holes were inventoried. For example, C4-68-15daaa2 indicates a well in the northeast quarter of the northeast quarter of the northeast quarter of the southeast quarter of sec.15, T.4 S., R.68 W., and shows that this is the second well inventoried in the quarter-quarter-quarter-quarter section. The capital letter C indicates the township is south of the base line and that the range is west of the principal meridian.

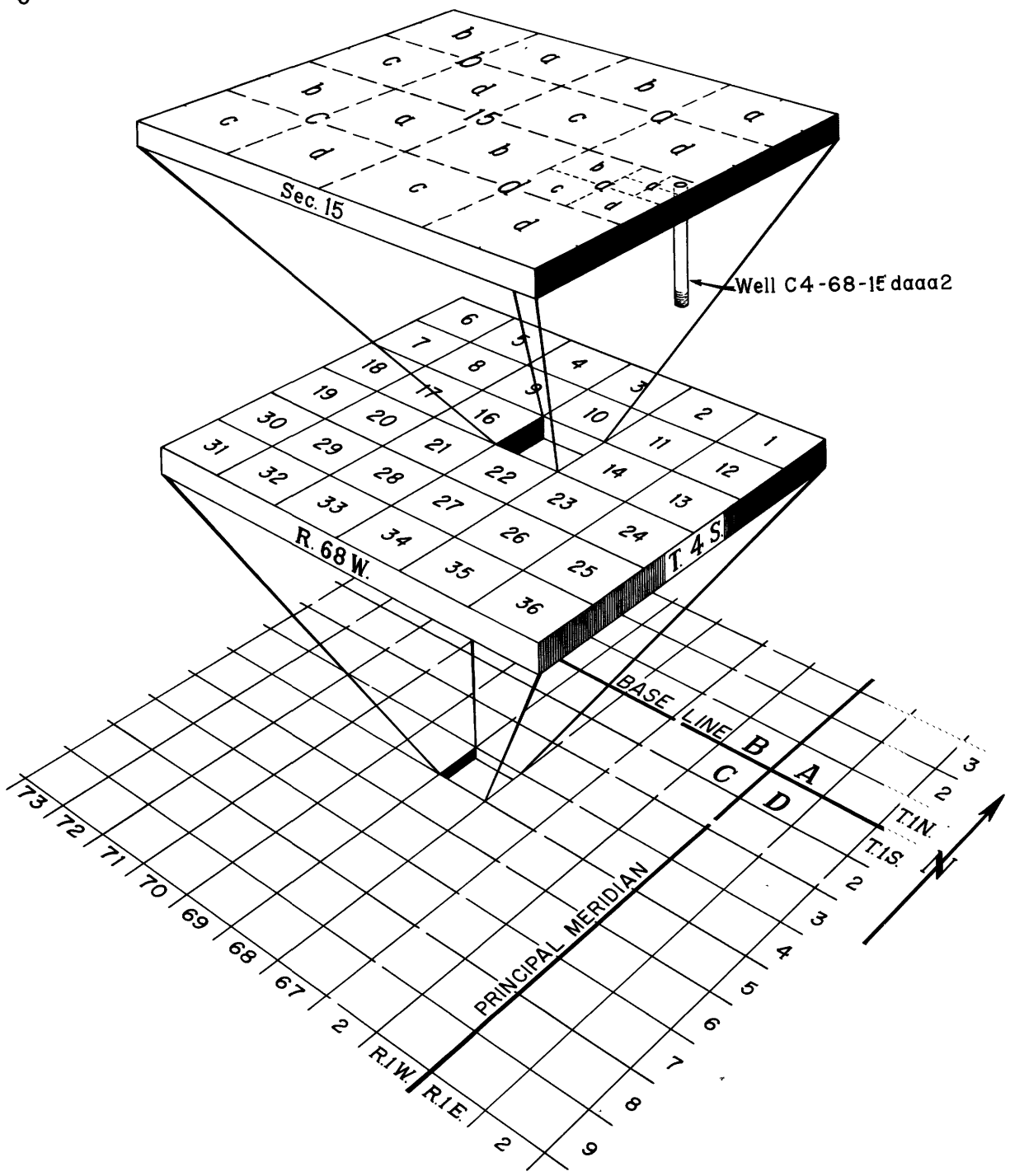

Figure 1.--System of numbering wells in Colorado.

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 on page 10 shows the locations of the surface-water stations sampled in 1968.

Samples of ground water were taken at or near the points of well discharge. Data on the quality of ground water were collected at least once during the year. The areas in which these wells are located are shown on the map on page 11.

Solutes

The methods of collecting water samples and of compositing daily samples prior to laboratory analysis are described in a manual by Rainwater and Thatcher (1960). 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.

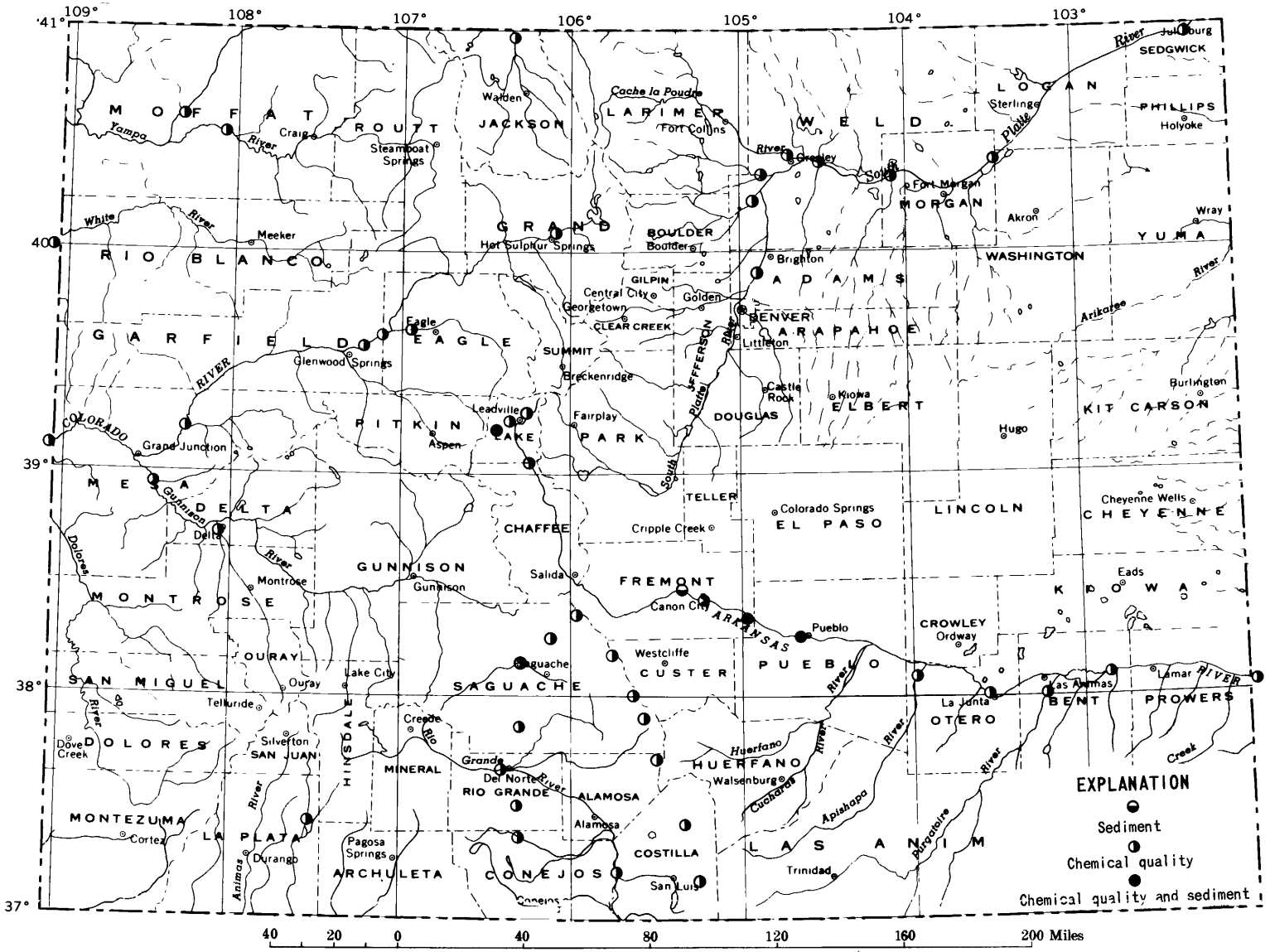

Figure 2.—Map of Colorado showing locations of sites where data on quality of surface water were obtained during the water year. Water-temperature data were obtained daily at some of these sites.

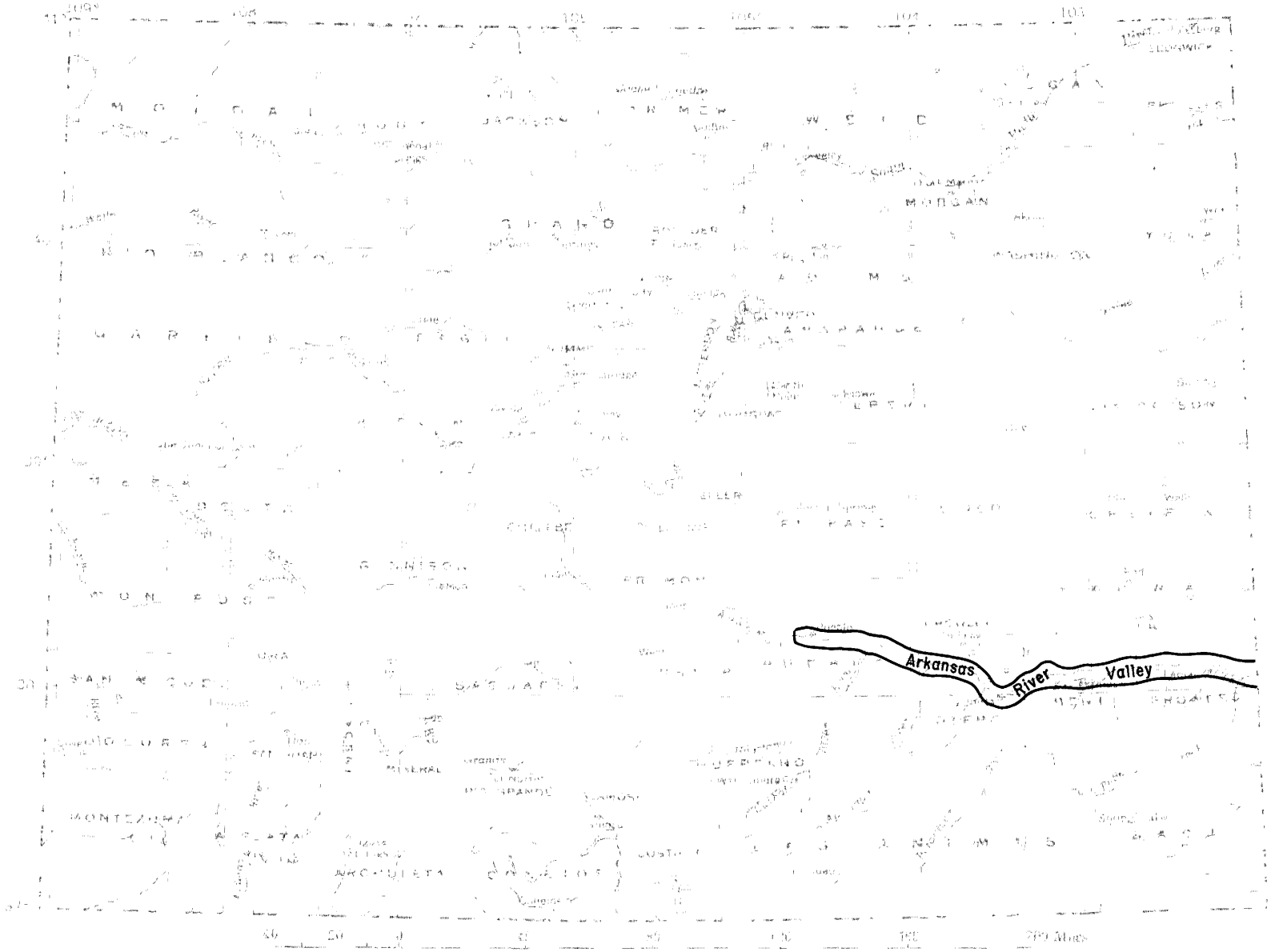

Figure 3.—Map of Colorado showing areas where data were obtained on the chemical quality of ground water.

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.

IRRIGATION NETWORK STATIONS

Irrigation network stations are water-quality stations located at or near certain streamflow gaging stations west of the main stem of the Mississippi River. The chemical-quality 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.

Irrigation network stations published in this report are identified under the station name by "Irrigation network station" set in parentheses.

Over 100 Irrigation network stations were selected in 1952 by the Subcommittee on Hydrology, Interagency Committee on Water Resources (now Committee on Hydrology, Water Resources Council). (Of these, approximately 77 currently are in operation.) Prior to water year 1966, chemical-quality data for irrigation was published in the annual water-supply paper series, "Quality of Surface Waters for Irrigation, Western States." Beginning with the 1966 water year, the Irrigation network data will be published at 5-year intervals in the water-supply paper series entitled, "Quality of Surface Waters of the United States."

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:

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.

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Hem, John D., 1959, Study and interpretation of the chemical characteristics of natural water: U.S. Geol. Survey Water-Supply Paper 1473, 269 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.

Rainwater, F. H., and Thatcher, L. L., 1960, Methods for collection and analysis of water samples: U.S. Geol. Survey Water-Supply Paper 1454, 301 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.

WATER-SUPPLY PAPERS

The table below shows the annual series of Water-Supply Papers that give information on quality of surface waters in Colorado. Data for the Missouri River basin are given in parts 5-6; for the Arkansas River and Rio Grande basins, in parts 7-8; and for the Colorado River basin, in parts 9-14.

Water-supply paper numbers and parts, water years 1941-67

Report year	Parts 1-14 (1941-47)	Parts 5-6	Parts 7-8	Parts 9-14	Irrigation (1951-63)a
1941	942	--	--	--	--
1942	950	--	--	--	--
1943	970	--	--	--	--
1944	1022	--	--	--	--
1945	1030	--	--	--	--
1946	1050	--	--	--	--
1947	1102	--	--	--	--
1948	--	b1132	c1133	--	--
1949	--	b1162	c1163	--	--
1950	--	1187	1188	1189	--
1951	--	1198	1199	1200	1264
1952	--	1251	1252	1253	1362
1953	--	1291	1292	1293	1380
1954	--	1351	1352	1353	1430
1955	--	1401	1402	1403	1465
1956	--	1451	1452	1453	1485
1957	--	1521	1522	1523	1524
1958	--	1572	1573	1574	1575
1959	--	1643	1644	1645	1699
1960	--	1743	1744	1745	1746
1961	--	1883	1884	1885	1886
1962	--	1943	1944	1945	1946
1963	--	1949	1950	1951	1952
1964	--	1956	1957	e1958	d1960
1965	--	d1963	d1964	de1965	1967
1966	--	d1993	d1994	de1995	--
1967	--	d2013	d2014	de2015	--

a Annual series, "Quality of Surface Waters for Irrigation, Western States."
b Includes parts 1-6.
c Includes parts 7-14.
d In preparation.
e Parts 9-11 only.

PART 6. MISSOURI RIVER BASIN

PLATTE RIVER BASIN

6-6200. 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT.												
13...	1230	143	8.7	31	7.8	15	2.1	131	0	36	2.5	.5
NOV.												
09...	1325	130	12	35	9.4	17	2.4	141	0	45	3.5	.5
JAN.												
14...	0815	80	16	33	9.0	10	2.0	140	0	24	1.1	.6
FEB.												
14...	1805	73	15	26	14	12	1.7	146	0	26	2.5	.5
MAR.												
12...	1800	92	14	31	10	13	2.3	145	0	22	1.8	.4
APR.												
24...	1310	607	13	32	15	28	3.8	160	0	66	6.4	.5
MAY												
09...	1325	1110	11	24	9.4	14	2.8	113	0	31	2.8	.4
JUNE												
04...	1740	1560	12	25	4.7	13	2.2	99	0	24	2.8	.5
JULY												
10...	1110	734	11	37	12	20	1.9	189	0	23	2.8	.6
AUG.												
07...	1255	328	8.1	26	8.0	14	1.6	126	0	25	2.1	.5
SEPT.												
12...	1750	118	6.5	32	5.0	13	1.9	128	0	26	1.4	.5

6-7205. 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	TOTAL IRON (FE)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT.												
24...	132	12	18	.26	75	15	134	11	206	195	100	1.6
NOV.												
21...	86	7	17	.03	88	34	130	8.4	292	247	107	1.8
JAN.												
18...	93	8	25	.02	106	27	146	12	636	48	147	1.3
MAR.												
04...	272	15	22	.03	64	19	121	11	472	92	90	1.4
APR.												
01...	112	19	16	.11	95	22	126	8.6	216	218	126	1.3
MAY												
06...	380	11	16	.06	50	11	65	5.4	140	110	48	1.3
JUNE												
04...	347	16	12	.03	34	17	64	6.2	120	95	46	1.2
JULY												
06...	413	17	11	.05	39	14	61	4.7	128	105	42	1.1
AUG.												
05...	440	20	11	.04	46	18	63	4.6	158	110	56	1.4
SEPT.												
08...	226	18	13	.04	61	22	88	6.4	192	154	74	1.4
30...	249	16	14	.05	66	24	100	7.4	216	169	79	1.4

6-6200. NORTH PLATTE RIVER NEAR NORTHGATE, COLO.--Continued

DRAINAGE AREA.--1,431 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1965 to September 1968.
Water temperatures: October 1965 to September 1966.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	BORON (B)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH	TEMP-ERATURE (DEG C)
OCT.											
13...	.1	.04	169	.27	78	110	3	.6	299	7.5	9
NOV.											
09...	.4	.08	194	.29	73	127	11	.7	336	7.7	1
JAN.											
14...	.3	.04	165	.24	38	120	5	.4	328	7.4	1
FEB.											
14...	.4	.02	170	.26	37	121	1	.5	283	7.6	0
MAR.											
12...	.2	.06	166	.24	43	119	0	.5	292	7.5	0
APR.											
24...	.4	.02	244	.35	416	142	11	1.0	412	7.8	5
MAY											
09...	.5	.03	152	.23	515	100	7	.6	251	7.8	--
JUNE											
04...	.5	.04	134	.19	581	81	0	.6	211	7.8	--
JULY											
10...	1.0	.05	202	.30	432	142	0	.7	356	8.2	17
AUG.											
07...	.3	.04	140	.21	138	99	0	.6	261	7.9	--
SEPT.											
12...	.0	.03	149	.19	44	100	0	.6	260	8.2	14

6-7205. SOUTH PLATTE RIVER AT HENDERSON, COLO.--Continued

DRAINAGE AREA.--4,713 sq mi (at gaging station).
RECORDS AVAILABLE.--Chemical analyses: July 1955 to September 1957, June 1962 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.											
24...	23	26	.45	709	.96	253	250	81	3.7	1070	7.2
NOV.											
21...	25	12	.39	800	1.09	186	360	120	3.0	1200	7.4
JAN.											
18...	1.1	24	.46	820	1.12	206	325	0	3.3	1470	7.9
MAR.											
04...	.4	25	.40	611	.83	449	238	0	3.4	1160	7.3
APR.											
01...	41	8.9	.27	779	1.06	236	328	151	3.0	1180	7.3
MAY											
06...	18	6.6	.20	397	.54	407	168	53	2.2	623	7.1
JUNE											
04...	33	12	.20	378	.51	354	152	54	2.3	587	7.1
JULY											
08...	19	8.1	.16	371	.50	414	156	51	2.1	596	7.0
AUG.											
05...	15	4.8	.15	408	.55	485	192	62	2.0	671	7.2
SEPT.											
08...	21	9.7	.25	550	.75	336	242	85	2.5	871	7.0
30...	34	11	.29	620	.84	417	262	85	2.7	966	6.9

6-7310. ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, COLO.

LOCATION.--Lat 40°15'29", long 104°52'45", in SE¼NW¼ sec.3, T.3 N., R.67 W., Weld County, at gaging station at bridge on county road, 1.3 miles upstream from mouth and 4 miles northwest of Platteville.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
24...	112	11	10	132	88	159	324	718	34	13
DEC.										
05...	128	2	9.9	100	66	116	268	488	27	20
JAN.										
18...	114	0	10	98	60	101	308	434	24	7.8
MAR.										
03...	192	3	7.3	84	76	118	252	510	22	15
APR.										
01...	87	16	7.0	94	94	140	298	620	31	15
MAY										
07...	102	10	8.9	88	74	118	268	520	26	13
JUNE										
04...	131	18	11	83	68	106	238	488	23	12
JULY										
08...	189	18	10	86	64	107	262	450	22	14
AUG.										
05...	192	21	9.2	96	79	124	264	562	25	13
SEPT.										
08...	212	17	8.4	107	97	146	284	708	28	6.3

6-7440. BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, COLO.

LOCATION.--Lat 40°21'04", long 104°46'27", Weld County, at highway bridge 0.7 mile downstream from gage, 0.9 mile upstream from mouth, and 3.5 miles west of La Salle.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
23...	75	11	11	196	130	206	380	1120	26	25
DEC.										
05...	77	2	11	184	140	191	392	1070	31	13
JAN.										
18...	58	0	12	196	126	170	512	960	22	.3
MAR.										
04...	57	0	9.2	200	134	198	372	1100	24	12
APR.										
01...	45	--	6.6	192	147	218	384	1150	26	13
MAY										
07...	3.5	12	8.8	192	139	201	378	1090	26	15
JUNE										
04...	34	20	9.6	139	128	176	344	870	24	12
JULY										
08...	43	18	9.9	166	130	198	322	995	30	13
AUG.										
05...	48	21	9.6	162	116	175	328	900	26	15
SEPT.										
08...	151	16	7.8	122	76	106	238	595	18	8.0

6-7310. ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, COLO.--Continued

DRAINAGE AREA.--976 sq mi.
RECORDS AVAILABLE.--Chemical analyses: September 1965 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
24...	1.1	1370	1.86	414	690	424	2.6	1690	7.8
DEC.									
05...	2.1	1020	1.39	353	520	300	2.2	1310	7.7
JAN.									
18...	2.6	906	1.23	275	492	239	2.0	1230	7.2
MAR.									
03...	2.0	1040	1.41	539	524	317	2.2	1310	7.7
APR.									
01...	3.5	1230	1.67	289	622	378	2.4	1570	7.7
MAY									
07...	2.1	1060	1.44	292	524	304	2.2	1360	7.6
JUNE									
04...	1.2	986	1.34	349	488	293	2.1	1270	7.6
JULY									
08...	1.1	955	1.30	487	476	261	2.1	1240	7.6
AUG.									
05...	.88	1130	1.54	586	348	131	2.3	1430	7.5
SEPT.									
08...	.59	1330	1.81	761	668	435	2.5	1650	7.4

6-7440. BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, COLO.--Continued

DRAINAGE AREA (revised).--828 sq mi (at gaging station).
RECORDS AVAILABLE.--Chemical analyses: August 1954 to July 1956, October 1967 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
23...	3.0	2080	2.83	421	1030	718	2.8	2290	7.7
DEC.									
05...	.80	2040	2.77	424	1040	718	2.6	2240	7.9
JAN.									
18...	.77	1850	2.52	290	1010	590	2.3	2140	7.7
MAR.									
04...	1.4	2040	2.77	314	1050	745	2.7	2270	8.0
APR.									
01...	1.4	2120	2.88	258	1080	765	2.9	2340	7.8
MAY									
07...	.99	2040	2.77	19	1050	740	2.7	2270	7.8
JUNE									
04...	.56	1670	2.27	153	875	593	2.6	1970	8.0
JULY									
08...	.58	1890	2.57	219	950	686	2.8	2170	8.0
AUG.									
05...	.50	1710	2.33	222	880	611	2.6	2000	7.9
SEPT.									
08...	.29	1120	1.52	457	616	421	1.9	1420	7.6

6-7525. CACHE LA POUDRE RIVER NEAR GREELEY, COLO.

LOCATION.--Lat 40°25'04", long 104°38'22", in NW¼ sec.11, T.5 N., R.65 W., Weld County, at gaging station at highway bridge, 3 miles east of courthouse in Greeley and 3 miles upstream from mouth.
DRAINAGE AREA.--1,877 sq mi.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
23...	14	13	14	192	96	136	404	738	53	15
DEC.										
05...	15	5	13	204	109	140	424	839	46	6.8
JAN.										
18...	66	2	15	196	92	130	372	784	48	17
MAR.										
04...	85	5	11	190	98	136	336	803	34	25
APR.										
01...	26	--	14	200	85	141	404	727	45	21
MAY										
07...	11	12	13	173	75	123	376	639	36	17
JUNE										
04...	31	19	14	178	84	141	372	700	49	19
JULY										
08...	28	18	13	162	84	127	324	662	36	18
AUG.										
05...	28	23	13	178	95	143	338	770	39	3.6
SEPT.										
08...	29	18	12	157	87	124	348	635	34	13

6-7540. 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	TOTAL IRON (FE)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT.												
23...	540	12	13	--	144	85	153	7.2	354	663	54	1.7
DEC.												
05...	138	3	13	.01	132	80	145	7.7	332	598	64	1.7
JAN.												
18...	552	0	14	.01	143	58	133	7.7	356	505	76	1.2
MAR.												
18...	570	7	14	.01	134	68	149	6.7	298	570	69	1.3
APR.												
01...	472	--	13	.06	136	64	149	7.5	314	548	73	1.3
MAY												
07...	135	14	16	.03	150	66	126	6.3	286	600	44	1.2
JUNE												
04...	201	--	13	.00	141	75	137	6.0	304	588	46	1.0
JULY												
08...	201	18	13	.02	134	89	131	6.2	304	642	38	1.4
AUG.												
05...	231	24	14	.01	134	91	142	6.1	318	655	44	1.7
SEPT.												
08...	450	19	12	.02	116	82	122	5.0	282	578	36	1.5

6-7525. CACHE LA POUDRE RIVER NEAR GREELEY, COLO.--Continued

RECORDS AVAILABLE.--Chemical analyses: November 1951 to September 1952, August 1954 to August 1956, December 1963 to September 1966, October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
23...	4.6	--	1560	2.12	59	875	544	2.0	1840	7.9
DEC.										
05...	.32	--	1700	2.31	68	960	612	2.0	1970	7.9
JAN.										
18...	2.4	--	1560	2.12	278	868	563	1.9	1850	7.4
MAR.										
04...	1.9	--	1580	2.15	363	880	604	2.0	1840	7.8
APR.										
01...	1.9	--	1550	2.11	109	848	517	2.1	1820	7.8
MAY										
07...	1.4	--	1360	1.85	40	742	434	2.0	1650	7.5
JUNE										
04...	2.6	--	1440	1.96	121	790	485	2.2	1750	8.0
JULY										
08...	1.4	--	1350	1.84	102	750	484	2.0	1680	7.9
AUG.										
05...	2.0	.20	1510	2.05	114	835	558	2.2	1840	7.9
SEPT.										
08...	.80	--	1310	1.78	103	748	463	2.0	1650	7.9

6-7540. SOUTH PLATTE RIVER NEAR KERSEY, COLO.--Continued

DRAINAGE AREA.--9,598 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1949 to September 1953, August 1954 to August 1957, June 1962 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH
OCT.											
23...	9.6	1.5	.28	1380	1.88	2010	710	420	2.5	1740	7.9
DEC.											
05...	.3	2.4	.42	1260	1.71	469	660	388	2.5	1610	7.8
JAN.											
18...	7.2	4.3	.29	1170	1.59	1740	596	304	2.4	1520	7.6
MAR.											
18...	24	4.5	.28	1160	1.58	1790	616	372	2.6	1620	7.7
APR.											
01...	15	6.0	.29	1230	1.67	1570	604	346	2.6	1610	7.5
MAY											
07...	20	2.0	.19	1240	1.69	452	648	413	2.1	1560	7.6
JUNE											
04...	15	1.4	.22	1240	1.69	673	660	411	2.3	1600	7.8
JULY											
08...	16	.69	.23	1320	1.66	716	702	453	2.2	1670	7.7
AUG.											
05...	18	.89	.24	1360	1.71	848	710	449	2.3	1700	7.8
SEPT.											
09...	16	.77	.24	1210	1.51	1470	628	397	2.1	1530	7.6

6-7585. SOUTH PLATTE RIVER NEAR WELDONA, COLO.

LOCATION.--Lat 40°19'20", long 103°55'20", Morgan County, at bridge on State Highway 144, 400 ft upstream from gage, 2.8 miles southeast of Weldona, and 4.2 miles upstream from Bijou Creek.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
23...	105	14	29	285	143	291	440	1400	92	27
DEC.										
05...	264	4	17	168	68	155	328	668	61	13
JAN.										
18...	450	0	15	152	60	147	342	566	64	15
MAR.										
04...	372	10	14	152	66	153	312	602	58	14
APR.										
01...	330	--	13	162	61	157	320	608	64	13
MAY										
07...	187	14	14	168	61	157	314	650	56	6.4
JUNE										
04...	116	21	14	160	11	157	292	570	60	7.2
JULY										
08...	301	22	11	132	80	170	260	688	68	6.0
08...	301	22	17	200	107	219	336	918	80	14
AUG.										
05...	268	27	15	160	75	165	312	675	56	8.6
SEPT.										
08...	264	22	15	140	76	151	288	688	61	10

6-7600. 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	TOTAL IRON (FE)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT.												
23...	11	14	12	.01	154	63	149	8.4	270	674	56	1.2
NOV.												
21...	12	7	12	.01	168	64	149	--	280	699	57	1.1
JAN.												
18...	181	0	15	.01	165	63	141	8.3	344	600	64	1.0
MAR.												
19...	451	--	16	.01	172	70	162	8.3	324	688	66	1.2
APR.												
01...	228	--	16	.01	182	67	162	8.5	332	700	66	1.1
MAY												
07...	172	16	16	.01	190	70	165	9.5	318	750	65	1.0
JUNE												
04...	30	21	11	.00	180	83	176	11	256	850	66	2.2
JULY												
08...	260	25	15	.02	164	68	162	9.0	232	725	60	2.0
AUG.												
05...	234	31	14	.01	128	89	174	10	218	762	67	1.5
SEPT.												
08...	135	23	14	.01	152	89	165	9.0	300	758	59	1.1
30...	146	19	15	.00	180	85	173	9.8	322	805	63	1.1

6-7585. SOUTH PLATTE RIVER NEAR WELDONA, COLO.--Continued

DRAINAGE AREA.--13,245 sq mi (at gaging station).
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (P04)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
23...	.09	2620	3.56	743	1300	939	3.5	2870	7.9
DEC.									
05...	.86	1340	1.82	1010	700	431	2.5	1690	7.9
JAN.									
18...	1.7	1240	1.69	1510	628	347	2.5	1590	7.6
MAR.									
04...	1.4	1280	1.74	1290	650	394	2.6	1620	8.1
APR.									
01...	1.7	1310	1.78	1170	655	392	2.7	1660	7.9
MAY									
07...	.56	1360	1.85	687	670	413	2.6	1670	8.2
JUNE									
04...	.55	1390	1.89	435	690	450	3.2	1720	7.5
JULY									
08...	.50	1380	1.88	1120	650	437	2.9	1750	7.7
08...	.39	1950	2.65	1590	940	664	3.1	2280	7.7
AUG.									
05...	.43	1410	1.92	1020	710	454	2.7	1750	8.0
SEPT.									
08...	.50	678	.92	483	664	428	2.5	1730	8.0

6-7600. SOUTH PLATTE RIVER AT BALZAC, COLO.--Continued

DRAINAGE AREA.--16,852 sq mi.
RECORDS AVAILABLE.--Chemical analyses: January 1950 to September 1951, August 1954 to September 1957, June 1962 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	ORTHO PHOS-PHATE (P04)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH
OCT.											
23...	.2	.11	.21	1300	1.77	38	645	424	2.6	1660	7.8
NOV.											
21...	.3	.07	.21	1330	1.81	43	685	455	2.5	1680	7.9
JAN.											
18...	15	1.1	.23	1330	1.81	650	670	388	2.4	1670	7.9
MAR.											
19...	17	1.5	.22	1450	1.97	1770	716	450	2.6	1790	7.8
APR.											
01...	12	1.3	.23	1470	2.00	905	730	458	2.6	1810	7.9
MAY											
07...	7.7	.81	.21	1520	2.07	706	764	503	2.6	1870	7.9
JUNE											
04...	1.4	.23	.22	1570	2.14	127	790	580	2.7	1980	7.8
JULY											
08...	8.9	.74	.19	1390	1.81	976	690	500	2.7	1790	7.9
AUG.											
05...	6.7	.65	.27	1470	1.85	929	684	505	2.9	1860	7.5
SEPT.											
09...	11	.40	.24	1490	1.92	543	744	498	2.6	1880	7.8
30...	9.2	.35	.24	1590	2.04	627	800	536	2.7	1970	7.8

6-7640. 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 1968.
Water temperatures: October 1945 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	TOTAL IRON (FE)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT. 26...	100	36	.02	190	48	169	19	300	692	67	.7
NOV. 28...	242	29	.01	210	61	199	18	325	825	70	.8
DEC. 20...	242	30	.01	215	61	222	19	360	830	73	.6
JAN. 24...	420	21	.03	180	56	164	13	300	677	61	.8
FEB. 26...	270	29	.02	208	63	214	16	324	812	75	.7
MAR. 27...	415	22	.04	193	65	192	13	330	760	65	.9
APR. 30...	59	24	.02	195	56	200	16	266	790	73	.7
MAY 29...	180	27	.05	200	62	226	20	304	830	76	.7
JUNE 28...	24.4	27	.03	200	57	171	16	251	762	71	.6
JULY 30...	24	31	.00	210	54	197	18	282	787	73	.7
AUG. 29...	333	29	.06	205	64	229	19	301	857	74	.7

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1980	1970	2070	2120	2090	2090	2030	1980	2100	1980	1930	2160
2.....	1990	1920	2070	2260	2090	2060	1980	1980	2100	1960	1920	2190
3.....	2020	1960	2110	--	2080	2070	--	1980	2130	1980	1930	2220
4.....	2050	2000	2080	--	2080	2060	1970	1980	2130	1970	1910	2170
5.....	1980	2030	2080	2360	2070	2060	2060	1990	2090	1970	1880	2190
6.....	2020	2030	2070	2350	2060	2040	1940	1980	2060	1980	1890	2170
7.....	2020	2080	2120	2540	2060	2060	1980	1880	2020	1980	1920	2190
8.....	2090	2040	2180	2540	2070	2070	1980	1830	1930	1980	1930	2170
9.....	2090	2030	2140	2300	2060	2060	2020	1950	2020	1970	1060	2160
10.....	2080	2070	2080	2320	2080	1990	2030	1790	2010	1990	1620	2140
11.....	2080	2020	2110	2300	2080	1980	2040	1770	1970	1980	1840	--
12.....	2100	2000	2050	2240	2080	2010	2020	1870	1980	1980	1980	--
13.....	2130	2020	2070	2380	2080	2020	1970	1900	2030	1980	2040	--
14.....	2130	2000	2160	2210	2150	2030	1950	2000	2070	1980	1860	2070
15.....	2080	2000	2180	2230	2130	2020	1990	2020	2060	1990	348	2050
16.....	2050	2020	2190	2130	2080	2010	1890	1930	940	1970	463	2030
17.....	1950	2020	2080	2120	2070	1970	1900	1900	1610	1970	708	2040
18.....	2010	2170	2110	2910	2080	1980	1880	2100	1930	1970	1440	2050
19.....	1980	2180	2120	2210	2070	1950	1880	1950	1920	1980	1880	2050
20.....	1980	2170	2140	2000	2080	1950	1860	1950	1890	1970	2060	2040
21.....	1960	2160	2150	1930	2040	1950	1940	1910	1920	1970	2080	2060
22.....	1960	2160	2070	1920	2030	1940	1880	1880	2010	1980	2150	2030
23.....	1950	2140	2160	1920	2040	1960	1880	1900	2010	1980	2180	2020
24.....	1980	2160	2150	1870	2060	1970	1880	1880	2010	1980	2200	2030
25.....	1980	2160	2140	1870	2070	1980	1840	1830	2010	1820	2210	2010
26.....	1870	2160	2040	1930	2060	1980	1840	1710	2020	2030	2200	2010
27.....	1990	2170	2050	2050	2060	1990	1910	1830	2020	1340	2200	2020
28.....	1950	2170	2050	2060	2060	1990	1950	2020	1990	1930	2180	2040
29.....	1920	2120	2070	2080	2060	1970	1960	2120	1970	1990	2120	2040
30.....	1960	2130	2040	2100	--	1970	1960	2120	1990	1990	1990	2040
31.....	1960	--	2100	2100	--	1990	--	2040	--	1990	2060	--
AVERAGE	2010	2080	2100	2180	2070	2010	1950	1930	1960	1950	1810	2090

6-7640. SOUTH PLATTE RIVER AT JULESBURG, COLO.--Continued

EXTREMES, 1967-68.--Specific conductance: Maximum daily, 2,910 micromhos Jan. 18; minimum daily, 348 micromhos Aug. 15.
Water temperatures: Maximum, 30°C Aug. 6; minimum, freezing point Jan. 1.
EXTREMES, 1945-68.--Specific conductance: Maximum daily, 3,000 micromhos Dec. 28, 30, 1962; minimum daily, 348 micromhos Aug. 15, 1968.
Water temperatures: Maximum (1946-49, 1950-68), 34°C July 28, Aug. 1, 1953, July 7, 18, 1963; minimum, freezing point on many days during winter months.
REMARKS.--Samples for chemical analysis collected from channel no. 2 (06-7639.90).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
OCT.										
26...	6.2	.24	1470	2.00	397	674	428	2.8	1860	7.6
NOV.										
28...	3.3	.29	1680	2.28	1100	773	506	3.1	2180	7.6
DEC.										
20...	8.1	.26	1750	2.38	1140	787	492	3.4	2140	7.8
JAN.										
24...	9.4	.29	1410	1.92	1600	677	431	2.7	1770	7.1
FEB.										
26...	4.7	.27	1660	2.26	1210	777	511	3.3	2050	7.7
MAR.										
27...	7.0	.28	1550	2.11	1740	746	475	3.1	1940	7.8
APR.										
30...	2.4	.23	1570	2.14	250	717	499	3.2	1980	7.6
MAY										
29...	4.2	.29	1670	2.27	812	752	503	3.6	2130	7.5
JUNE										
28...	.4	.24	1520	2.07	100	733	527	2.7	1950	8.0
JULY										
30...	1.4	.26	1600	2.18	104	744	513	3.1	2000	7.4
AUG.										
29...	2.5	.35	1720	2.34	1550	776	530	3.6	2150	7.7

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	19	14	19	15	14	13	11	18	17	10	11	15	11	11	12	10	9	9	9	10	10	12	9	10	7	10	7	9	10	12	13	12
NOVEMBER.	16	9	4	7	1	10	8	9	13	10	10	9	9	10	12	10	9	6	4	4	6	4	7	6	7	4	3	1	4	2	--	7
DECEMBER.	4	1	2	6	1	2	1	2	1	3	4	2	2	2	1	3	2	1	1	1	1	1	2	4	2	3	3	2	1	1	1	2
JANUARY..	0	1	--	--	1	1	1	1	2	2	2	1	1	1	2	1	2	1	2	2	1	2	1	1	2	2	1	4	4	3	2	2
FEBRUARY.	1	2	2	6	3	4	1	2	2	1	4	1	1	1	1	1	3	3	10	6	2	2	1	8	4	3	6	4	10	--	--	3
MARCH....	7	4	6	3	4	7	7	9	7	6	2	2	3	6	4	4	13	8	4	7	1	4	2	11	11	9	7	8	17	16	9	7
APRIL....	6	10	--	2	11	12	10	6	11	7	10	12	14	11	8	10	7	4	4	8	13	7	4	7	16	10	9	16	8	10	--	9
MAY.....	10	11	10	10	8	12	7	18	9	10	8	11	15	10	11	10	7	11	14	18	20	12	13	11	12	14	13	13	16	17	17	12
JUNE.....	18	20	20	19	19	19	19	17	16	16	16	17	17	20	17	16	18	18	20	19	17	17	20	20	14	17	21	16	21	16	--	18
JULY.....	14	14	14	14	17	16	18	17	17	18	19	19	18	29	20	19	20	19	19	18	19	17	19	20	19	27	21	19	29	24	18	19
AUGUST...	16	18	17	23	24	30	24	22	18	17	17	19	19	19	16	19	18	18	21	20	22	21	21	17	21	19	20	19	19	21	19	19
SEPTEMBER	17	17	16	13	14	18	20	16	14	14	--	--	--	26	17	14	11	13	14	21	18	20	14	11	12	16	17	16	13	11	--	16

ARKANSAS RIVER BASIN

7-0792. LEADVILLE DRAIN NEAR LEADVILLE, COLO.

LOCATION.--Lat 39°16'28", long 106°17'18", Lake County, at Parshall flume 500 ft below Leadville Drainage Tunnel, 0.4 mile from mouth, and 1.6 miles from courthouse in Leadville.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	TOTAL IRON (FE)	MAN-GANESE (MN)	ZINC (ZN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)
OCT.												
05...	--	7	9.1	.01	3.6	5.1	90	43	3.3	1.1	138	300
NOV.												
15...	3.6	8	9.7	.02	3.7	5.3	94	46	3.6	1.1	140	310
DEC.												
12...	3.5	6	9.2	.00	3.8	5.7	100	48	4.2	1.4	140	329
JAN.												
11...	3.3	7	9.9	.04	3.9	6.2	104	52	4.2	1.5	140	331
FEB.												
08...	3.2	7	9.2	1.8	4.0	6.1	109	51	5.0	1.4	144	358
MAR.												
04...	3.2	7	9.3	1.7	5.9	5.8	109	51	4.1	1.6	140	368
APR.												
09...	2.8	7	10	1.6	6.0	6.5	111	52	4.3	1.6	144	375
MAY												
06...	2.9	7	9.7	2.2	6.0	6.0	116	54	4.4	1.6	140	385
JUNE												
06...	2.9	6	11	1.0	9.0	15	124	63	4.4	1.7	118	462
JULY												
03...	2.7	7	10	.11	7.7	9.9	112	55	4.3	1.5	132	405
AUG.												
09...	2.5	7	9.1	.02	2.3	7.5	64	42	2.7	1.1	134	223
SEPT.												
06...	2.5	7	9.2	.01	2.0	7.9	55	37	2.4	1.6	131	188

7-0812. ARKANSAS RIVER NEAR LEADVILLE, COLO.

LOCATION.--Lat 39°15'26", long 106°20'35", in NW¼NW¼ sec.21, T.9 S., R.80 W., Lake County, at gaging station, 500 ft downstream from confluence of East Fork Arkansas River and Tennessee Creek, 0.5 mile downstream from highway bridge, and 3 miles northwest of Leadville.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	TOTAL IRON (FE)	MAN-GANESE (MN)	ZINC (ZN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)
OCT.												
05...	31	7	6.6	.06	.33	.43	27	12	2.5	1.0	86	50
NOV.												
15...	24	3	7.7	.05	.38	.53	27	13	2.6	.7	86	51
DEC.												
07...	20	0	8.0	.00	.42	.64	40	14	3.0	.8	102	72
JAN.												
11...	16	0	6.6	.02	.44	.72	32	14	3.0	.7	84	70
FEB.												
08...	12	0	7.4	.04	.60	.83	40	18	2.7	.8	110	78
MAR.												
04...	26	0	7.1	.04	.59	.87	37	16	2.7	1.0	99	85
APR.												
08...	20	2	7.8	.06	.70	.98	39	18	3.0	1.0	94	96
MAY												
06...	93	5	6.1	.42	.23	.47	15	6.3	1.9	2.5	48	30
JUNE												
06...	540	6	4.5	.09	.08	.23	8.8	3.9	1.1	.7	20	19
JULY												
03...	120	14	4.6	.06	.15	.22	14	6.1	1.4	.5	45	25
AUG.												
09...	163	8	4.8	.10	.12	.11	13	7.1	1.4	.5	48	23
SEPT.												
05...	53	12	5.7	.10	.12	.24	14	10	1.7	.6	71	22

7-0792. LEADVILLE DRAIN NEAR LEADVILLE, COLO.--Continued

RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	CHLO-RIDE (CL)	FLUO-RIDE (F)	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.												
05...	1.7	.3	.9	.00	.01	552	--	402	289	.1	714	7.5
NOV.												
15...	1.9	.3	1.2	.00	.02	582	5.66	424	309	.1	762	7.4
DEC.												
12...	2.5	.8	2.1	.00	.01	596	5.63	448	333	.1	791	7.4
JAN.												
11...	2.7	.9	2.9	.00	.01	623	5.55	472	357	.1	812	7.3
FEB.												
08...	2.9	.9	2.3	.00	.01	643	5.56	480	362	.1	835	7.3
MAR.												
04...	3.5	.2	1.8	.00	.00	659	5.69	480	365	.1	850	7.1
APR.												
08...	4.0	.4	2.1	.00	.02	676	5.11	490	372	.1	874	7.0
MAY												
06...	3.6	.2	2.2	.00	.01	676	5.29	512	397	.1	870	7.6
JUNE												
06...	3.7	.3	2.4	.00	.02	768	6.01	570	473	.1	953	7.2
JULY												
03...	3.2	.4	2.1	.00	.01	689	5.02	508	400	.1	877	7.1
AUG.												
09...	1.9	.5	1.5	.00	.01	434	2.93	332	222	.1	616	7.6
SEPT.												
06...	1.9	.5	1.7	.00	.01	388	2.62	290	183	.1	559	7.0

7-0812. ARKANSAS RIVER NEAR LEADVILLE, COLO.--Continued

DRAINAGE AREA.--97.2 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	CHLO-RIDE (CL)	FLUO-RIDE (F)	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.												
05...	1.2	1.0	.1	.30	.00	158	13.2	118	47	.1	247	7.6
NOV.												
15...	1.4	.5	.1	.00	.01	159	10.3	120	49	.1	246	7.5
DEC.												
07...	2.8	.5	.8	.00	.04	189	10.2	156	72	.1	294	7.8
JAN.												
11...	2.4	.4	.9	.00	.01	169	7.30	138	69	.1	273	7.3
FEB.												
08...	1.6	.6	1.2	.00	.01	210	6.80	172	82	.1	331	7.6
MAR.												
04...	1.7	.3	.7	.00	.01	216	15.2	160	79	.1	325	7.4
APR.												
08...	2.5	.4	.7	.00	.01	223	12.0	172	95	.1	346	7.6
MAY												
06...	2.5	.3	.7	.01	.04	95	23.9	64	25	.1	142	7.2
JUNE												
06...	1.7	.9	.7	.00	.03	60	87.5	38	22	.1	81	7.0
JULY												
03...	1.6	.9	.5	.00	.00	79	25.6	61	24	.1	128	7.5
AUG.												
09...	1.3	1.2	.5	.00	.01	74	32.6	62	23	.1	129	7.1
SEPT.												
05...	1.3	.5	.2	.00	.00	94	13.5	76	18	.1	160	7.2

7-0830. 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.
RECORDS AVAILABLE.--Chemical analyses: November 1966 to September 1968.
Water temperatures: May 1967 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	TOTAL IRON (FE)	MAN-GANESE (MN)	ZINC (ZN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)
OCT.												
05...	15	11	4.6	--	--	--	10	3.2	1.6	1.0	45	4.7
NOV.												
09...	9.9	0	5.2	--	--	--	10	3.4	1.4	1.0	47	4.9
DEC.												
12...	4.4	0	5.9	--	--	--	12	4.1	1.8	.4	50	5.8
JAN.												
05...	3.5	0	6.3	--	--	--	12	4.1	1.9	.5	53	6.8
FEB.												
19...	2.9	1	6.2	--	--	--	11	4.9	1.8	.5	52	6.5
MAR.												
10...	3.2	0	6.5	--	--	--	11	3.9	2.0	.5	52	6.2
APR.												
08...	6.0	3	6.9	.00	.00	.01	11	5.4	1.8	.3	54	6.8
MAY												
06...	16	3	4.9	--	--	--	8.8	4.4	1.3	.4	40	6.2
JUNE												
06...	140	3	3.4	.01	.00	.00	7.2	1.5	.7	.3	24	3.5
JULY												
04...	63	10	3.6	--	--	--	8.0	1.2	.9	.3	28	2.8
AUG.												
05...	61	9	3.5	--	--	--	7.6	3.6	1.1	.4	38	4.5
SEPT.												
06...	29	5	4.4	--	--	--	9.6	3.9	1.2	.5	42	5.8

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER																																
MAXIMUM	14	11	15	12	12	8	7	8	6	3	7	7	7	7	3	6	6	7	6	6	6	5	3	3	4	3	1	3	2	0	1	6
MINIMUM	6	7	7	7	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
NOVEMBER																																
MAXIMUM	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	--	0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	0
DECEMBER																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JANUARY																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEBRUARY																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	0
MARCH																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	3		0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
APRIL																																
MAXIMUM	2	1	3	2	3	3	1	1	1	3	6	6	6	5	4	6	4	2	3	2	4	4	6	4	6	4	1	6	8	8	--	4
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	--	0
MAY																																
MAXIMUM	8	7	9	7	7	6	6	9	6	4	8	6	7	9	9	9	9	9	11	9	11	10	8	5	11	11	11	12	9	11	9	8
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUNE																																
MAXIMUM	8	8	6	7	8	9	7	6	6	8	11	11	9	9	8	9	9	9	10	10	10	9	8	8	9	11	11	11	11	9	--	9
MINIMUM	0	0	0	0	0	0	2	2	2	2	3	2	2	2	2	2	2	2	3	3	2	2	2	2	3	2	3	3	3	2	--	2
JULY																																
MAXIMUM	11	11	11	7	7	11	9	9	9	12	8	9	9	8	11	10	11	11	9	12	10	9	9	10	12	8	7	9	12	9	7	10
MINIMUM	2	3	4	3	4	3	3	4	3	3	3	3	3	3	4	3	3	3	4	3	3	5	4	4	4	7	5	4	4	4	4	4
AUGUST																																
MAXIMUM	7	7	9	11	9	9	9	8	12	11	10	12	11	10	12	12	11	12	12	10	14	13	12	13	14	12	10	13	13	14	13	11
MINIMUM	4	4	3	3	4	4	5	4	4	7	7	6	6	7	4	4	6	6	6	6	7	6	6	4	7	6	7	6	6	6	6	5
SEPTEMBER																																
MAXIMUM	14	10	9	11	12	11	12	13	13	13	11	11	10	11	11	8	8	11	11	11	10	8	10	11	11	11	11	8	9	11	--	11
MINIMUM	5	4	5	3	3	4	4	4	4	4	5	5	4	4	5	4	2	3	3	4	4	3	3	2	3	2	3	3	4	3	--	4

7-0830. HALFMOON CREEK NEAR MALTA, COLO.--Continued

EXTREMES, 1967-68.--Water temperatures: Maximum, 15°C Oct. 3; minimum, freezing point on many days during October to June.
EXTREMES, May 1967 to September 1968.--Water temperatures: Maximum, 16°C July 29, 30, 1967; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	PHOSPHATE (PO4)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
OCT.												
05...	2.0	.2	.2	.00	.00	62	2.51	38	1	.1	83	7.0
NOV.												
09...	1.5	.2	.3	.00	.00	61	1.63	39	0	.1	87	7.0
DEC.												
12...	1.0	.2	.8	.00	.03	53	.63	47	6	.1	93	7.4
JAN.												
05...	1.2	.2	.4	.00	.01	53	.50	47	4	.1	95	7.4
FEB.												
19...	1.1	.2	1.0	.10	.01	59	.46	48	5	.1	96	7.3
MAR.												
10...	.9	.2	.4	.03	.01	62	.54	44	1	.1	96	7.4
APR.												
08...	1.3	.1	.2	.04	.00	53	.86	50	6	.1	96	7.1
MAY												
06...	1.2	.1	.6	.00	.00	41	1.77	40	7	.1	78	7.1
JUNE												
06...	1.2	.2	.2	.27	.01	20	7.56	24	4	.1	43	6.9
JULY												
04...	1.5	.1	.4	.00	.00	12	2.04	25	2	.1	53	7.3
AUG.												
09...	1.3	.2	.6	.02	.00	34	5.60	34	3	.1	64	6.9
SEPT.												
06...	.9	.1	.3	.00	.01	43	3.37	40	6	.1	75	7.5

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968
(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
DEC 12, 1967	1300	0	4.4	10	0.12												
JAN 5, 1968	1300	0	3.5	4	T												
FEB 19.....	1155	1	2.9	2	T												
MAR 18.....	1210	0	3.2	2	T												
APR 8.....	1250	1	6.0	5	.1												
MAY 6.....	1815	3	16	2	.1												
JUN 6.....	1015	3	140	36	14												
JUL 4.....	1645	10	63	3	.5												
AUG 9.....	1330	9	61	5	.8												
SEP 6.....	1110	5	29	2	.2												

T Less than 0.05 ton.

7-0860. ARKANSAS RIVER AT GRANITE, COLO.

LOCATION.--Lat 39°02'38", long 106°15'55", in SW¼ sec.31, T.11 S., R.79 W., Chaffe County, at gaging station at Granite, 100 ft east of U.S. Highway 24, 100 ft downstream from county bridge, and 200 ft upstream from Cache Creek.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	TOTAL IRON (FE)	MAN-GANESE (MN)	ZINC (ZN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)
OCT.												
04...	157	11	7.0	.04	.18	.21	19	7.0	3.7	1.0	68	28
NOV.												
15...	123	7	8.0	.02	.28	.23	20	8.3	4.2	1.0	68	33
DEC.												
06...	94	0	9.8	.05	.34	.58	28	9.2	5.3	1.1	84	38
JAN.												
10...	70	0	9.6	.00	.32	.64	26	10	5.0	1.1	86	41
FEB.												
08...	90	0	7.7	.02	.24	.43	22	7.3	4.0	.8	66	34
MAR.												
04...	100	2	7.1	.03	.22	.39	20	6.3	4.3	.9	63	34
APR.												
09...	140	3	7.4	.07	.21	.42	21	6.3	4.1	.9	60	34
MAY												
06...	620	6	4.9	.10	.06	.19	12	3.4	1.9	.6	32	20
JUNE												
06...	2260	10	4.8	.11	.11	.38	10	3.4	1.6	.6	26	20
JULY												
03...	1170	12	4.8	.06	.07	.17	10	2.9	1.7	.4	31	14
AUG.												
08...	714	16	6.0	.11	.11	.19	12	7.5	1.9	.7	54	17
SEPT.												
05...	300	15	6.7	.09	.15	.26	11	9.7	2.6	.7	60	21

7-0960. ARKANSAS RIVER AT CANON CITY, COLO.

LOCATION.--Lat 38°26'02", long 105°15'24", in SE¼SE¼ sec.31, T.18 S., R.70 W., Fremont County, at gaging station, 800 ft upstream from Sand Creek, 0.7 mile downstream from Grape Creek, and 0.7 mile upstream from First Street Bridge in Canon City.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
03...	328	15	11	32	12	12	140	30	6.7	.3
19...	210	9	11	40	9.7	14	148	35	8.0	.1
NOV.										
07...	416	2	12	39	12	12	156	30	5.6	.3
21...	328	5	12	38	13	14	152	35	7.6	.8
DEC.										
05...	320	0	13	39	12	13	154	33	7.6	1.3
JAN.										
23...	272	0	13	39	9.5	13	149	35	7.7	2.0
FEB.										
15...	232	1	10	29	15	14	150	43	10	.3
MAR.										
20...	288	4	13	41	10	16	166	35	10	.9
APR.										
22...	177	6	12	45	9.2	17	162	34	14	.6
MAY										
16...	634	11	8.0	26	5.8	7.3	88	24	5.3	.6
JUNE										
19...	628	16	7.3	21	5.8	4.2	72	20	2.7	.7
JULY										
29...	2040	17	9.1	29	4.9	5.9	88	19	3.2	1.4
AUG.										
19...	1420	16	10	29	7.8	7.2	104	16	4.1	.6
SEPT.										
26...	260	17	11	36	11	12	144	34	6.3	.5

7-0860. ARKANSAS RIVER AT GRANITE, COLO.--Continued

DRAINAGE AREA.--427 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	ORTHO PHOSPHATE (PO4)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
OCT.												
04...	2.1	.4	.0	.10	.01	102	43	76	20	.2	171	7.6
NOV.												
15...	2.9	.4	.1	.29	.01	121	40	84	28	.2	186	7.4
DEC.												
06...	3.5	.5	1.3	.10	.03	137	34	108	39	.2	226	7.3
JAN.												
10...	2.8	.4	1.0	.03	.03	136	25	108	37	.2	221	7.5
FEB.												
08...	2.8	.4	1.1	.07	.02	116	28	86	32	.2	183	7.3
MAR.												
04...	1.5	.3	.3	.06	.01	120	32	76	24	.2	175	7.3
APR.												
08...	3.0	.3	.3	.03	.01	113	42	78	29	.2	181	7.5
MAY												
06...	1.7	.4	.2	.00	.01	65	109	44	18	.1	100	7.1
JUNE												
06...	1.7	.4	.3	.00	.02	60	366	40	19	.1	88	7.1
JULY												
03...	1.7	.3	.2	.00	.03	58	183	38	13	.1	85	7.4
AUG.												
08...	1.2	.3	.2	.01	.01	68	131	60	16	.1	123	7.3
SEPT.												
05...	1.3	.3	.2	.01	.02	77	62	68	19	.1	142	7.2

7-0960. ARKANSAS RIVER AT CANON CITY, COLO.--Continued

DRAINAGE AREA.--3,117 sq mi.
RECORDS AVAILABLE.--Chemical analyses: November 1963 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOSPHATE (PO4)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
OCT.									
03...	.11	188	.26	166	130	15	.5	288	7.6
19...	.03	196	.27	111	140	19	.5	318	7.5
NOV.									
07...	.04	204	.28	229	146	18	.4	311	7.4
21...	.02	207	.28	183	146	21	.5	324	7.7
DEC.									
05...	.07	201	.27	174	146	20	.5	314	7.6
JAN.									
23...	.12	190	.26	140	137	15	.5	318	7.8
FEB.									
15...	.11	207	.28	130	135	12	.5	318	7.9
MAR.									
20...	.08	241	.33	187	144	8	.6	334	8.1
APR.									
22...	.06	202	.27	96	151	18	.6	367	7.7
MAY									
16...	.06	119	.16	204	88	16	.3	197	7.3
JUNE									
19...	.05	96	.13	163	76	58	.2	148	7.4
JULY									
29...	.15	126	.17	694	92	20	.3	198	7.3
AUG.									
19...	.09	147	.20	564	104	19	.3	226	7.3
SEPT.									
26...	.02	194	.26	136	135	17	.4	315	7.8

7-0992. 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT.											
03...	365	15	11	73	19	27	2.6	173	169	10	.8
19...	226	14	12	90	27	38	3.0	196	240	12	.9
NOV.											
06...	401	4	13	39	8.3	13	2.0	149	30	8.5	.8
21...	315	8	12	79	21	30	2.7	188	186	12	.9
DEC.											
19...	351	0	14	75	30	31	2.5	190	197	9.2	1.0
JAN.											
23...	290	2	13	77	27	33	2.5	188	206	12	.8
FEB.											
15...	237	6	12	85	26	37	2.4	188	212	16	1.2
MAR.											
20...	200	6	12	83	30	39	2.8	196	231	12	.7
APR.											
22...	305	8	13	80	27	39	3.0	196	216	14	.8
MAY											
16...	675	15	9.0	43	17	18	1.6	120	100	6.6	.5
JUNE											
19...	2590	16	7.3	26	7.8	7.3	1.3	80	40	2.7	.5
JULY											
29...	2060	20	9.5	34	14	10	2.1	126	53	4.0	1.3
AUG.											
19...	1410	19	10	35	12	11	1.6	120	57	4.3	.6
SEPT.											
26...	320	18	11	71	25	28	2.7	184	168	11	.7

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968
(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-ERA-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 3, 1967	1005	15	365	95	94	--	--	--	--	--	--	--	--	--	--		
OCT 19.....	1330	14	226	40	24	--	--	--	--	--	--	--	--	--	--		
NOV 6.....	1720	4	401	174	188	--	--	--	--	--	--	--	--	--	--		
NOV 21.....	1220	8	315	45	38	--	--	--	--	--	--	--	--	--	--		
DEC 5.....	1200	1	320	55	48	--	--	--	--	--	--	--	--	--	--		
DEC 19.....	1245	0	351	134	127	--	--	--	--	--	--	--	--	--	--		
JAN 9, 1968	1515	1	340	82	75	--	--	--	--	--	--	--	--	--	--		
JAN 23.....	1105	2	290	40	31	--	--	--	--	--	--	--	--	--	--		
FEB 8.....	1540	5	237	46	29	--	--	--	--	--	--	--	--	--	--		
FEB 15.....	1235	6	237	57	36	--	--	--	--	--	--	--	--	--	--		
MAR 7.....	1635	9	237	48	31	--	--	--	--	--	--	--	--	--	--		
MAR 20.....	1330	6	200	29	16	--	--	--	--	--	--	--	--	--	--		
APR 3.....	1310	6	548	322	476	--	--	--	--	--	--	--	--	--	--		
APR 22.....	1135	8	305	61	50	--	--	--	--	--	--	--	--	--	--		
MAY 8.....	1215	10	690	254	473	11	12	--	34	53	76	96	100	--			VPWC
MAY 16.....	1305	15	675	1190	2170	1	2	--	5	8	16	39	63	97			SVPWC
JUN 4.....	0900	14	3460	1720	16100	12	13	20	42	65	88	99	100	--			VPWC
JUN 19.....	0915	16	2590	753	5270	9	12	21	44	65	86	98	100	--			VPWC
JUL 1.....	1930	18	1540	377	1570	4	6	--	22	34	58	93	100	--			VPWC
JUL 29.....	1300	20	2060	1730	9620	10	14	22	40	61	91	96	100	--			VPWC
AUG 7.....	1030	18	1590	9090	39000	41	55	87	97	98	99	100	--	--			VPWC
AUG 19.....	1345	19	1410	406	1550	9	13	--	35	50	78	99	100	--			VPWC
SEP 4.....	1635	17	761	212	436	18	21	--	40	56	67	100	--	--			VPWC
SEP 26.....	1315	18	320	28	24	--	--	--	--	--	--	--	--	--			

7-0992. ARKANSAS RIVER NEAR PORTLAND, COLO.--Continued

DRAINAGE AREA.--4,280 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1964 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.											
03...	.2	.04	.05	443	.60	437	262	120	.7	637	7.1
19...	2.0	.01	.06	556	.76	339	334	173	.9	764	7.6
NOV.											
06...	.3	.04	.04	A188	.26	204	132	10	.5	315	7.1
21...	2.8	.15	.06	469	.64	399	286	132	.8	664	7.6
DEC.											
19...	4.0	.15	.05	464	.63	440	312	156	.8	676	7.6
JAN.											
23...	4.7	.23	.03	484	.66	379	302	148	.8	686	8.1
FEB.											
15...	3.8	.23	.05	511	.69	327	320	166	.9	721	7.8
MAR.											
20...	2.3	.20	.04	534	.73	288	328	167	.9	746	8.0
APR.											
22...	2.8	.23	.04	498	.68	410	312	151	1.0	719	7.8
MAY											
16...	1.9	.15	.01	252	.34	459	176	78	.6	400	7.5
JUNE											
19...	.9	.09	.02	126	.17	881	96	30	.3	217	7.7
JULY											
29...	2.7	.20	.03	196	.27	1090	140	37	.4	312	7.3
AUG.											
19...	.6	.09	.03	187	.25	712	136	38	.4	307	7.7
SEPT.											
26...	.9	.15	.06	421	.57	364	280	129	.7	622	7.9

A Calculated from determined constituents.

PARTICLE SIZE OF BED MATERIAL, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEM-PERA-TURE (°C)	NUMBER OF SAM-PLING POINTS	DISCHARGE (CFS)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .062	.125	.250	.500	1.00	2.00	4.00	8.00	16.0	32.0	64.0	METHOD OF ANALY-SIS
JUN 19, 1968	0915	16		2590	6	12	23	43	61	73	83	92	100	--	--	SV

7-0994. 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT.											
02...	271	21	9.6	75	21	33	3.1	168	195	12	.8
19...	174	15	9.7	93	27	42	3.2	192	256	15	.9
NOV.											
06...	282	6	12	82	26	34	2.9	200	205	13	.8
21...	224	8	12	73	34	36	2.7	196	227	12	.9
DEC.											
04...	198	6	13	71	38	36	2.6	200	238	10	1.0
JAN.											
23...	130	3	13	87	29	39	2.9	192	245	12	.7
FEB.											
15...	234	5	13	91	33	44	2.8	196	260	15	1.2
MAR.											
20...	103	6	11	97	36	49	3.2	204	306	16	.8
APR.											
22...	224	9	14	85	32	44	3.4	210	242	15	.8
MAY											
16...	518	16	9.0	45	17	20	1.8	114	118	7.0	.6
JUNE											
19...	2370	21	7.6	30	7.3	8.0	1.6	84	44	3.0	.5
JULY											
29...	1650	21	11	69	14	10	3.4	180	94	4.5	.7
AUG.											
19...	1190	20	10	37	11	12	1.8	118	56	3.7	.6
SEPT.											
26...	230	16	9.7	69	30	33	2.9	192	198	11	.7

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968
(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-ERA-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 2, 1967	1650	21	271	83	61	--	--	--	--	--	--	--	--	--			
OCT 19.....	1515	15	174	105	49.3	--	--	--	--	--	--	--	--	--			
NOV 6.....	1315	6	282	103	78.4	--	--	--	--	--	--	--	--	--			
NOV 21.....	1400	8	224	38	23	--	--	--	--	--	--	--	--	--			
DEC 4.....	1530	6	198	38	20	--	--	--	--	--	--	--	--	--			
DEC 19.....	1410	0	170	706	324	--	--	--	--	--	--	--	--	--			
JAN 8, 1968	1630	0	90	273	66	--	--	--	--	--	--	--	--	--			
JAN 23.....	1220	3	130	188	66.0	--	--	--	--	--	--	--	--	--			
FEB 11.....	1245	5	245	109	72.1	--	--	--	--	--	--	--	--	--			
FEB 15.....	1415	5	234	278	176	--	--	--	--	--	--	--	--	--			
MAR 7.....	1230	7	169	93	42	--	--	--	--	--	--	--	--	--			
MAR 20.....	1515	6	103	54	15	--	--	--	--	--	--	--	--	--			
APR 3.....	1430	8	365	459	452	--	--	--	--	--	--	--	--	--			
APR 22.....	1310	9	224	165	100	--	--	--	--	--	--	--	--	--			
MAY 8.....	1545	14	540	39	58	--	--	--	--	--	--	--	--	--			
MAY 16.....	1530	16	518	275	385	9	10	--	31	47	71	98	100	--			VPWC
JUN 4.....	1315	13	2960	2440	19500	10	12	21	43	63	83	94	100	--			VPWC
JUN 20.....	1930	21	2370	1020	6530	10	13	22	45	67	89	99	100	--			VPWC
JUL 1.....	1715	20	1370	483	1790	6	8	--	30	49	78	99	100	--			VPWC
JUL 29.....	1435	21	1650	2950	13100	30	38	59	78	90	97	100	--	--			VPWC
AUG 6.....	1620	23	1100	597	1770	9	12	--	35	50	72	92	100	--			VPWC
AUG 19.....	1515	20	1190	459	1470	12	14	--	40	56	77	96	100	--			VPWC
SEP 4.....	1315	17	582	231	363	26	35	--	64	71	83	100	--	--			VPWC
SEP 26.....	1040	16	230	228	142	--	--	--	--	--	--	--	--				

7-0994. ARKANSAS RIVER ABOVE PUEBLO, COLO.--Continued

DRAINAGE AREA.--4,670 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1965 to September 1968.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.											
02...	.7	.07	.06	460	.63	337	274	136	.9	652	7.3
19...	1.9	.00	.06	608	.83	286	342	184	1.0	801	7.6
NOV.											
06...	2.1	.04	.04	511	.69	389	310	146	.8	713	7.3
21...	3.1	.07	.04	499	.68	302	320	159	.9	719	7.6
DEC.											
04...	7.0	.09	.04	521	.71	279	336	172	.9	741	7.7
JAN.											
23...	5.1	.26	.03	546	.74	192	336	179	.9	767	8.1
FEB.											
15...	4.8	.25	.06	587	.80	371	364	203	1.0	814	7.8
MAR.											
20...	3.4	.20	.04	650	.88	181	392	225	1.1	882	8.0
APR.											
22...	2.8	.19	.05	557	.76	337	344	172	1.0	783	7.8
MAY											
16...	1.9	.16	.02	278	.38	389	180	87	.6	432	7.5
JUNE											
19...	1.1	.09	.02	139	.19	889	104	35	.3	236	7.8
JULY											
29...	1.6	.21	.03	312	.42	1390	228	80	.3	454	7.4
AUG.											
19...	1.1	.08	.02	204	.26	655	136	39	.4	322	7.6
SEPT.											
26...	.5	.05	.06	444	.60	276	296	139	.8	664	7.9

7-1195. APISHAPA RIVER NEAR FOWLER, COLO.

LOCATION.--Lat 38°05'28", long 103°58'52", in SE¼NW¼ sec.35, T.22 S., R.59 W., Otero County, at gaging station at county highway bridge, 4 miles southeast of Fowler and 5.4 miles upstream from mouth.
DRAINAGE AREA.--1,125 sq mi.
RECORDS AVAILABLE.--Chemical analyses: November 1963 to September 1965, October 1966 to September 1968 (discontinued).
Water temperatures: October 1966 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
20...	13	18	12	200	60	92	224	687	31	16
NOV.										
22...	22	11	13	172	54	91	220	603	30	21
DEC.										
20...	16	0	12	230	79	128	244	885	40	19
JAN.										
23...	4.5	8	14	321	96	154	278	1230	44	12
FEB.										
16...	15	8	10	196	63	109	233	756	38	3.4
MAR.										
20...	6.3	7	12	160	68	102	224	660	36	14
APR.										
22...	3.5	9	12	165	68	99	216	662	32	15
MAY										
16...	2.5	15	13	349	148	171	208	1560	48	6.7
JUNE										
20...	3.2	31	11	150	55	67	160	582	20	5.7
JULY										
29...	4.5	31	13	181	60	74	186	668	22	14
AUG.										
19...	14	27	13	132	46	68	166	502	18	9.1
SEPT.										
26...	2.0	21	15	289	106	158	244	1220	44	13

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1160	1580	1120	2050	2160	1760	2430	2830	1510	1460	1320	2550
2.....	1100	1280	1290	2050	1350	1760	2770	2720	1300	1190	1310	2680
3.....	1100	1550	1370	2370	1310	1440	2800	2700	1220	1180	1320	2670
4.....	1230	1280	1360	2370	1310	1430	1650	2520	1330	2150	1050	2370
5.....	1890	1230	1340	2160	1520	1580	1610	2520	911	2200	1190	2380
6.....	1900	1240	1450	2150	1560	1590	1890	2520	832	2200	1210	2360
7.....	1680	1440	1390	2620	1610	1740	1890	2830	909	2550	1060	2370
8.....	1670	1450	1390	2640	1610	1750	2080	2850	771	2550	1070	2330
9.....	1600	1640	1160	2620	1570	1740	2090	2800	1740	1810	1050	2340
10.....	1430	1390	1150	2260	1550	1750	2750	2780	1770	1780	2180	2750
11.....	1700	1390	1140	2270	1450	1440	2750	2730	858	1780	1590	2770
12.....	1690	1650	1130	2250	1450	1450	2730	2750	844	1310	1110	2840
13.....	1570	1490	1190	2240	1440	1510	2730	2700	1100	1310	929	2600
14.....	1570	1480	1170	2240	1650	1500	2030	2730	1100	1320	929	2330
15.....	1500	2450	1740	2230	1650	1860	2010	2590	1770	1320	1100	2500
16.....	1500	2470	1810	2140	1540	1880	2510	2590	1790	2380	802	2500
17.....	1640	2660	2450	2150	1530	1900	2510	2450	1340	2420	1010	2340
18.....	1640	2660	2510	2300	1600	1900	2760	2430	1330	2290	1140	2670
19.....	1610	1360	1380	2310	1600	1950	2770	2660	1710	2290	1150	2680
20.....	1550	1320	1290	2320	1620	1960	2790	2670	1310	2310	1860	2820
21.....	1540	1360	1900	2320	1630	1840	2800	2800	1710	2320	1890	2870
22.....	1640	1360	1920	2330	1580	1850	2700	2820	1320	2240	2040	2490
23.....	1610	1380	2210	2230	1580	2250	2700	2520	1860	2240	2040	2470
24.....	2440	1380	2210	2230	1480	2250	2380	2670	1870	2050	2110	2480
25.....	2460	1420	1680	2300	1470	2130	2360	2510	1580	2050	2250	2460
26.....	2440	1430	1670	2280	1450	2130	2720	2660	1570	2050	2160	2320
27.....	2610	1400	1670	2220	1440	2220	2750	2870	1570	1570	2500	2320
28.....	1550	1400	1910	2200	1490	2220	2770	2650	1770	1540	2630	2520
29.....	1530	1410	2090	2150	1480	2490	2770	2600	1750	1030	1220	2530
30.....	1460	1400	1860	2150	--	2430	2840	2750	1440	1010	1170	2530
31.....	1460	--	2090	2150	--	2440	--	2760	--	1010	2480	--
AVERAGE	1660	1570	1610	2270	1540	1880	2480	2680	1390	1840	1510	2530

7-1195. APISHAPA RIVER NEAR FOWLER, COLO.--Continued

EXTREMES, 1967-68.--Specific conductance: Maximum daily, 2,870 micromhos May 27, Sept. 21; minimum daily, 771 micromhos June 8.
Water temperatures: Maximum, 30°C June 28, July 20; minimum, 1°C on several days during December and January.
EXTREMES, 1966-68.--Specific conductance: Maximum daily, 2,960 micromhos May 20, 1967; minimum daily, 650 micromhos July 16, 1967.
Water temperatures: Maximum, 31°C Aug. 7, 1967; minimum, 1°C on many days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
20...	.05	1290	1.75	45.3	745	561	1.5	1530	7.5
NOV.									
22...	.25	1160	1.58	68.9	652	472	1.6	1420	7.5
DEC.									
20...	.18	1640	2.23	70.8	900	700	1.9	1860	7.8
JAN.									
23...	.15	2130	2.90	25.9	1200	972	1.9	2290	7.8
FEB.									
16...	.36	1300	1.77	52.7	750	559	1.7	1610	7.7
MAR.									
20...	.33	1290	1.75	21.9	680	496	1.7	1510	8.0
APR.									
22...	.35	1240	1.69	11.7	690	513	1.6	1530	7.7
MAY									
16...	.01	2620	3.56	17.7	1480	1310	1.9	2730	7.9
JUNE									
20...	.14	977	1.33	8.44	600	469	1.2	1280	7.4
JULY									
29...	.14	1170	1.59	14.2	700	547	1.2	1430	7.8
AUG.									
19...	.11	920	1.25	34.8	520	384	1.3	1160	7.3
SEPT.									
26...	.02	2080	2.83	11.2	1160	955	2.0	2270	7.9

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	23	22	23	22	20	18	20	21	20	19	19	19	18	16	13	14	16	17	18	16	16	16	16	14	13	13	12	16	12	10	11	16
NOVEMBER.	14	11	9	10	12	11	10	9	12	12	12	10	12	12	12	12	12	11	10	9	8	9	8	8	8	8	6	6	6	6	--	9
DECEMBER.	6	7	7	--	7	4	3	4	3	3	4	3	1	--	1	1	1	1	1	1	1	1	2	2	1	2	2	4	5	4	4	2
JANUARY..	3	3	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1	2	4	4	4	4	7	9	11	10	10	10	8	9	9	4
FEBRUARY.	9	8	7	7	8	8	7	7	7	8	7	6	4	6	4	4	4	9	9	10	9	9	10	11	12	10	9	8	10	--	--	7
MARCH....	13	11	12	12	13	13	12	12	12	10	8	9	10	12	14	14	13	13	12	12	12	15	15	16	16	16	16	17	18	18	12	13
APRIL....	13	12	11	10	11	12	12	11	12	18	18	20	19	18	16	18	16	12	10	14	12	9	11	17	16	14	16	17	17	23	--	14
MAY.....	23	23	24	23	24	21	20	21	17	14	16	18	18	19	22	18	19	19	18	18	22	21	19	16	19	22	21	21	--	21	24	20
JUNE.....	21	22	21	24	24	24	24	19	20	21	26	27	28	27	26	27	27	28	26	27	27	27	27	24	26	27	28	30	29	28	--	25
JULY.....	27	26	26	27	26	26	27	27	28	27	27	29	29	28	28	28	28	29	29	30	29	28	28	28	28	27	24	27	25	26	24	27
AUGUST...	26	27	27	28	29	28	29	29	28	21	24	21	22	24	24	21	22	24	27	26	24	26	26	25	28	26	22	21	20	27	26	25
SEPTEMBER	24	26	24	26	24	25	26	26	27	24	26	25	26	26	24	24	24	23	22	22	22	22	22	21	21	21	22	20	21	20	--	23

7-1220. ARKANSAS RIVER NEAR LA JUNTA, COLO.

LOCATION.--Lat 38°00'40", long 103°35'18", Otero County, at diversion of Fort Lyon Canal, 0.5 mile above headgate and approximately 3 miles west of La Junta.
DRAINAGE AREA.--12,210 sq mi (at gaging station at La Junta).
RECORDS AVAILABLE.--Chemical analyses: January 1964 to September 1968 (discontinued).
Water temperatures: October 1966 to September 1968 (discontinued).
EXTREMES, 1967-68.--Specific conductance: Maximum daily, 2,070 micromhos Jan. 11, Apr. 1; minimum daily, 483 micromhos June 4.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	TEMPERATURE (DEG C)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	NITRATE (NO3)
OCT.										
20...	225	9	13	268	68	126	270	762	37	4.3
NOV.										
22...	353	5	13	172	62	110	236	655	35	18
DEC.										
20...	313	1	13	188	66	123	258	707	38	15
JAN.										
24...	494	1	12	147	49	92	240	537	28	6.3
FEB.										
16...	463	0	9.8	163	58	110	234	629	55	2.7
MAR.										
21...	233	2	13	186	80	166	254	776	44	17
APR.										
22...	231	7	13	180	66	128	236	702	38	19
MAY										
17...	240	9	13	160	61	110	204	682	34	15
JUNE										
20...	872	23	9.6	80	39	78	132	360	26	6.5
JULY										
30...	826	22	11	98	30	48	160	302	15	8.9
AUG.										
20...	813	20	12	85	31	48	148	297	16	12
SEPT.										
27...	258	14	12	167	56	102	212	655	34	18

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1520	--	1340	1820	--	--	2070	1980	583	890	710	1050
2.....	1720	--	1370	1920	--	--	1960	1960	573	895	765	1160
3.....	1710	--	1390	1840	--	--	1920	1740	586	1010	692	1190
4.....	1300	--	1410	1860	--	--	1330	1740	483	952	719	1170
5.....	1290	--	1470	1850	--	--	1360	1710	556	1120	673	1060
6.....	1290	--	1550	1890	--	--	1650	1710	586	958	786	987
7.....	1600	--	1560	1990	--	--	1510	1830	558	826	766	1040
8.....	1500	--	1410	2020	--	--	1670	1740	567	808	759	1160
9.....	1600	--	1470	2060	--	--	1760	1750	592	1200	--	1210
10.....	1590	--	--	--	--	--	1850	1700	595	1180	729	1280
11.....	1710	--	1390	2070	--	--	1790	1560	744	1160	1050	1300
12.....	1720	--	1410	1500	--	--	1800	1430	749	1160	949	1380
13.....	1960	--	1450	1530	--	--	1860	1460	759	1150	724	1480
14.....	1970	--	1600	1380	--	--	1840	1430	757	1150	683	1520
15.....	1720	--	--	--	--	--	1800	1520	755	1140	702	1430
16.....	1720	--	1790	1360	--	--	1800	1650	758	1260	768	1660
17.....	1840	--	1790	1480	--	--	1810	1580	1040	1120	806	1600
18.....	1820	--	1840	1480	--	--	1760	1560	1050	1510	806	1650
19.....	1820	--	1520	1360	--	--	1670	1620	1050	1270	784	1650
20.....	--	--	1510	1500	--	--	1660	1650	1070	--	804	1580
21.....	--	--	--	--	--	--	1660	1660	743	--	770	1640
22.....	--	--	--	--	--	--	1650	1560	741	--	844	1600
23.....	--	--	--	1490	--	--	1720	1570	731	--	837	1670
24.....	--	--	--	1390	--	--	1920	1490	737	1270	924	1580
25.....	--	--	--	--	--	--	1880	1260	850	1150	860	1440
26.....	--	--	1710	1360	--	--	1940	1020	--	1210	897	1500
27.....	--	--	1720	1470	--	--	1920	1210	840	1130	990	1470
28.....	--	--	1610	1500	--	--	2050	1290	870	977	1110	1560
29.....	--	--	1560	1360	--	--	2050	1330	963	968	1180	1580
30.....	--	--	1840	1470	--	--	1940	1240	688	740	1160	1580
31.....	--	--	1820	--	--	--	--	1230	--	712	1070	--
AVERAGE	--	--	1560	1640	--	--	1790	1550	743	1070	843	1410

7-1220. ARKANSAS RIVER NEAR LA JUNTA, COLO.--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 29°C June 5; minimum, freezing point Dec. 26-28, 30-31.
EXTREMES, 1966-68.--Specific conductance: Maximum daily, 2,590 micromhos May 1, 1967; minimum daily, 483 micromhos June 4, 1968.
Water temperatures: Maximum, 29°C June 5, 1968; minimum, freezing point on many days during winter months.
REMARKS.--Discharges obtained by adding daily mean flow in the Fort Lyon Canal to daily mean flow in the Arkansas River at La Junta.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
20...	.04	1450	1.97	881	800	579	1.9	1710	7.5
NOV.									
22...	.16	1260	1.71	1200	684	490	1.8	1530	7.6
DEC.									
20...	.31	1360	1.85	1150	740	528	2.0	1630	7.8
JAN.									
24...	.16	1040	1.41	1390	568	371	1.7	1310	7.3
FEB.									
16...	.21	1240	1.69	1550	644	452	1.9	1470	7.5
MAR.									
21...	.40	1570	2.14	988	794	586	2.6	1800	8.0
APR.									
22...	.34	1380	1.88	861	720	526	2.1	1700	7.7
MAY									
17...	.50	1190	1.62	771	650	483	1.9	1500	7.7
JUNE									
20...	.23	707	.96	1670	360	252	1.8	970	7.4
JULY									
30...	.19	617	.84	1380	366	235	1.1	860	7.3
AUG.									
20...	.22	579	.79	1270	340	219	1.1	810	7.6
SEPT.									
27...	.38	1220	1.66	850	648	474	1.7	1500	7.9

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVER-AGE
OCTOBER..	22	22	21	22	24	23	22	21	23	23	23	22	21	23	22	21	22	21	22	--	--	--	--	--	--	--	--	--	--	--	--	--
NOVEMBER.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DECEMBER.	6	6	4	7	7	4	4	3	3	--	2	1	1	1	--	2	4	1	2	1	--	--	--	--	--	0	0	0	2	0	0	--
JANUARY..	1	2	2	3	2	3	4	3	3	--	4	4	6	5	--	4	4	4	6	5	--	--	4	6	--	4	5	6	5	7	--	4
FEBRUARY.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MARCH....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
APRIL....	9	14	6	3	5	13	7	8	8	10	18	18	9	16	18	18	9	17	16	7	5	4	15	18	10	10	11	12	10	21	--	12
MAY.....	21	21	13	13	18	18	10	10	16	12	16	18	22	21	11	18	19	19	12	18	17	21	19	20	14	16	16	16	21	25	21	17
JUNE.....	21	23	21	24	29	25	27	21	19	21	27	18	22	21	14	16	22	27	--	21	18	21	27	22	21	--	22	24	20	26	--	22
JULY.....	20	24	20	26	20	26	26	27	26	26	27	27	24	26	28	27	27	27	28	--	--	--	--	27	21	23	24	25	26	27	27	25
AUGUST...	19	14	14	23	19	16	14	13	12	12	19	12	12	12	11	--	7	8	7	11	11	8	--	8	5	9	6	7	4	3	2	11
SEPTEMBER	24	26	17	20	21	23	23	22	22	22	24	25	24	24	24	18	21	22	14	22	23	21	22	22	22	21	22	19	21	20	--	22

7-1285. PURGATOIRE RIVER NEAR LAS ANIMAS, COLO.

LOCATION.--Lat 38°02'02", long 103°12'00", in NE¼SW¼ sec.23, T.23 S., R.52 W., Bent County, at gaging station at bridge on State Highway 101, 2.3 miles southeast of courthouse in Las Animas and 4.5 miles upstream from mouth.
DRAINAGE AREA.--3,503 sq mi.
RECORDS AVAILABLE.--Chemical analyses: November 1963 to September 1965, October 1966 to September 1968 (discontinued).
Water temperatures: October 1966 to September 1968 (discontinued).
EXTREMES, 1967-68.--Specific conductance: Maximum daily, 5,200 micromhos May 2; minimum daily, 943 micromhos July 30.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)
OCT.									
20...	10	7	11	299	153	358	312	1770	82
NOV.									
22...	36	5	13	269	112	276	298	1360	87
DEC.									
20...	23	1	10	353	200	384	304	2200	68
JAN.									
24...	89	0	9.9	291	149	264	256	1620	53
FEB.									
16...	17	0	9.3	303	141	333	318	1650	95
MAR.									
21...	7.6	2	9.3	357	241	562	306	2580	112
APR.									
23...	4.8	3	12	345	233	572	316	2470	125
MAY									
17...	7.6	10	13	273	122	256	228	1350	82
JUNE									
20...	30	18	12	160	78	169	186	857	49
JULY									
30...	1760	21	16	131	37	58	200	412	11
AUG.									
20...	30	17	12	200	102	189	240	1050	37
SEPT.									
27...	5.2	12	9.0	357	187	463	308	2260	110

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	3730	2550	3020	3780	3090	4080	4410	4820	1330	3440	1460	4100
2.....	3900	2540	3620	3340	3040	4400	4420	5200	2520	3420	1700	3480
3.....	3580	2520	3460	3950	2800	4050	4580	4500	2480	3510	1290	3440
4.....	3440	2580	3290	4000	3130	2540	4570	4490	2480	3500	1090	3440
5.....	3520	2280	2690	3980	3160	3040	4150	4640	2220	3500	1030	3440
6.....	3520	2270	3290	3870	3250	3050	4550	4460	2080	3820	1210	3890
7.....	3940	2360	3600	3480	2800	3530	3090	4450	2080	3830	1690	3890
8.....	3810	2530	3410	3470	3040	3730	3050	4480	2080	3820	1700	3650
9.....	2380	2880	2930	3880	3130	4190	3030	4580	2080	3820	2430	3650
10.....	2560	2900	2710	3710	3240	4130	4230	4300	2080	4100	1380	3620
11.....	3100	2850	3380	3810	3760	3990	4450	4670	2060	4090	1150	3610
12.....	2820	2910	3590	3700	3770	3000	4600	4640	2080	4190	1150	3890
13.....	2820	2780	3740	3610	2900	3570	4300	4660	1390	4160	1060	4030
14.....	2790	2780	3720	3590	2870	3570	4300	4540	1370	2590	1060	4010
15.....	2930	2480	3540	3620	2930	3040	4310	4170	1280	2530	1150	4110
16.....	2880	2520	3900	3350	2900	3220	4610	4580	1300	2920	1180	4090
17.....	2510	2530	3960	3290	3230	3650	4940	4870	1890	2920	1410	3920
18.....	2600	2590	3660	3260	3260	4180	4940	4950	1920	3480	2040	4430
19.....	2750	2620	3860	3270	3630	4100	4590	4730	2080	3700	2220	4410
20.....	3090	2790	3560	3230	2760	4170	4470	4730	2110	3690	2250	4390
21.....	3050	2570	3730	2850	2750	4340	4430	4860	2100	3680	2900	4390
22.....	3360	2720	3680	2890	3300	4160	4600	4920	2190	3700	2910	3550
23.....	3370	2840	3340	2830	3630	4220	4600	4680	2200	3680	3120	3530
24.....	4280	2790	3590	2860	2830	4250	4930	5080	1750	1180	3320	3510
25.....	4300	2840	3650	2890	3920	4090	4910	5050	1730	2550	--	3970
26.....	3150	2810	3560	2830	4170	4300	4840	4710	2150	1170	3310	3990
27.....	2880	2980	3630	2830	4060	4200	4840	4780	2170	1090	3710	4020
28.....	2850	2980	3350	3000	4240	4490	5110	4600	2380	1290	3710	4020
29.....	2860	2940	3260	3000	4210	4250	4780	4910	2400	1300	3690	4010
30.....	2740	2740	3470	3000	--	4250	4500	4330	3370	943	3680	4000
31.....	2710	--	3630	3020	--	4820	--	4300	--	1370	3930	--
AVERAGE	3170	2680	3480	3360	3300	3890	4440	4670	2050	3000	2130	3880

7-1285. PURGATOIRE RIVER NEAR LAS ANIMAS, COLO.--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 29°C June 19, 20; minimum, freezing point Dec. 12, 15.
EXTREMES, 1966-68.--Specific conductance: Maximum daily, 5,470 micromhos Apr. 2, 1967; minimum daily, 721 micromhos June 24, 1967.
Water temperatures: Maximum, 29°C on several days in 1967-68; minimum, freezing point on several days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
20...	1.1	.01	3070	4.18	82	1380	1120	4.2	3260	7.7
NOV.										
22...	9.9	.16	2460	3.35	239	1130	886	3.6	2710	7.6
DEC.										
20...	.3	.15	3690	5.02	229	1700	1450	4.0	3710	7.6
JAN.										
24...	4.1	.07	2700	3.67	649	1340	1130	3.1	2830	7.8
FEB.										
16...	2.2	.06	2910	3.96	134	1340	1080	4.0	3110	8.0
MAR.										
21...	4.7	.01	4520	6.15	92	1880	1630	5.6	4430	8.1
APR.										
23...	5.7	.00	4370	5.94	56	1820	1560	5.8	4560	7.8
MAY										
17...	21	.00	2360	3.21	48	1180	993	3.2	2680	7.9
JUNE										
20...	7.0	.17	1470	2.00	119	720	567	2.7	1820	7.7
JULY										
30...	1.1	.05	797	1.08	3790	480	316	1.2	1050	7.3
AUG.										
20...	3.4	.07	1840	2.50	149	920	723	2.7	2120	8.2
SEPT.										
27...	4.9	.02	3730	5.07	52	1660	1410	4.9	3900	8.0

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

	DAY																													AVER-
MONTH	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	AGE
OCTOBER..	21	22	24	19	19	16	18	17	23	18	20	19	19	16	12	13	13	14	16	16	18	15	16	15	16	14	14	15	7	6	7	16
NOVEMBER.	7	6	7	8	10	10	9	12	10	11	12	13	10	11	13	12	12	11	8	13	11	8	9	7	7	7	5	6	4	6	--	9
DECEMBER.	8	7	6	6	6	7	2	3	1	2	3	0	1	1	0	1	1	1	2	3	4	2	2	2	1	1	1	2	3	2	4	2
JANUARY..	1	1	1	1	2	3	4	4	3	2	2	2	3	3	4	4	4	2	2	2	4	2	3	4	5	4	6	7	8	6	4	3
FEBRUARY.	7	6	8	6	7	6	7	6	8	6	8	3	1	3	7	7	2	2	12	13	6	2	7	13	12	11	8	7	9	--	--	6
MARCH....	13	7	4	10	11	11	12	11	8	3	9	10	14	16	12	12	13	13	13	4	9	8	13	16	17	17	18	17	18	18	13	11
APRIL....	19	19	7	7	13	10	11	10	11	16	16	17	16	17	16	20	16	6	16	16	13	12	14	17	16	16	17	13	15	19	--	14
MAY.....	24	22	18	17	18	17	16	14	11	14	12	17	18	17	17	21	18	18	18	14	15	18	19	17	18	19	22	22	24	24	23	18
JUNE.....	18	22	24	24	25	24	25	24	24	24	24	25	24	25	21	20	26	27	29	29	27	28	27	27	23	22	23	25	24	24	--	24
JULY.....	24	21	23	24	23	24	25	26	27	26	24	25	26	26	27	25	24	28	27	28	27	28	27	23	23	26	27	24	24	24	20	25
AUGUST...	20	21	25	24	25	26	27	27	22	20	23	24	24	24	26	24	24	26	24	23	24	24	23	24	--	25	24	25	18	21	26	23
SEPTEMBER	27	25	16	21	21	24	23	24	23	23	24	23	23	24	18	19	18	21	21	21	21	21	19	21	21	19	21	21	24	24	--	21

7-1305. 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.
RECORDS AVAILABLE.--Chemical analyses: August 1942 to August 1943, October 1945 to July 1949, January 1951 to September 1968.
Water temperatures: January 1951 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 4,160 mg/l May 18-27; minimum, 944 mg/l June 25-30.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	NITRITE (NO2)
OCT.												
01-15	640	8.6	184	66	173	--	148	925	42	--	.3	--
16-24	382	7.8	198	78	194	--	162	1020	48	--	.8	--
25-31	313	8.6	208	85	211	--	176	1110	55	--	1.1	--
NOV.												
01-06	46	9.3	234	99	255	--	220	1280	69	--	1.2	--
07-08	9.6	11	297	134	350	--	280	1700	106	--	1.6	--
09-30	13	10	250	116	280	--	268	1390	80	--	2.3	--
DEC.												
01-14	9.8	11	269	121	288	--	284	1480	88	--	3.5	--
15-17	3.0	13	325	153	408	--	290	1840	125	--	3.7	--
18-31	2.8	20	397	176	494	--	344	2280	148	--	6.0	--
JAN.												
01-14	2.2	19	405	182	535	--	352	2380	152	--	7.1	--
15-31	2.3	13	339	176	476	--	408	2040	142	--	2.3	--
FEB.												
01-11	3.5	15	315	183	476	--	348	2100	142	--	2.3	--
12-29	2.8	16	343	181	488	--	352	2190	142	--	3.2	--
MAR.												
01-23	2.9	17	321	204	513	--	336	2240	145	--	3.1	--
24-31	17	11	240	170	354	--	308	1630	95	--	2.3	--
APR.												
01-21	1010	7.4	265	151	338	--	244	1660	95	--	3.0	--
22-30	72	13	309	197	449	--	312	2080	122	--	9.0	--
MAY												
01-17	61	15	353	207	503	--	288	2350	135	--	6.2	--
18-27	59	17	361	219	534	--	304	2450	148	--	5.2	--
28-31	254	11	166	98	180	--	226	933	50	--	8.3	--
JUNE												
01-03	583	14	174	74	151	--	226	815	44	--	5.1	--
04-21	391	19	126	50	105	--	186	545	32	--	1.2	--
22-24	333	9.3	200	97	234	--	216	1140	74	--	13	--
25-30	432	10	120	43	99	--	180	528	27	--	5.9	--
JULY												
01-17	421	12	142	47	108	--	196	575	35	--	8.0	--
18-27	270	13	188	72	174	--	224	865	52	--	8.2	--
28-31	522	16	176	52	91	--	252	622	22	--	3.9	--
AUG.												
01-20	625	11	132	58	111	--	152	642	26	--	3.9	--
21-22	652	11	176	77	169	--	204	855	50	--	2.8	--
23...	185	13	353	126	400	--	338	1800	120	--	4.5	--
24-31	342	12	156	53	121	--	208	652	65	--	9.6	--
SEPT.												
01-15	267	6.2	190	72	166	--	228	860	53	--	9.5	--
16-30	79	6.0	321	134	387	--	300	1720	115	--	5.7	--
WTD. AVG. TIME	--	10	193	89	203	--	204	1040	57	--	4.1	--
WTD. AVG. TONS PER DAY	238	13	257	127	317	--	265	1500	91	--	4.4	--
	--	6.7	124	57	131	--	131	666	37	--	2.6	--

ANALYSES OF ADDITIONAL SAMPLES

OCT.												
20...	A348	8.2	184	92	189	7.3	168	1030	47	1.3	3.4	--
NOV.												
22...	A12	9.2	240	102	244	7.1	256	1230	64	1.4	.9	--
DEC.												
20...	A2.8	9.8	281	163	412	7.5	358	1840	118	1.3	.5	--
JAN.												
24...	A2.3	10	287	164	429	7.3	442	1780	125	.9	1.5	.01
FEB.												
16...	A2.6	11	285	136	344	6.9	480	1500	93	.8	1.1	2.0
MAR.												
21...	A2.6	6.9	273	146	347	6.9	476	1500	95	.9	.2	.02
APR.												
23...	A69	10	329	175	409	--	324	1880	120	--	12	.01
MAY												
17...	A56	8.9	341	168	406	--	308	1990	115	--	8.7	.01
JUNE												
20...	A325	7.0	146	66	166	7.8	166	789	48	1.1	8.7	.01
JULY												
30...	A465	16	180	52	77	--	208	608	15	1.1	1.4	.01
AUG.												
20...	A810	9.9	156	64	127	--	172	700	34	1.2	5.3	.01
SEPT.												
27...	A77	12	329	161	384	6.2	312	1880	115	1.1	5.8	.00

A Discharge at time of sampling.

7-1305. ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, COLO.--Continued

EXTREMES, 1967-68.--Continued
Hardness: Maximum, 1,800 mg/l May 18-27; minimum, 475 mg/l June 25-30.
Specific conductance: Maximum daily, 4,690 micromhos May 22; minimum daily, 990 micromhos June 27.
Water temperatures: Maximum, 25°C Aug. 9, 10; minimum, 2°C on several days during December.
EXTREMES, 1951-68.--Dissolved solids: Maximum, 4,530 mg/l Feb. 1-3, 1965; minimum, 296 mg/l June 18, 1965.
Hardness: 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.											
01-15	.04	--	--	1570	2.14	2710	730	609	2.8	1860	7.7
16-24	.16	--	--	1710	2.34	1760	790	657	3.0	2020	7.6
25-31	.03	--	--	1890	2.57	1600	870	726	3.1	2180	7.6
NOV.											
01-06	.00	--	--	2200	2.99	273	992	812	3.5	2460	7.8
07-08	.01	--	--	2970	4.04	77	1290	1060	4.2	3220	7.7
09-30	.00	--	--	2430	3.30	85	1100	880	3.7	2710	8.0
DEC.											
01-14	.01	--	--	2580	3.51	68	1170	937	3.7	2840	7.9
15-17	.01	--	--	3360	4.57	27	1440	1200	4.7	2610	8.0
18-31	.04	--	--	4020	5.47	30	1710	1430	5.2	4190	7.9
JAN.											
01-14	.06	--	--	4150	5.64	24	1760	1470	5.5	4290	8.0
15-31	.01	--	--	3650	4.96	22	1570	1240	5.2	3900	8.0
FEB.											
01-11	.00	--	--	3690	5.02	34	1540	1260	5.3	3930	7.9
12-29	.00	--	--	3770	5.13	28	1600	1310	5.3	4020	8.0
MAR.											
01-23	.01	--	--	3930	5.34	30	1640	1360	5.5	4110	7.8
24-31	.01	--	--	2900	3.94	133	1300	1050	4.3	3160	7.8
APR.											
01-21	.01	--	--	2860	3.89	7800	1280	1080	4.1	3080	7.6
22-30	.01	--	--	3630	4.94	706	1580	1320	4.9	3800	7.8
MAY											
01-17	.02	--	--	4020	5.47	662	1730	1490	5.3	4130	7.8
18-27	.01	--	--	4160	5.66	663	1800	1550	5.5	4250	7.9
28-31	.02	--	--	1690	2.30	1160	820	635	2.7	1970	8.0
JUNE											
01-03	.05	--	--	1440	1.96	2270	725	540	2.4	1810	7.7
04-21	.03	--	--	1010	1.37	1070	520	367	2.0	1340	7.8
22-24	.00	--	--	1920	2.68	1730	900	723	3.4	2340	7.8
25-30	.00	--	--	944	1.28	1100	475	327	2.0	1290	7.7
JULY											
01-17	.02	--	--	1100	1.50	1250	550	389	2.0	1390	7.7
18-27	.01	--	--	1580	2.15	1150	765	581	2.7	1910	7.8
28-31	.02	--	--	1150	1.56	1620	652	445	1.6	1450	7.6
AUG.											
01-20	.01	--	--	1110	1.51	1870	568	443	2.0	1410	7.5
21-22	.00	--	--	1560	2.12	2750	755	588	2.7	1860	7.7
23...	.01	--	--	3180	4.32	1590	1400	1120	4.7	3420	7.7
24-31	.02	--	--	1190	1.62	1100	608	437	2.1	1510	7.7
SEPT.											
01-15	.03	--	--	1450	1.97	1050	770	583	2.6	1870	7.9
16-30	.02	--	--	2960	4.03	631	1350	1100	4.6	3340	7.9
WTD. AVG. TIME	.02	--	--	1810	--	--	850	682	--	2090	7.7
WTD. AVG. TONS PER DAY	.02	--	--	2610	--	--	1160	947	3.9	2860	7.8

ANALYSES OF ADDITIONAL SAMPLES

OCT.											
20...	.00	.00	.22	1710	2.33	1610	840	702	2.8	1990	7.5
NOV.											
22...	.00	.01	.62	2110	2.87	68	1020	810	3.3	2400	7.8
DEC.											
20...	.01	.01	.30	3110	4.23	23	1370	1080	4.8	3430	7.9
JAN.											
24...	--	.00	.28	3280	4.46	20	1390	1030	5.0	3560	7.9
FEB.											
16...	--	.00	.28	2820	3.84	19	1270	876	4.2	3100	7.8
MAR.											
21...	--	.00	.29	2840	3.86	19	1280	890	4.2	3100	7.8
APR.											
23...	--	.05	--	3370	4.58	628	1540	1220	4.5	3700	8.1
MAY											
17...	--	.04	--	3370	4.58	510	1540	1290	4.5	3720	8.2
JUNE											
20...	--	.06	.20	1340	1.82	1180	635	499	2.9	1710	7.9
JULY											
30...	--	.04	--	1110	1.51	1390	664	493	1.3	1400	7.3
AUG.											
20...	--	.08	--	1260	1.71	2760	652	511	2.2	1600	7.6
SEPT.											
27...	--	.08	.42	3150	4.15	655	1480	1220	4.3	3510	7.8

7-1305. ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1800	2470	2800	4350	3740	3730	3220	4150	1850	1330	1450	1550
2.....	1810	2440	3000	4460	4050	3860	2970	4100	1870	1270	1370	1600
3.....	1840	2440	2870	4520	3890	3730	2970	4020	1710	1330	1390	1670
4.....	1810	2430	2850	4230	4050	4040	3000	4450	1400	1400	1500	1900
5.....	1820	2550	2740	4250	4030	3770	3010	4280	1310	1120	1480	2030
6.....	1820	2570	2770	4240	4120	3890	3010	4170	1180	1500	1400	1960
7.....	1850	2990	2830	4610	3850	4020	3010	4470	1420	1480	1360	1560
8.....	1890	3440	2770	4580	3860	3950	2990	4460	1200	1440	1350	1530
9.....	1860	2570	2890	4030	3760	4040	3020	4060	1180	1260	1380	1590
10.....	1920	2660	2900	4000	3860	4510	3020	4090	1070	1240	1470	1720
11.....	1890	2680	2840	4120	4190	4300	3000	3770	--	1390	1550	1860
12.....	1880	2700	2820	3950	4440	3880	3000	4540	1140	1330	1470	2030
13.....	1900	2730	2920	4130	4030	4440	3000	4200	1160	1360	1420	2150
14.....	1900	2730	3120	4120	4320	4190	3050	4240	1490	1430	1300	2320
15.....	1910	2680	3420	3950	3770	4330	3060	4090	1400	1670	1230	2550
16.....	1970	2720	3510	3840	4100	4270	3070	3740	1060	1500	1240	2830
17.....	1970	2690	3890	3750	3820	4340	3080	3640	1330	1570	1320	3110
18.....	2000	2700	4110	3910	3820	4590	3200	4240	1360	1700	1340	2980
19.....	2050	2730	4030	4020	3710	4040	3180	4200	1560	1800	1340	3340
20.....	2030	2690	4070	3980	3760	4590	3210	4190	1610	2190	1530	3580
21.....	2020	2730	4310	3780	4430	4010	3360	4210	1720	2380	1820	3670
22.....	2020	2810	4370	3940	4030	4100	3830	4690	1990	1470	1900	3560
23.....	2030	2660	4240	3740	3920	3880	3760	4580	2120	1960	3420	3520
24.....	2070	2770	4330	3810	4040	3230	3770	4190	2920	1950	1470	3510
25.....	2120	2740	4200	3820	4020	3120	3650	4260	1390	2260	1330	3440
26.....	2150	2790	4220	3870	4270	3170	3820	4320	1550	1640	1320	3550
27.....	2200	2780	4190	3970	3860	--	3340	4070	990	1760	1270	3560
28.....	2170	2720	4170	3640	4010	3150	3860	2030	1270	1410	1440	3090
29.....	2160	2770	4260	3800	4010	3140	4030	1790	1270	1590	1640	3070
30.....	2180	2740	4360	3810	--	3160	4160	2140	1260	1450	1830	3220
31.....	2210	--	4110	3830	--	3180	--	1940	--	1310	1720	--
AVERAGE	1980	2700	3550	4030	3990	3890	3290	3910	1480	1560	1520	2600

7-1305. ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, COLO.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

	DAY																													AVER-
MONTH	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	AGE
OCTOBER..	18	18	18	18	18	18	18	18	17	17	17	16	15	15	15	14	14	14	12	12	12	12	12	12	12	12	9	9	9	8	7	14
NOVEMBER.	7	8	7	6	5	5	5	5	5	6	6	7	8	7	7	7	8	8	7	6	9	9	6	6	6	6	4	4	6	5	--	6
DECEMBER.	6	4	3	6	6	6	3	3	4	2	2	2	2	2	2	6	4	6	6	8	8	7	7	8	9	8	7	8	8	9	6	5
JANUARY..	6	5	7	6	4	6	6	6	6	6	6	4	5	5	7	4	5	7	7	7	7	7	5	6	7	8	7	7	7	6	6	6
FEBRUARY.	7	7	7	7	7	7	7	7	7	7	7	7	4	6	6	7	7	3	3	6	6	8	7	8	9	8	8	8	7	--	--	6
MARCH....	8	8	6	7	7	7	9	8	8	8	7	7	7	9	11	10	11	12	9	9	9	8	8	8	8	9	--	8	8	8	8	8
APRIL....	8	7	7	7	7	8	7	7	8	7	7	7	7	8	--	8	7	8	8	8	7	7	7	7	11	12	11	11	11	11	--	8
MAY.....	11	16	14	16	16	14	14	14	12	12	11	11	15	15	15	15	15	15	15	14	15	15	15	14	8	14	14	--	19	20	20	14
JUNE.....	14	18	18	18	18	19	19	18	17	17	--	18	18	18	16	18	18	18	18	19	16	22	22	20	18	18	20	22	23	19	--	18
JULY.....	19	19	19	20	20	19	19	19	21	21	19	19	19	21	21	22	22	22	18	22	21	22	22	22	22	22	22	22	22	23	23	20
AUGUST...	22	22	22	22	22	22	22	22	25	25	20	20	20	20	20	20	20	20	20	22	22	22	22	20	20	20	22	22	20	15	20	21
SEPTEMBER	20	20	20	20	16	17	18	18	18	18	18	18	18	8	17	15	15	15	14	15	15	14	14	15	14	14	14	14	14	14	--	16

7-1375. 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 (discontinued).
Water temperatures: October 1964 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
20...	308	11	12	279	118	354	236	1610	93	2.1
NOV.										
22...	133	6	15	361	166	524	266	2280	148	8.7
DEC.										
20...	130	5	16	369	164	528	272	2290	150	9.7
JAN.										
24...	174	5	16	361	160	491	280	2190	138	10
FEB.										
16...	119	4	15	365	180	555	282	2510	162	2.5
MAR.										
21...	24	9	16	353	192	568	278	2370	180	10
APR.										
23...	220	9	11	297	185	461	264	2120	132	7.6
MAY										
17...	98	19	13	309	195	529	246	2310	158	7.7
JUNE										
20...	139	19	14	281	175	436	206	1910	125	11
JULY										
30...	208	25	11	172	68	182	172	865	51	8.1
AUG.										
20...	385	23	10	184	68	177	176	885	45	5.8
SEPT.										
27...	22	21	17	341	199	521	240	2320	158	8.7

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	2710	3730	4250	4430	4160	4330	4340	4280	4040	3750	2830	4080
2.....	2710	2370	4290	4480	4200	4380	4420	4300	2790	3760	2220	4080
3.....	2770	3710	4300	4440	4150	4380	4430	4300	2250	4000	2370	3950
4.....	2850	3570	4140	3750	4140	4360	3340	4330	2870	3570	1760	3630
5.....	2190	3850	4190	4010	4170	4350	3280	4280	3340	3730	2250	3720
6.....	2380	3910	4150	3260	4190	4340	3210	2910	3470	3640	2480	3720
7.....	2360	3940	4350	4410	4310	--	3260	2850	3560	3620	2530	4060
8.....	2350	4010	4340	4430	4150	4350	3240	4070	3500	3720	2510	4030
9.....	2410	4080	3750	3760	4180	4340	3230	4200	3740	3820	2500	3900
10.....	2400	4110	4320	4250	4240	4270	3270	4050	3690	3670	837	3900
11.....	2160	4120	4340	4180	4110	4220	--	4070	3700	3520	2040	3880
12.....	2390	4130	4210	4350	4140	4320	3240	4070	3730	3680	2400	3870
13.....	2410	4170	3480	4490	4210	4320	3250	4140	3550	4010	2290	3820
14.....	2390	4150	4210	4290	4370	4370	3330	4270	3480	--	2310	4080
15.....	2690	4140	4170	4060	4200	4350	3290	4300	2650	3940	1960	4080
16.....	2850	4190	3670	4110	4400	4350	3290	4310	2100	3990	1140	4080
17.....	2810	4160	--	4150	4390	4350	3270	4080	2000	3930	1560	4280
18.....	2760	4150	4360	3240	4260	4400	3320	4290	3140	3920	1660	4080
19.....	2780	4170	4230	4310	4230	4390	3340	4250	3570	3640	2790	4150
20.....	3150	4170	4190	4180	4240	4240	3430	4180	--	3430	--	--
21.....	3170	4190	3250	4250	4140	4370	3400	4170	3480	3170	--	4250
22.....	3170	4130	4590	4130	4320	4370	3420	4130	3790	3980	2090	4430
23.....	--	4110	4420	4200	4250	4340	3940	4160	4120	3970	2260	4090
24.....	3340	4050	4220	4030	4270	4340	4030	4150	4060	4040	2800	4070
25.....	3400	4120	4200	3990	4310	4380	4100	--	2250	2780	3420	4190
26.....	3520	4070	4180	4090	4170	4460	4050	4150	3520	2840	3540	4280
27.....	3220	4130	4250	4090	4220	4480	3980	4150	3620	3880	3690	4100
28.....	3680	4170	3950	4150	4210	4430	4180	4170	3760	3380	3790	4190
29.....	3660	4200	4310	4100	4310	4500	4210	4190	3430	2300	3840	4220
30.....	3290	4200	2520	4120	--	4440	4270	3700	3680	1950	3930	4100
31.....	2960	--	4510	4100	--	4470	--	3810	--	2830	3960	--
AVERAGE	2830	4010	4110	4120	4230	4370	3630	4080	3320	3550	2540	4050

7-1375. ARKANSAS RIVER NEAR COOLIDGE, KANS.--Continued

EXTREMES, 1967-68.--Specific conductance: Maximum daily, 4,590 micromhos Dec. 22; minimum daily, 837 micromhos Aug. 10.
Water temperatures: Maximum, 31°C July 17, Aug, 7, 8; minimum, freezing point Dec. 22, Jan. 2, 3, &.
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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH
OCT.									
20...	.01	2740	3.73	2280	1180	986	4.5	3050	7.5
NOV.									
22...	.00	3880	5.28	1390	1580	1360	5.7	4100	7.7
DEC.									
20...	.00	3880	5.28	1360	1600	1370	5.8	4110	7.8
JAN.									
24...	.02	3760	5.11	1770	1560	1330	5.4	3980	7.9
FEB.									
16...	.01	4100	5.58	1320	1650	1420	5.9	4230	7.9
MAR.									
21...	.01	4170	5.67	270	1670	1440	6.0	4350	8.0
APR.									
23...	.03	3590	4.88	2130	1500	1280	5.2	3840	7.6
MAY									
17...	.02	3900	5.30	1030	1570	1370	5.8	4170	8.0
JUNE									
20...	.14	3240	4.41	1220	1420	1250	5.0	3560	7.6
JULY									
30...	.14	1540	2.09	865	710	569	3.0	1860	7.5
AUG.									
20...	.12	1560	2.12	1620	740	596	2.8	1860	7.5
SEPT.									
27...	.10	3860	5.25	229	1670	1470	5.5	4140	8.0

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVER-AGE
OCTOBER..	24	26	26	26	27	27	27	27	--	20	21	23	24	23	24	23	22	24	26	25	24	23	24	22	24	26	27	26	18	22	23	24
NOVEMBER.	9	6	2	1	1	3	7	2	2	3	8	12	13	9	13	9	5	8	9	11	12	10	3	7	8	7	6	6	3	12	--	6
DECEMBER.	9	1	1	2	3	5	1	1	1	1	1	2	1	1	2	1	--	1	1	6	1	0	1	8	3	1	1	1	1	1	1	2
JANUARY..	1	0	0	2	2	1	1	0	1	2	2	1	1	1	2	1	1	6	1	2	2	2	1	10	2	4	4	8	6	1	1	2
FEBRUARY.	3	10	3	3	1	3	1	1	1	1	11	1	1	1	6	3	1	1	1	3	1	1	2	17	6	3	7	8	1	--	--	3
MARCH....	3	7	1	1	3	12	--	7	9	6	9	13	3	11	8	6	15	7	3	3	2	1	12	9	22	11	20	18	24	9	9	8
APRIL....	10	7	6	4	12	10	9	12	6	18	--	12	18	17	9	13	12	8	8	17	8	10	11	16	17	18	19	20	21	14	--	12
MAY.....	24	17	19	21	14	19	11	11	14	11	9	15	13	21	15	12	13	9	11	9	12	18	13	13	--	23	15	20	16	20	23	15
JUNE.....	17	25	18	17	23	17	19	17	17	--	16	18	27	17	16	26	20	20	20	--	18	19	18	20	17	14	29	20	24	17	--	19
JULY.....	24	17	16	26	21	20	23	22	29	23	28	21	20	--	28	20	31	26	27	--	22	21	29	22	24	23	22	29	23	23	20	23
AUGUST...	17	21	23	29	27	21	31	31	23	19	19	30	22	27	20	20	24	21	21	--	--	26	20	21	26	26	21	20	19	14	15	22
SEPTEMBER	14	14	16	14	14	17	17	14	20	14	21	19	14	26	27	26	16	10	28	--	22	28	23	23	13	12	13	13	14	12	--	17

RIO GRANDE BASIN

8-2200. RIO GRANDE NEAR DEL NORTE, COLO.

LOCATION.--Lat 37°41'20", long 106°27'40", in NW¼ sec.29, T.40 N., R.5 E., Rio Grande County, at gaging station at county highway bridge, 5 miles upstream from Pinos Creek and 6 miles west of Del Norte.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
18...	231	5	23	14	1.5	4.9	54	8.8	1.1	.0
NOV.										
10...	162	1	24	15	2.2	5.4	56	12	1.4	2.3
DEC.										
19...	130	1	27	16	2.4	6.3	67	13	1.9	.4
JAN.										
10...	145	0	26	15	1.9	5.8	60	12	1.7	1.2
FEB.										
08...	150	0	25	16	1.5	5.8	64	11	1.4	.7
MAR.										
18...	185	0	25	15	1.9	5.7	57	8.8	2.3	.4
APR.										
16...	574	5	22	8.4	7.1	4.5	49	7.5	1.5	1.0
MAY										
14...	1280	13	20	5.6	5.4	3.9	42	8.0	1.6	.9
JUNE										
14...	4370	9	13	2.8	3.2	1.8	25	3.8	1.1	.4
JULY										
14...	1740	14	15	4.0	3.9	2.4	29	5.0	.9	.2
AUG.										
11...	1940	14	19	10	1.9	2.7	37	6.5	1.5	.6
SEPT.										
01...	641	16	22	13	1.2	3.5	47	9.2	1.9	.2

8-2235. ROCK CREEK NEAR MONTE VISTA, COLO.

LOCATION.--Lat 37°29'25", long 106°15'32", in SE¼SE¼ sec.36, T.38 N., R.6 E., Rio Grande County, at gaging station just upstream from Mill ditch, 800 ft upstream from Burnt Gulch, 3.5 miles downstream from North Fork, and 8.7 miles southwest of Monte Vista.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
18...	4.9	2	28	8.8	1.5	2.9	43	4.8	.8	.2
NOV.										
10...	2.0	1	30	8.8	1.5	3.0	42	4.0	.8	.1
JAN.										
10...	3.0	0	31	8.0	1.5	3.3	38	5.8	.6	.2
FEB.										
12...	3.4	0	32	8.8	1.0	3.0	38	5.0	.6	.5
MAR.										
01...	4.4	0	29	8.0	2.2	3.2	39	4.2	2.0	.4
APR.										
15...	16	8	30	5.2	4.6	3.3	42	6.5	1.4	.5
MAY										
13...	32	8	31	5.2	4.6	3.2	42	6.2	1.5	.3
JUNE										
14...	40	8	26	1.6	4.4	2.4	31	5.0	1.0	.3
JULY										
15...	12	14	28	3.2	4.6	2.6	36	4.0	.9	.3
AUG.										
10...	66	10	29	10	2.4	2.8	39	6.0	2.2	.6
SEPT.										
01...	13	13	30	9.2	2.9	2.8	41	5.0	1.8	.4

8-2200. RIO GRANDE NEAR DEL NORTE, COLO.--Continued

DRAINAGE AREA.--1,320 sq mi, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
18...	.09	80	.11	49.9	40	0	.3	107	7.1
NOV.									
10...	.14	90	.12	39.4	47	1	.3	120	6.9
DEC.									
19...	.18	100	.14	35.1	51	0	.4	136	7.1
JAN.									
10...	.22	94	.13	36.8	46	0	.4	124	7.0
FEB.									
08...	.12	94	.13	38.1	46	0	.4	121	7.2
MAR.									
18...	.09	87	.12	43.5	46	0	.4	119	7.1
APR.									
16...	.19	76	.10	118	50	10	.3	103	6.9
MAY									
14...	.15	67	.09	232	36	2	.3	87	6.8
JUNE									
14...	.09	38	.05	448	20	0	.2	46	7.2
JULY									
14...	.07	45	.06	211	26	2	.2	57	6.7
AUG.									
11...	.13	60	.08	314	33	3	.2	73	7.1
SEPT.									
01...	.11	74	.10	128	38	0	.2	91	7.2

8-2235. ROCK CREEK NEAR MONTE VISTA, COLO.--Continued

DRAINAGE AREA.--32.9 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
18...	.34	68	.09	.90	28	0	.2	75	7.3
NOV.									
10...	.25	69	.09	.37	28	0	.2	74	7.2
JAN.									
10...	.20	69	.09	.56	26	0	.3	71	7.0
FEB.									
12...	.26	70	.10	.64	26	0	.3	71	7.3
MAR.									
01...	.24	68	.09	.81	29	0	.3	74	7.2
APR.									
15...	.33	73	.10	3.15	32	0	.3	83	7.1
MAY									
13...	.43	73	.10	6.31	32	0	.2	80	6.9
JUNE									
14...	.18	56	.08	6.05	22	0	.2	57	6.8
JULY									
15...	.23	62	.08	2.01	27	0	.2	64	6.8
AUG.									
10...	.25	72	.10	12.8	36	4	.2	75	7.0
SEPT.									
01...	.21	72	.10	2.53	35	1	.2	75	7.2

8-2245. KERBER CREEK AT ASHLEY RANCH, NEAR VILLA GROVE, COLO.

LOCATION.--Lat 38°14'28", long 106°06'57", in SW¼NW¼ sec.17, T.46 N., R.8 E., Saguache County, at gaging station at Ashley Ranch, 4.5 miles upstream from Little Kerber Creek and 9 miles west of Villa Grove.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
18...	3.6	12	14	40	7.8	5.4	20	114	1.6	.3
NOV.										
10...	3.0	1	18	44	9.2	5.2	4	162	1.6	.2
DEC.										
19...	2.8	0	21	29	15	7.2	--	311	2.4	.4
JAN.										
02...	2.5	0	18	49	11	5.5	4	186	2.1	.4
FEB.										
08...	2.7	0	18	39	11	5.5	28	140	1.1	.4
MAR.										
04...	3.5	1	17	45	9.0	4.8	14	144	1.6	.3
APR.										
16...	6.5	3	13	39	8.3	5.0	12	137	2.6	.5
MAY										
14...	22	14	14	33	4.4	4.5	20	85	1.7	.6
JUNE										
14...	48	13	11	10	4.4	2.4	26	28	1.0	.3
JULY										
16...	7.8	21	12	18	6.6	3.0	31	52	1.0	.3
AUG.										
15...	34	12	13	27	5.1	3.8	20	79	2.1	.2
SEPT.										
06...	7.8	14	14	32	7.1	4.3	22	101	.9	.1

8-2270. SAGUACHE CREEK NEAR SAGUACHE, COLO.

LOCATION.--Lat 38°09'48", long 106°17'24", in SE¼SE¼ sec.10, T.45 N., R.6 E., Saguache County, at gaging station, 0.2 mile downstream from Middle Creek and 10 miles northwest of Saguache.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
18...	43	8	29	18	1.9	5.5	76	5.8	2.6	.3
NOV.										
10...	26	2	29	19	3.6	6.0	84	7.0	1.7	.4
DEC.										
19...	25	0	33	19	3.6	6.5	84	7.0	2.2	.5
JAN.										
02...	22	0	33	18	3.6	6.5	79	6.2	2.2	.7
FEB.										
08...	23	0	32	18	2.2	6.6	80	6.0	1.5	.5
MAR.										
18...	36	--	28	17	3.6	7.8	79	11	3.0	.2
APR.										
16...	44	7	29	21	3.9	8.4	96	10	2.8	.5
MAY										
12...	119	12	28	21	4.4	9.5	90	12	3.6	1.2
JUNE										
14...	196	17	24	14	3.6	4.2	59	4.5	1.8	.5
JULY										
14...	65	18	26	16	4.9	5.5	74	5.5	1.2	.5
AUG.										
11...	360	17	27	20	5.1	8.4	97	8.0	2.8	.9
SEPT.										
02...	76	13	28	17	2.4	4.8	70	6.2	2.3	.2

8-2245. KERBER CREEK AT ASHLEY RANCH, NEAR VILLA GROVE, COLO.--Continued

DRAINAGE AREA.--38 sq mi, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH
OCT.									
18...	.00	193	.26	1.88	132	116	.2	299	6.8
NOV.									
10...	.00	242	.33	1.96	148	145	.2	350	5.2
DEC.									
19...	.00	436	.59	3.30	256	256	.2	667	3.6
JAN.									
02...	.00	274	.37	1.85	168	165	.2	397	4.9
FEB.									
08...	.01	229	.31	1.67	142	119	.2	336	6.6
MAR.									
04...	.01	229	.31	2.16	149	138	.2	350	6.4
APR.									
16...	.01	211	.29	3.70	132	122	.2	296	6.4
MAY									
14...	.01	153	.21	9.09	100	84	.2	226	6.7
JUNE									
14...	.05	70	.10	9.07	44	23	.2	107	6.7
JULY									
16...	.03	108	.15	2.27	72	47	.2	174	6.8
AUG.									
15...	.01	140	.19	12.9	89	73	.2	217	6.7
SEPT.									
06...	.01	170	.23	3.58	108	90	.2	263	6.7

8-2270. SAGUACHE CREEK NEAR SAGUACHE, COLO.--Continued

DRAINAGE AREA.--595 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH
OCT.									
18...	.18	101	.14	11.7	54	0	.3	130	7.5
NOV.									
10...	.18	108	.15	7.58	62	0	.3	136	7.2
DEC.									
19...	.19	113	.15	7.63	63	0	.4	144	7.2
JAN.									
02...	.28	109	.15	6.47	60	0	.4	134	7.5
FEB.									
08...	.17	106	.14	6.58	54	0	.4	138	7.2
MAR.									
18...	.24	110	.15	10.7	58	0	.4	152	7.2
APR.									
16...	.23	123	.17	14.6	68	0	.4	169	7.3
MAY									
12...	.24	124	.17	39.8	70	0	.5	177	7.2
JUNE									
14...	.26	82	.12	43.4	49	1	.3	102	7.3
JULY									
14...	.29	96	.13	16.8	60	0	.3	126	7.1
AUG.									
11...	.37	121	.16	118	72	0	.4	171	7.2
SEPT.									
02...	.27	95	.13	19.5	52	0	.3	124	7.4

8-2305. CARNERO CREEK NEAR LA GARITA, COLO.

LOCATION.--Lat 37°51'35", long 106°19'08", in SW¼NE¼ sec.28, T.42 N., R.6 E., Saguache County, at gaging station, 4.5 miles northwest of La Garita and 6.6 miles downstream from North Fork.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
18...	3.3	8	33	30	6.3	9.1	130	15	2.8	.4
NOV.										
10...	2.4	1	34	34	7.3	10	146	20	3.0	.3
DEC.										
19...	2.0	0	32	32	6.1	10	128	23	2.5	.1
JAN.										
10...	3.3	0	30	26	5.6	8.8	108	20	2.7	.2
FEB.										
08...	3.8	0	30	26	4.9	8.9	107	18	2.2	.5
MAR.										
18...	6.0	--	30	25	5.1	8.8	104	20	3.5	.7
APR.										
16...	23	2	27	23	5.4	7.4	96	16	3.7	1.2
MAY										
12...	56	10	29	20	5.4	6.6	83	17	3.0	.8
JUNE										
14...	42	16	30	16	4.9	5.2	70	10	1.8	.5
JULY										
14...	11	17	34	23	6.3	7.3	106	12	2.3	.4
AUG.										
11...	165	14	34	24	5.8	7.2	98	17	3.3	.7
SEPT.										
02...	38	8	35	28	7.1	8.0	116	20	4.4	.3

8-2360. ALAMOSA CREEK ABOVE TERRACE RESERVOIR, COLO.

LOCATION.--Lat 37°22'29", long 106°20'03", in NW¼NE¼ sec.17, T.36 N., R.6 E., Conejos County, at gaging station, 0.8 mile upstream from highwater line of Terrace Reservoir at elevation 8,568 ft, 3.0 miles downstream from French Creek, and 15 miles northwest of Capulin.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
13...	31	12	15	32	5.6	3.9	7	104	.9	.0
NOV.										
21...	19	3	17	38	6.3	5.2	15	120	1.4	.1
DEC.										
08...	16	0	18	38	5.1	4.0	18	111	.9	.2
JAN.										
22...	15	1	17	39	6.8	5.2	22	118	1.0	.2
FEB.										
20...	18	0	18	37	6.8	4.6	22	114	.9	.1
MAR.										
15...	19	6	16	39	6.6	5.4	22	115	1.3	.2
APR.										
09...	21	1	14	34	6.5	4.5	14	96	1.8	.1
JUNE										
26...	267	4	9.7	11	3.9	1.9	16	27	1.5	.1
JULY										
21...	62	18	13	22	5.4	2.9	11	62	--	.0
AUG.										
29...	89	13	13	22	5.4	3.2	18	58	1.6	.1
SEPT.										
20...	39	11	16	32	7.8	4.1	11	92	1.8	3.0

8-2305. CARNERO CREEK NEAR LA GARITA, COLO.--Continued

DRAINAGE AREA.--117 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
18...	.49	161	.22	1.43	100	0	.4	232	7.6
NOV.									
10...	.46	181	.25	1.17	116	0	.4	265	7.7
DEC.									
19...	.37	169	.23	.91	105	0	.4	248	7.4
JAN.									
10...	.31	147	.20	1.31	87	0	.4	212	7.3
FEB.									
08...	.35	144	.20	1.48	84	0	.4	203	7.5
MAR.									
18...	.39	144	.20	2.33	84	0	.4	205	7.5
APR.									
16...	.53	131	.18	8.14	80	1	.4	197	7.3
MAY									
12...	.42	123	.17	18.6	72	4	.3	171	7.3
JUNE									
14...	.34	103	.14	11.7	60	3	.3	136	7.3
JULY									
14...	.58	139	.19	4.13	84	75	.3	195	7.3
AUG.									
11...	.54	141	.19	62.8	84	4	.3	195	7.3
SEPT.									
02...	.53	160	.22	16.4	98	3	.3	230	7.5

8-2360. ALAMOSA CREEK ABOVE TERRACE RESERVOIR, COLO.--Continued

DRAINAGE AREA.--107 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
13...	.00	164	.22	13.7	102	96	.2	243	6.6
NOV.									
21...	.01	195	.27	10.0	122	110	.2	286	6.6
DEC.									
08...	.01	186	.25	8.04	116	101	.2	270	6.9
JAN.									
22...	.00	198	.27	8.02	126	108	.2	292	6.8
FEB.									
20...	.01	192	.26	9.33	120	102	.2	282	6.8
MAR.									
15...	.01	195	.27	10.0	124	106	.2	288	7.0
APR.									
05...	.03	167	.23	9.47	123	112	.2	282	6.7
JUNE									
26...	.01	63	.09	45.4	44	31	.1	100	7.0
JULY									
21...	.00	112	.15	18.7	78	69	.1	177	6.7
AUG.									
29...	.00	112	.15	26.9	76	61	.2	177	6.8
SEPT.									
20...	.00	159	.22	16.7	112	103	.2	250	6.7

8-2415. SANGRE DE CRISTO CREEK NEAR FORT GARLAND, COLO.

LOCATION.--Lat 37°25', long 105°25', in W½ sec.23, T.30 S., R.72 W., Costilla County, at gaging station at road bridge, 2,000 ft upstream from Garland Canal, 1 mile east of Fort Garland, and 6 miles upstream from Ute Creek.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
16...	1.6	4	16	61	12	17	254	24	5.9	.1
NOV.										
20...	3.2	3	15	60	12	14	246	24	4.9	.1
DEC.										
12...	2.3	1	14	54	12	9.1	216	27	1.9	.2
JAN.										
02...	2.2	1	16	62	12	15	254	24	4.8	.3
FEB.										
05...	3.9	2	16	61	13	15	250	26	4.6	.1
MAR.										
01...	8.0	3	15	56	11	13	223	26	5.1	.0
APR.										
02...	18	4	14	44	11	8.9	178	22	4.0	.3
MAY										
07...	92	9	13	30	8.0	6.3	118	18	2.4	1.9
JUNE										
17...	22	14	13	41	10	8.6	167	18	3.3	.1
JULY										
16...	8.5	18	13	50	11	11	204	20	4.0	.1
AUG.										
19...	14	15	14	42	12	7.2	185	18	2.9	.3
SEPT.										
16...	3.8	11	15	46	14	11	216	20	2.6	.5

8-2465. CONEJOS RIVER NEAR MOGOTE, COLO.

LOCATION.--Lat 37°03'20", long 106°11'10", in SE¼ sec.34, T.33 N., R.7 E., Conejos County, at gaging station at bridge on State Highway 174, 0.3 mile downstream from Fox Creek, 5.3 miles west of Mogote, and 10 miles west of Antonito.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)
OCT.										
11...	89	12	21	13	1.0	2.7	50	5.0	.9	.1
NOV.										
20...	52	4	22	13	1.9	2.9	54	3.8	1.1	.0
DEC.										
11...	56	0	24	14	1.7	3.2	58	4.2	1.1	.0
JAN.										
16...	44	3	23	13	1.9	2.9	55	5.0	1.1	.0
FEB.										
14...	52	0	24	13	1.7	2.5	54	4.2	.9	.0
MAR.										
19...	48	3	22	16	1.0	3.0	56	3.2	2.5	.2
APR.										
16...	236	5	19	12	1.9	2.7	50	4.5	1.2	.1
JUNE										
13...	1360	9	12	6.0	1.2	1.0	22	4.2	1.1	.1
JULY										
21...	180	19	18	9.2	1.2	1.9	38	2.5	.8	.1
AUG.										
29...	173	16	19	10	2.7	2.3	45	3.8	1.0	.1
SEPT.										
30...	82	9	23	12	2.7	2.5	48	4.0	1.5	.3

8-2415. SANGRE DE CRISTO CREEK NEAR FORT GARLAND, COLO.--Continued

DRAINAGE AREA.--190 sq mi, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
16...	.09	261	.35	1.13	201	0	.5	425	8.2
NOV.									
20...	.07	251	.34	2.17	200	0	.4	413	8.1
DEC.									
12...	.00	224	.30	1.39	186	9	.3	373	7.7
JAN.									
02...	.05	259	.35	1.54	204	0	.5	429	8.0
FEB.									
05...	.10	259	.35	2.73	204	0	.5	429	8.0
MAR.									
01...	.07	236	.32	5.10	186	3	.4	388	8.0
APR.									
02...	.08	192	.26	9.33	154	8	.3	318	7.6
MAY									
07...	.15	138	.19	34.3	108	11	.3	230	7.4
JUNE									
17...	.09	176	.24	10.5	144	7	.3	298	7.7
JULY									
16...	.07	209	.28	4.80	172	5	.4	352	7.7
AUG.									
19...	.10	188	.26	7.11	155	3	.3	320	7.9
SEPT.									
16...	.09	215	.29	2.21	173	0	.4	373	7.9

8-2465. CONEJOS RIVER NEAR MOGOTE, COLO.--Continued

DRAINAGE AREA.--282 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
11...	.11	69	.10	17.1	36	0	.2	86	7.4
NOV.									
20...	.13	72	.10	10.8	40	0	.2	94	6.9
DEC.									
11...	.08	77	.11	12.2	41	0	.2	97	7.2
JAN.									
16...	.09	74	.11	9.27	40	0	.2	95	7.1
FEB.									
14...	.08	73	.08	8.70	40	0	.2	93	7.4
MAR.									
19...	.05	76	.10	9.85	43	0	.2	97	7.4
APR.									
16...	.05	66	.10	45.9	38	0	.2	86	7.0
JUNE									
13...	.01	37	.06	151	20	2	.1	40	6.8
JULY									
21...	.06	53	.08	27.2	28	0	.2	64	7.1
AUG.									
29...	.05	61	.09	29.9	36	0	.2	75	7.1
SEPT.									
30...	.08	70	.10	16.8	42	3	.2	89	7.4

8-2492. RIO GRANDE ABOVE CULEBRA CREEK, NEAR LOBATOS, COLO.

LOCATION.--Lat 37°16'00", long 105°44'00", Conejos County, 0.5 mile southeast of Lasauses, 7 miles upstream from Culebra Creek, and 14 miles upstream from gaging station which is 10 miles east of Lobatos.
DRAINAGE AREA.--7,700 sq mi, approximately, upstream from gaging station (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM PLUS POTASSIUM (NA+K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)
OCT.										
26...	60	30	48	11	52	178	105	16	.6	.0
NOV.										
26...	315	29	35	7.7	23	112	62	7.6	.3	.1
DEC.										
24...	230	35	34	6.8	23	126	45	7.2	.4	.7
JAN.										
28...	280	31	26	5.1	14	94	31	4.0	.1	1.4
FEB.										
18...	270	19	22	3.9	14	84	21	4.1	.2	4.7
MAR.										
29...	520	26	34	6.8	26	112	60	9.4	.3	1.0
APR.										
26...	122	28	46	10	34	142	94	11	.5	.8
MAY										
26...	1720	21	20	2.2	--	50	33	2.4	.2	1.2
JUNE										
30...	1490	20	31	6.4	15	90	53	4.8	.3	.1
JULY										
28...	520	24	28	4.4	23	98	46	5.6	.3	.6
AUG.										
13...	1090	23	30	5.6	--	84	72	6.3	.3	.6
SEPT.										
29...	44	26	73	15	66	179	205	17	.8	.7

8-2494. CULEBRA CREEK NEAR CHAMA, COLO.

LOCATION.--Lat 37°10'53", long 105°19'14", in Sangre de Cristo Grant, Costilla County, at gaging station at bridge, 0.4 mile downstream from El Poso Creek and 3.3 miles northeast of Chama.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DISCHARGE (CFS)	TEMPERATURE (DEG C)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	NITRATE (NO3)
OCT.										
18...	27	3	7.3	20	4.1	2.3	76	11	1.1	.4
NOV.										
20...	13	1	7.9	22	3.6	2.7	82	10	1.0	.1
JAN.										
02...	14	0	8.4	22	3.6	2.7	80	11	1.2	.9
FEB.										
05...	12	1	8.8	23	3.9	2.9	85	10	1.1	.9
MAR.										
01...	9.5	1	10	24	4.4	3.3	91	10	.9	.4
APR.										
02...	18	4	9.1	21	4.4	3.1	82	7.8	1.3	.4
MAY										
07...	40	6	9.1	19	5.4	2.6	79	8.8	1.3	.6
28...	127	9	8.2	17	3.4	2.0	60	7.5	1.5	.9
JULY										
16...	42	13	7.1	21	3.9	2.1	77	7.5	1.3	.1
AUG.										
19...	70	9	6.4	14	6.1	1.0	63	10	.8	.6
SEPT.										
16...	28	11	7.8	19	5.1	1.5	75	11	1.3	.3

8-2492. RIO GRANDE ABOVE CULEBRA CREEK, NEAR LOBATOS, COLO.--Continued

RECORDS AVAILABLE.--Chemical analyses: October 1946 to September 1968.
Water temperatures: July 1964 to January 1966.
REMARKS.--The daily mean discharge listed is that reported for the gaging station near Lobatos, Colo.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	BORON (B)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
26...	--	351	.48	56	167	21	1.7	532	7.6
NOV.									
26...	--	220	.30	187	119	27	.9	338	7.0
DEC.									
24...	--	214	.29	133	113	10	.9	322	6.9
JAN.									
28...	--	159	.22	120	86	9	.7	238	6.9
FEB.									
18...	--	130	.18	94	71	2	.7	213	6.6
MAR.									
29...	--	218	.30	306	113	21	1.1	343	7.0
APR.									
26...	--	294	.40	96	158	42	1.2	446	6.9
MAY									
26...	.02	119	.16	553	59	18	.6	177	7.1
JUNE									
30...	--	175	.24	704	104	30	.6	279	7.0
JULY									
28...	--	180	.24	253	88	8	1.1	288	7.3
AUG.									
13...	.05	204	.28	600	98	29	.9	317	6.8
SEPT.									
29...	--	492	.67	58	243	96	1.8	740	7.5

8-2494. CULEBRA CREEK NEAR CHAMA, COLO.--Continued

DRAINAGE AREA.--73.1 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1967 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.									
18...	.00	83	.11	6.05	67	5	.1	138	7.3
NOV.									
20...	.00	87	.12	3.05	70	3	.1	147	7.3
JAN.									
02...	.00	89	.12	3.36	70	4	.1	149	7.3
FEB.									
05...	.00	93	.13	3.01	74	4	.1	157	7.5
MAR.									
01...	.06	98	.13	2.51	78	3	.2	161	7.4
APR.									
02...	.00	87	.12	4.23	70	3	.2	148	7.5
MAY									
07...	.02	86	.12	9.29	70	5	.1	137	7.3
28...	.02	71	.10	24.3	56	7	.1	115	7.3
JULY									
16...	.00	81	.11	9.19	68	5	.1	137	7.3
AUG.									
19...	.00	70	.10	13.2	60	8	.1	122	7.3
SEPT.									
16...	.00	83	.11	6.27	68	6	.1	140	7.5

COLORADO RIVER MAIN STEM

9-0345. 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).
RECORDS AVAILABLE.--Chemical analyses: April 1947 to September 1968.
Water temperatures: April 1949 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 116 mg/l Apr. 1-30; minimum, 73 mg/l June 1-24.
Hardness: Maximum, 72 mg/l June 25-30; minimum, 43 mg/l May 19-31.
Specific conductance: Maximum daily, 176 micromhos Apr. 5; minimum daily, 79 micromhos June 4.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DIS-CHARGE (CFS)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)	NITRATE (NO3)
OCT.											
01-31	86	11	20	3.2	6.7	--	82	7.0	1.5	--	.3
NOV.											
01-21	92	12	20	3.4	6.9	--	84	15	2.5	--	.3
22-30	73	12	21	3.2	7.1	--	85	15	2.5	--	.3
DEC.											
01-31	65	12	19	3.1	7.2	--	84	8.2	1.4	.3	.7
JAN.											
01-23	61	14	18	2.4	7.9	--	78	8.2	1.9	--	.1
24-25	63	13	17	4.1	13	--	92	10	3.6	--	.1
26-31	63	13	17	3.2	7.6	--	78	8.0	2.3	--	.3
FEB.											
01-29	64	16	18	2.7	9.2	--	81	8.8	2.5	--	.2
MAR.											
01-31	75	13	18	4.9	10	--	84	9.0	3.9	--	.8
APR.											
01-30	148	12	21	3.9	7.8	--	88	9.0	3.0	--	.6
MAY											
01-18	284	12	14	3.2	5.5	--	61	7.5	2.5	--	.3
19-31	340	12	13	2.7	4.7	1.2	54	6.8	2.4	.2	.6
JUNE											
01-24	514	16	14	1.9	3.9	--	54	4.5	2.1	--	.6
25-30	277	18	23	3.4	6.6	--	90	9.8	2.3	--	.3
JULY											
01-18	239	13	21	3.6	6.7	--	90	6.2	2.4	--	.3
19-20	210	9.4	16	2.9	4.0	--	54	5.8	1.5	--	.1
21-31	230	12	22	3.6	6.4	--	88	4.8	2.2	--	.2
AUG.											
01-09	182	13	23	3.2	6.8	--	95	5.0	2.3	--	.2
10-31	131	12	21	3.2	6.1	--	85	6.2	3.0	--	.2
SEPT.											
01-30	80	11	19	2.9	6.2	1.5	82	6.2	1.7	.3	.2
WTD. AVG. TIME	--	13	18	3.0	6.1	--	74	7.0	2.4	--	.4
WTD. AVG. TONS PER DAY	152	13	19	3.2	7.0	--	80	8.0	2.4	--	.4
	--	5.4	7.3	1.2	2.5	--	30	2.9	1.0	--	.2

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	131	146	144	152	144	156	155	118	88	143	--	138
2.....	153	143	151	152	144	155	155	118	100	148	--	150
3.....	152	141	156	152	146	156	169	165	80	148	--	150
4.....	124	147	154	149	145	159	173	121	79	152	163	148
5.....	154	146	153	144	164	159	176	106	85	159	164	146
6.....	142	146	156	144	165	161	154	113	85	162	158	151
7.....	141	147	154	144	165	162	170	110	89	156	162	145
8.....	144	144	153	150	163	162	160	106	86	151	162	146
9.....	129	145	152	144	162	161	160	107	89	156	159	146
10.....	143	147	139	150	165	169	165	111	--	155	144	138
11.....	131	147	141	152	164	169	--	113	--	156	150	140
12.....	129	149	140	145	162	169	155	111	--	162	156	141
13.....	138	148	141	146	164	162	155	106	--	160	149	140
14.....	143	146	145	150	146	146	155	110	--	154	150	138
15.....	144	145	153	139	146	145	155	116	101	159	147	150
16.....	145	144	155	145	146	144	146	114	101	153	150	104
17.....	146	145	151	151	145	152	153	113	94	153	147	137
18.....	142	146	149	150	144	145	152	112	102	157	148	131
19.....	143	146	147	114	145	169	154	108	101	--	144	144
20.....	143	144	148	144	147	144	152	--	105	98	145	134
21.....	142	142	148	145	146	140	143	108	96	149	143	140
22.....	144	162	148	144	145	153	159	110	102	151	144	142
23.....	144	163	147	145	146	153	158	99	109	150	150	140
24.....	143	147	149	171	145	153	151	86	120	150	149	142
25.....	145	143	156	171	145	153	160	101	149	--	148	138
26.....	144	143	148	144	158	156	153	101	150	--	145	145
27.....	145	143	148	143	145	153	155	95	164	--	143	133
28.....	147	143	148	143	144	153	154	98	155	--	142	143
29.....	145	143	148	143	144	154	154	106	144	--	145	141
30.....	149	158	149	144	--	153	152	92	157	--	144	144
31.....	146	--	147	145	--	153	--	90	--	--	150	--
AVERAGE	142	146	148	146	151	155	157	108	109	--	150	140

9-0345. COLORADO RIVER AT HOT SULPHUR SPRINGS, COLO.--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 21°C Aug. 8; minimum, freezing point on many days during November to March.
EXTREMES, 1947-68.--Dissolved solids (1947-50, 1952-68): Maximum, 167 mg/l Jan. 25-28, 1967; minimum, 38 mg/l June 21-30, 1947.
Hardness (1947-50, 1952-68): Maximum, 98 mg/l Feb. 12-16, 1967; minimum, 20 mg/l June 21-30, 1947.
Specific conductance: Maximum daily, 254 micromhos Jan. 28, 1967; minimum daily, 48 micromhos June 27, 1947.
Water temperatures (1949-68): Maximum, 24°C Aug. 8, 1957, July 6, 11, 14, 21, 1966; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH
OCT.										
01-31	.01	--	100	.14	23.2	62	0	.4	142	7.8
NOV.										
01-21	.09	--	107	.15	26.6	64	0	.4	145	7.8
22-30	.01	--	109	.15	21.5	66	0	.4	149	7.8
DEC.										
01-31	.22	.00	98	.13	17.2	60	0	.4	150	7.6
JAN.										
01-23	.04	--	92	.13	15.2	56	0	.5	147	7.4
24-25	.27	--	105	.14	17.9	60	0	.7	171	7.2
26-31	.04	--	92	.13	15.6	56	0	.4	146	7.4
FEB.										
01-29	.04	--	94	.13	16.2	56	0	.5	153	7.5
MAR.										
01-31	.04	--	107	.15	21.7	64	0	.5	156	7.4
APR.										
01-30	.04	--	116	.16	46.4	68	0	.4	157	7.4
MAY										
01-18	.02	--	85	.12	65.2	49	0	.3	115	7.5
19-31	.01	.05	80	.11	73.4	43	0	.3	101	7.2
JUNE										
01-24	.00	--	73	.10	101	44	0	.3	95	7.3
25-30	.00	--	103	.14	77.0	72	0	.3	154	7.5
JULY										
01-18	.03	--	99	.13	63.9	68	0	.4	152	7.5
19-20	--	--	72	.10	40.8	52	8	.2	98	7.5
21-31	.01	--	98	.13	60.9	69	0	.3	150	7.5
AUG.										
01-09	.00	--	103	.14	50.6	70	0	.4	162	7.5
10-31	.03	--	95	.13	33.6	66	0	.3	149	7.6
SEPT.										
01-30	.02	.04	84	.11	18.1	60	0	.3	141	7.3
WTD. AVG. TIME	.52	--	91	--	--	57	0	--	131	7.4
WTD. AVG. TONS PER DAY	.54	--	96	--	--	60	0	.4	143	7.5
	.51	--	--	--	--	--	--	--	--	--

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	14	9	9	9	11	11	11	13	7	6	10	11	11	9	9	7	6	7	6	7	7	5	6	6	6	6	6	6	6	5	6	8
NOVEMBER.	6	3	3	3	4	6	6	6	6	7	5	6	6	6	6	6	6	6	4	3	2	2	2	2	1	2	1	0	0	3	--	3
DECEMBER.	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
JANUARY..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
FEBRUARY.	0	0	0	0	1	1	1	1	2	2	2	2	2	2	2	1	2	2	1	2	2	1	1	1	0	1	3	3	3	--	--	1
MARCH....	1	0	1	1	0	1	1	0	0	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	1
APRIL....	6	6	6	6	6	6	6	6	6	7	--	6	6	6	9	6	6	6	6	6	6	6	6	6	6	6	6	6	7	11	--	6
MAY.....	13	11	12	11	10	6	6	6	7	6	7	7	6	11	9	6	6	11	12	--	12	12	13	13	14	14	14	14	15	14	14	10
JUNE.....	14	14	14	14	14	14	14	14	14	--	--	--	--	--	16	17	17	17	17	18	17	17	18	17	17	18	18	18	17	17	--	16
JULY.....	18	17	17	17	18	17	19	17	18	19	18	20	19	18	19	18	18	19	--	19	19	20	20	16	--	--	--	--	--	--	--	--
AUGUST...	--	--	--	17	18	20	20	21	18	18	18	20	17	14	16	20	17	14	17	20	18	18	19	17	14	17	17	16	17	17	17	17
SEPTEMBER	16	14	14	16	14	14	14	16	17	16	16	16	14	14	14	14	12	14	17	14	11	11	14	14	14	14	14	13	13	14	--	14

9-0690. 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.
RECORDS AVAILABLE.--Chemical analyses: April 1947 to September 1968.
Water temperatures: April 1949 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 702 mg/l Dec. 1-15; minimum, 100 mg/l June 13-25.
Hardness: Maximum, 418 mg/l Dec. 1-15; minimum, 88 mg/l June 13-25.
Specific conductance: Maximum daily, 1,140 micromhos Nov. 28, 29; minimum daily, 181 micromhos June 18.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)
OCT.											
01-31	259	8.8	117	22	72	--	174	240	108	--	.2
NOV.											
01-30	203	8.6	121	24	68	--	176	270	98	--	.8
DEC.											
01-15	182	9.4	127	25	66	--	184	281	88	--	.8
16-31	186	9.6	113	24	51	2.3	178	254	71	.5	1.2
JAN.											
01-31	161	5.9	108	29	49	--	174	277	64	--	.2
FEB.											
01-29	164	9.4	109	24	47	--	174	243	65	--	.0
MAR.											
01-31	162	9.4	103	26	42	--	160	236	57	--	.1
APR.											
01-30	214	8.5	86	20	33	--	142	190	46	--	.2
MAY											
01-23	557	7.9	42	18	15	--	122	82	20	--	.1
24-31	1061	7.6	32	13	8.0	1.1	112	45	9.7	.3	.2
JUNE											
01-12	2488	6.1	37	2.2	4.2	--	93	36	5.7	--	.2
13-25	2637	5.7	30	3.2	4.2	--	73	29	5.6	--	.2
26-30	1826	5.2	32	4.4	7.4	--	78	39	11	--	.2
JULY											
01-10	1083	10	46	8.0	14	--	96	68	22	--	.1
11-31	578	10	61	13	25	--	118	104	37	--	.1
AUG.											
01-06	540	11	67	16	30	--	125	122	44	--	.1
07-10	1012	11	48	14	16	--	82	90	25	--	.4
11-31	551	12	70	20	33	--	142	136	47	--	.2
SEPT.											
01-24	295	4.5	88	22	42	--	160	176	64	--	.5
25-30	252	4.2	91	29	55	--	168	205	78	--	.7
WTC. AVG. TIME	--	7.7	59	12	23	--	116	106	32	--	.2
WTD. AVG. TONS PER DAY	508	8.3	87	20	40	--	149	196	57	--	.3
	--	11	81	17	31	--	160	146	44	--	.3

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1050	1010	944	920	987	860	692	545	229	315	530	765
2.....	1060	984	1130	866	994	876	756	496	225	345	548	770
3.....	1050	1020	980	934	986	852	702	446	257	333	560	833
4.....	1010	1010	1130	1000	892	881	723	429	212	356	542	741
5.....	1080	962	1070	974	944	850	749	355	195	366	591	701
6.....	987	1040	1000	993	897	854	737	375	312	365	635	721
7.....	1010	1090	1020	928	947	857	773	379	193	371	405	741
8.....	975	1070	1040	977	897	859	794	387	189	387	420	767
9.....	981	1050	1040	897	976	862	742	404	204	382	414	780
10.....	972	1020	955	910	858	836	819	392	226	375	400	779
11.....	997	997	1030	900	879	879	675	387	240	405	514	815
12.....	990	1030	1020	966	859	846	730	394	237	415	482	842
13.....	1030	1010	965	900	916	894	770	376	202	421	510	843
14.....	1040	994	1030	966	910	864	641	380	189	437	541	829
15.....	1040	997	1060	911	913	836	662	375	189	450	419	810
16.....	1050	987	965	908	927	871	660	399	191	456	468	773
17.....	1060	987	935	885	887	865	698	386	186	476	600	776
18.....	1020	990	929	888	950	844	629	420	181	510	544	826
19.....	1070	1000	924	916	861	851	616	428	193	526	587	772
20.....	1010	997	901	905	863	881	634	323	186	541	622	739
21.....	1020	978	926	905	831	868	679	421	195	568	690	795
22.....	1010	947	965	903	852	861	675	377	183	585	705	808
23.....	1020	968	888	903	849	899	689	325	188	584	693	821
24.....	1040	968	901	890	864	879	721	302	195	594	759	837
25.....	1030	1010	883	891	841	859	667	305	201	583	758	866
26.....	1020	994	904	901	838	823	696	295	251	612	738	874
27.....	1030	1120	883	888	852	864	715	316	236	595	718	893
28.....	1060	1140	885	878	838	854	681	244	223	440	690	906
29.....	987	1140	891	868	870	861	679	317	225	473	702	905
30.....	981	1000	923	898	--	748	678	242	254	517	764	915
31.....	984	--	935	943	--	864	--	229	--	514	737	--
AVERAGE	1020	1020	969	913	892	858	702	367	212	461	589	807

9-0690. EAGLE RIVER AT GYPSUM, COLO.--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 18°C July 17; minimum, freezing point on many days during November to February.
EXTREMES, 1947-68.--Dissolved solids: Maximum, 1,370 mg/l Aug. 11, 12, 1952; minimum, 100 mg/l June 13-25, 1968.
Hardness (1947-50, 1957-68): 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 (1949-68): 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-31	.01	--	689	.94	482	382	239	1.6	1020	7.7
NOV.										
01-30	.01	--	699	.95	383	400	256	1.5	1020	7.7
DEC.										
01-15	.00	--	702	.95	345	418	267	1.4	1030	7.8
16-31	.01	.06	621	.84	312	382	236	1.1	914	7.8
JAN.										
01-31	.01	--	656	.89	285	388	245	1.1	918	7.8
FEB.										
01-29	.00	--	607	.83	269	372	229	1.1	891	7.7
MAR.										
01-31	.01	--	608	.83	266	364	233	1.0	961	7.8
APR.										
01-30	.01	--	453	.62	262	296	180	.8	706	7.7
MAY										
01-23	--	--	252	.34	379	180	80	.5	400	7.5
24-31	.00	.08	188	.26	539	134	42	.3	291	7.4
JUNE										
01-12	.01	--	123	.17	826	102	26	.2	229	7.5
13-25	.00	--	100	.14	712	88	28	.2	193	7.5
26-30	.00	--	134	.18	661	99	41	.3	241	7.6
JULY										
01-10	.00	--	225	.31	658	149	70	.5	359	7.9
11-31	.00	--	323	.44	504	205	108	.8	506	8.1
AUG.										
01-06	.00	--	363	.49	529	232	130	.9	573	7.8
07-10	.00	--	263	.36	719	178	111	.5	418	6.9
11-31	.00	--	407	.55	605	258	142	.9	633	8.1
SEPT.										
01-24	.01	--	518	.70	413	310	179	1.0	788	7.8
25-30	.01	--	595	.81	405	344	206	1.3	894	7.8
WTD. AVG. TIME	.00	--	305	--	--	198	103	--	477	7.7
WTD. AVG. TONS PER DAY	.01	--	494	--	--	301	179	1.0	736	7.7
	.01	--	--	--	--	--	--	--	--	--

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	8	9	9	9	11	10	9	10	9	9	7	7	8	7	7	6	7	6	--	6	6	5	4	4	5	4	4	4	4	4	3	6
NOVEMBER.	4	3	3	2	2	2	1	5	3	4	3	3	4	3	4	6	5	4	2	2	4	4	1	0	1	1	0	0	0	0	--	2
DECEMBER.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
JANUARY..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
FEBRUARY.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	2	1	1	1	1	1	1	2	--	--	--
MARCH....	1	2	2	1	1	2	1	2	2	3	3	4	5	3	3	3	3	3	3	4	6	7	7	7	7	7	8	8	7	7	7	4
APRIL....	7	7	7	6	7	7	7	7	7	8	7	7	7	7	7	7	8	8	8	8	8	8	8	9	8	8	8	8	7	8	--	7
MAY.....	15	14	9	9	10	9	10	12	8	9	8	8	7	9	10	11	11	11	11	12	12	12	13	13	13	13	13	13	13	13	13	11
JUNE.....	13	14	7	7	7	8	7	7	7	7	7	8	8	9	9	9	8	9	13	8	9	9	10	11	9	13	12	13	12	13	--	9
JULY.....	9	10	13	12	12	12	12	14	13	17	12	12	12	13	15	13	18	12	12	14	13	14	14	14	14	14	14	14	14	14	16	13
AUGUST...	13	13	13	14	14	14	14	14	14	14	14	14	13	13	9	11	10	11	9	12	10	11	11	12	12	12	12	13	13	13	13	12
SEPTEMBER	12	12	11	9	9	9	10	11	10	10	10	10	10	9	9	8	8	7	7	8	7	7	7	6	8	7	7	8	8	7	--	8

9-0711. 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.
RECORDS AVAILABLE.--Chemical analyses: October 1941 to September 1968.
Water temperatures: May 1949 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 483 mg/l Jan. 5-16; minimum, 178 mg/l June 1-23.
Hardness: Maximum, 222 mg/l Nov. 27-30; minimum, 110 mg/l June 1-23.
Specific conductance: Maximum daily, 861 micromhos Nov. 27; minimum daily, 236 micromhos June 6.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)
OCT.											
01-15	1276	10	63	12	75	--	138	112	99	--	.2
16-31	1246	10	60	12	73	--	136	102	95	--	.4
NOV.											
01-26	1196	9.4	58	13	62	--	135	95	90	--	.1
27-30	946	9.4	65	15	69	--	134	118	95	--	.1
DEC.											
01-15	938	10	60	13	72	--	140	99	96	--	.2
16-31	995	10	56	13	72	2.2	134	90	99	--	.3
JAN.											
01-04	934	10	55	13	67	--	134	102	98	--	.2
05-16	775	10	57	16	82	--	143	113	117	--	.5
17-31	994	9.5	40	21	68	--	136	96	98	--	.6
FEB.											
01-29	928	11	51	12	65	--	128	98	96	--	.5
MAR.											
01-30	943	11	54	12	70	--	127	93	94	--	.1
31...	1340	9.2	47	14	53	--	128	80	68	--	.1
APR.											
01-30	1602	9.7	46	13	48	2.4	122	86	61	.5	.3
MAY											
01-21	2384	11	42	12	32	--	124	60	42	--	.4
22-31	3619	11	38	11	20	--	116	46	25	--	.7
JUNE											
01-23	6811	9.8	27	13	13	1.2	100	35	15	.2	.3
24-30	4179	8.0	25	17	21	--	98	54	28	--	.3
JULY											
01-13	2544	9.3	52	11	35	--	125	82	49	--	.2
14-31	1887	10	60	13	46	--	139	86	63	--	.3
AUG.											
01-20	2354	9.7	55	14	38	--	128	84	53	--	.5
21-31	1447	9.6	61	14	56	--	136	106	78	--	.6
SEPT.											
01-14	1316	8.9	57	15	59	15	133	102	80	--	.2
15-30	1351	8.7	55	14	57	--	126	96	76	--	.2
WTD. AVG. TIME	--	9	45	13	41	--	121	73	56	--	.3
WTD. AVG. TONS PER DAY	1850	10	51	13	54	--	128	87	74	--	.3
	--	49	227	66	207	--	607	367	279	--	1.7

9-0711. COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 19°C July 29, Aug. 7; minimum, freezing point on many days during December to March.
EXTREMES, 1941-68.--Dissolved solids: Maximum, 2,030 mg/l Aug. 10, 1947; minimum, 105 mg/l June 1-10, 1942.
Hardness: 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 (1949-68): 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-15	.04	—	446	.61	1540	208	95	2.2	745	7.6
16-31	.09	--	421	.57	1420	197	85	2.3	708	7.7
NOV.										
01-26	.02	--	414	.56	1340	196	85	1.9	671	7.6
27-30	.01	--	466	.63	1190	222	105	2.0	747	8.3
DEC.										
01-15	.00	--	445	.61	1130	205	90	2.2	724	7.8
16-31	.01	.06	425	.58	1140	192	82	2.3	704	7.8
JAN.										
01-04	.02	--	430	.58	1080	190	80	2.1	697	7.8
05-16	.01	--	483	.66	1010	208	91	2.5	788	8.0
17-31	.02	--	431	.59	1040	188	76	2.2	698	7.8
FEB.										
01-29	.01	--	406	.55	1020	170	65	2.1	670	7.7
MAR.										
01-30	.01	—	407	.55	1090	184	80	2.2	680	7.7
31...	.11	--	352	.48	1270	176	71	1.7	591	7.5
APR.										
01-30	.01	.04	338	.46	1460	168	68	1.6	557	7.4
MAY										
01-21	.02	--	289	.39	1860	156	54	1.1	442	7.6
22-31	.02	--	226	.31	2210	140	45	.7	348	7.6
JUNE										
01-23	.03	.09	178	.24	3270	110	28	.5	273	7.7
24-30	--	--	215	.29	2430	132	52	.8	346	7.4
JULY										
01-13	.01	--	308	.42	2120	175	72	1.1	507	7.9
14-31	.02	--	364	.50	1860	202	88	1.4	608	7.8
AUG.										
01-20	.02	—	332	.45	2110	192	87	1.2	537	7.9
21-31	.00	--	409	.56	1600	208	96	1.7	667	7.8
SEPT.										
01-14	.00	--	401	.55	1430	204	95	1.8	668	7.8
15-30	.00	--	376	.51	1370	194	91	1.8	633	7.8
WTD. AVG. TIME	.02	--	314	--	--	164	64	--	509	7.7
WTD. AVG. TONS PER DAY	.02	--	370	--	--	181	76	1.7	605	7.7
	.10	--	—	--	--	--	--	--	--	--

9-0711. COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	748	689	627	743	672	680	550	572	302	431	574	672
2.....	735	696	675	706	683	667	502	502	295	456	598	669
3.....	741	687	743	646	685	662	554	462	284	462	575	706
4.....	756	662	769	688	689	680	555	439	252	475	553	663
5.....	744	690	833	756	670	659	565	409	266	505	553	625
6.....	756	674	695	786	669	654	550	380	236	503	583	625
7.....	810	677	718	768	680	654	546	389	244	507	548	637
8.....	713	680	687	780	686	649	547	--	259	533	492	650
9.....	730	679	696	794	676	654	554	415	271	533	475	661
10.....	744	679	693	791	681	650	555	409	286	534	505	676
11.....	749	--	720	797	698	648	546	408	296	538	532	670
12.....	750	681	665	727	682	704	532	419	308	551	490	672
13.....	741	634	678	771	674	637	507	408	273	556	497	671
14.....	719	680	827	842	--	646	534	418	261	570	510	700
15.....	728	676	791	828	642	648	555	434	271	573	473	628
16.....	746	670	728	772	660	--	542	432	272	595	475	612
17.....	710	668	731	725	660	645	521	447	255	591	551	616
18.....	701	667	728	697	653	665	526	470	243	600	560	599
19.....	713	674	704	705	645	663	534	473	242	612	553	639
20.....	702	672	668	748	644	669	540	468	257	621	557	660
21.....	700	665	692	743	644	675	551	436	246	631	607	--
22.....	696	670	785	725	639	723	572	386	260	620	621	645
23.....	698	654	781	713	649	726	587	340	273	629	641	641
24.....	692	654	723	699	641	733	618	327	303	616	638	638
25.....	708	643	671	685	654	731	616	350	304	601	665	644
26.....	712	658	637	671	672	732	623	361	357	663	684	633
27.....	703	861	659	675	649	731	592	363	372	--	693	640
28.....	697	776	653	662	695	725	595	359	340	580	698	616
29.....	746	706	681	652	655	664	603	330	345	586	661	612
30.....	743	704	696	684	--	673	606	304	377	608	684	614
31.....	694	--	697	663	--	591	--	288	--	582	695	--
AVERAGE	726	683	711	730	665	674	559	406	285	562	578	646

9-0711. COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	13	13	13	13	13	12	10	9	9	11	11	--	9	8	9	8	8	6	6	6	6	6	6	4	5	6	4	5	5	4	3	8
NOVEMBER.	3	4	2	2	2	2	1	1	1	3	--	4	3	4	4	4	3	3	2	2	3	2	2	1	1	1	1	1	1	2	--	2
DECEMBER.	1	1	1	1	1	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
JANUARY..	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	--
FEBRUARY.	0	0	0	1	0	0	0	1	1	0	1	1	1	--	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	--	--	--
MARCH....	1	1	0	1	1	1	1	1	2	1	1	1	1	2	2	--	3	2	2	2	2	3	3	6	7	8	7	6	8	9	10	3
APRIL....	8	7	5	4	5	6	5	4	4	4	5	8	8	7	8	7	8	9	7	7	7	7	8	9	8	9	7	7	9	11	--	6
MAY.....	11	11	12	11	11	9	7	--	10	10	9	9	8	8	10	8	8	9	12	12	12	13	12	10	12	11	13	12	13	13	13	10
JUNE.....	12	13	13	12	12	11	11	11	10	11	11	12	12	12	12	13	12	13	13	13	13	12	13	13	13	13	14	14	14	13	--	12
JULY.....	13	14	14	14	14	14	16	17	16	17	17	16	16	18	18	17	18	18	18	18	17	18	18	17	18	18	--	18	19	18	18	16
AUGUST...	17	16	17	17	18	18	19	17	17	17	16	16	16	14	13	13	15	14	14	16	16	17	17	14	14	16	17	17	17	16	16	16
SEPTEMBER	16	14	14	13	13	13	13	13	14	14	14	14	13	13	14	13	11	10	11	12	--	12	11	11	11	11	11	11	11	11	--	12

9-0955. 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).
RECORDS AVAILABLE.--Chemical analyses: October 1933 to September 1968.
Water temperatures: April 1949 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 875 mg/l Jan. 1-17; minimum, 190 mg/l June 1-25.
Hardness: Maximum, 354 mg/l Jan. 1-17; minimum, 124 mg/l June 1-25.
Specific conductance: Maximum daily, 1,400 micromhos Jan. 14, 16; minimum daily, 307 micromhos June 21.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)
OCT.											
01-31	1871	8.5	75	20	127	--	172	158	175	--	2.8
NOV.											
01-30	1744	9.0	80	19	131	--	180	166	188	--	3.2
DEC.											
01-08	1620	7.6	83	20	161	--	202	184	215	--	2.9
09-17	1636	10	80	21	142	4.4	188	170	190	.6	5.2
18-31	1624	10	77	19	134	--	174	159	185	--	6.2
JAN.											
01-17	1398	7.4	87	33	178	--	200	195	250	--	1.2
18-31	1516	7.3	77	8.3	156	--	180	168	215	--	1.1
FEB.											
01-29	1523	9.4	68	21	146	--	176	163	202	--	3.2
MAR.											
01-30	1549	7.8	71	23	151	--	176	173	205	--	4.1
31...	1810	9.0	64	20	106	--	166	142	165	--	3.2
APR.											
01-11	2201	9.0	62	18	110	--	156	134	142	--	2.8
12-15	2338	9.7	59	16	90	3.5	148	118	118	.5	2.6
16-30	2223	8.2	62	18	105	--	154	131	135	--	2.7
MAY											
01-04	3042	10	57	20	99	--	160	118	126	--	1.9
05-27	5070	12	46	16	54	--	150	78	66	--	2.0
28-31	8892	9.6	38	12	28	1.6	132	46	31	.3	2.0
JUNE											
01-25	13490	8.1	47	15	21	--	117	39	28	--	.6
26-30	8896	6.5	40	--	37	--	112	62	50	--	1.7
JULY											
01-04	6382	11	46	13	44	--	121	68	60	--	.6
05-15	4760	12	55	14	58	--	137	90	76	--	.5
16-31	3233	13	67	17	81	--	158	121	122	--	.8
AUG.											
01-23	4083	11	62	19	74	--	157	112	--	--	1.9
24-31	2358	9.9	74	16	107	--	169	122	158	--	1.6
SEPT.											
01-30	2097	4.3	74	19	116	--	168	143	175	--	3.0
WTD. AVG. TIME	--	9.1	59	17	75	--	147	100	103	--	1.8
WTD. AVG. TONS PER DAY	3320	8.9	67	19	110	--	164	135	155	--	2.5
	--	82	525	151	675	--	1320	895	912	--	17

9-0955. COLORADO RIVER NEAR CAMEO, COLO.--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 20°C July 14, 15, 20, 21, Aug. 7; minimum, freezing point on many days during December and January.
EXTREMES, 1933-68.--Dissolved solids (1933-43, 1950-68): Maximum, 1,080 mg/l Sept. 22, 1962; minimum, 143 mg/l June 11-20, 1935.
Hardness (1933-35, 1957-68): Maximum, 474 mg/l Sept. 22, 1962; minimum, 98 mg/l June 21-30, 1935.
Specific conductance (1941-68): Maximum daily, 1,860 micromhos June 16, 1964; minimum daily, 244 micromhos July 2, 1947, July 3, 1957.
Water temperatures (1949-68): Maximum, 24°C Aug. 16, 1962; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-31	.04	--	673	.92	3400	269	128	3.4	1100	7.8
NOV.										
01-30	.00	--	700	.95	3300	279	131	3.4	1150	7.7
DEC.										
01-08	.00	--	803	1.09	3510	292	126	4.1	1330	7.7
09-17	.09	.06	726	.99	3210	286	132	3.7	1200	7.9
18-31	.32	--	697	.95	3060	272	129	3.5	1150	7.7
JAN.										
01-17	.01	--	875	1.19	3300	354	190	4.1	1390	7.9
18-31	.08	--	773	1.05	3160	226	78	4.5	1240	7.8
FEB.										
01-29	.06	--	720	.98	2960	256	112	4.0	1190	7.8
MAR.										
01-30	.01	--	748	1.02	3130	272	128	4.0	1230	7.9
31...	.01	--	598	.81	2920	242	106	3.0	993	7.7
APR.										
01-11	.00	--	580	.79	3450	228	100	3.2	962	7.7
12-15	.01	.03	505	.69	3190	210	89	2.7	836	7.9
16-30	.00	--	564	.77	3390	226	100	3.0	930	7.6
MAY										
01-04	--	--	527	.72	4330	224	93	2.9	873	7.9
05-27	--	--	362	.49	4960	180	57	1.8	596	7.7
28-31	.03	.02	236	.32	5670	144	36	1.0	387	7.9
JUNE										
01-25	.00	--	190	.26	6920	124	28	.8	347	7.7
26-30	.00	--	255	.35	6130	142	50	1.4	463	7.5
JULY										
01-04	.00	--	304	.41	5240	169	70	1.5	515	7.8
05-15	.00	--	382	.52	4910	194	82	1.8	639	8.0
16-31	.00	--	507	.69	4430	236	106	2.3	837	7.9
AUG.										
01-23	.00	--	472	.64	5200	234	105	2.1	773	7.7
24-31	.00	--	611	.83	3890	250	111	2.9	987	7.7
SEPT.										
01-30	.02	--	635	.86	3600	264	126	3.1	1050	8.0
WTD. AVG. TIME	.02	--	442	--	--	201	80	--	737	7.8
WTD. AVG. TONS PER DAY	.03	--	592	--	--	242	107	3.0	975	7.8
	.15	--	--	--	--	--	--	--	--	--

9-0955. COLORADO RIVER NEAR CAMEO, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1130	1100	1310	1390	1170	1220	983	951	384	481	828	1040
2.....	1130	1100	1330	1390	1180	1220	983	954	368	518	748	1030
3.....	1130	1150	1330	1380	1200	1220	997	795	358	517	743	1040
4.....	1120	1150	1330	1390	1200	1220	988	797	356	532	745	1030
5.....	1130	1150	1310	1380	1200	1220	944	698	337	556	736	1020
6.....	1120	1140	1310	1390	1190	1220	941	538	316	583	746	1030
7.....	1130	1140	1320	1390	1210	1210	939	556	351	603	846	1020
8.....	1050	1140	1330	1390	1200	1200	950	551	364	620	863	1030
9.....	1050	1150	1210	1380	1190	1200	942	558	355	620	686	1030
10.....	1050	1140	1210	1390	1190	1210	942	591	365	624	684	1010
11.....	1090	1130	1200	1390	1200	1210	941	590	389	633	690	1030
12.....	1080	1130	1210	1390	1190	1210	835	596	394	648	697	1080
13.....	1090	1130	1200	1350	1190	1200	830	594	391	668	714	1080
14.....	1110	1120	1200	1400	1190	1210	828	590	389	703	711	1090
15.....	1090	1120	1210	1390	1200	1210	829	634	335	708	772	1090
16.....	1090	1120	1200	1400	1190	1220	903	639	329	773	776	1090
17.....	1090	1100	1200	1380	1190	1230	910	639	333	775	774	1040
18.....	1110	1100	1150	1250	1200	1220	910	646	311	773	768	1030
19.....	1110	1120	1150	1240	1200	1220	910	690	312	798	771	1030
20.....	1110	1120	1150	1240	1190	1230	915	690	309	823	783	1040
21.....	1110	1140	1150	1250	1140	1230	916	680	307	824	781	1030
22.....	1090	1140	1150	1240	1130	1210	914	596	308	865	834	1050
23.....	1100	1140	1140	1250	1130	1230	914	464	310	863	839	1050
24.....	1100	1130	1150	1250	1130	1220	911	494	332	866	971	1050
25.....	1100	1130	1150	1240	1180	1230	911	507	354	848	968	1060
26.....	1110	1130	1150	1250	1190	1280	952	499	452	851	968	1060
27.....	1130	1180	1150	1210	1170	1280	955	503	468	851	971	1060
28.....	1130	1180	1150	1150	1180	1280	955	383	465	849	974	1050
29.....	1120	1180	1150	1180	1220	1280	955	390	469	851	974	1060
30.....	1120	1330	1160	1210	--	1290	964	390	460	847	1010	1050
31.....	1120	--	1140	1170	--	993	--	345	--	832	1010	--
AVERAGE	1100	1140	1210	1310	1180	1220	925	598	365	719	818	1050

9-0955. COLORADO RIVER NEAR CAMEO, COLO.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

	DAY																													AVER-
MONTH	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	AGE
OCTOBER..	15	15	15	15	15	14	13	13	12	12	12	12	12	11	10	9	8	8	8	8	8	7	6	5	7	7	7	6	6	6	6	9
NOVEMBER.	6	6	6	6	6	5	5	4	4	4	5	5	5	5	5	5	5	5	5	5	4	4	3	3	2	2	1	1	1	1	--	4
DECEMBER.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
JANUARY..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	--
FEBRUARY.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	--	--	--	1
MARCH....	4	4	5	5	5	5	5	5	6	6	4	4	6	6	6	4	4	4	4	5	6	7	7	7	7	7	8	8	8	8	8	5
APRIL....	9	9	9	9	8	8	8	7	7	7	7	8	8	8	8	8	8	8	8	9	9	7	7	7	7	8	8	9	10	12	--	8
MAY.....	13	13	13	14	13	12	10	9	9	10	10	10	10	10	11	11	11	11	12	12	14	14	12	12	12	12	12	13	13	13	13	11
JUNE.....	12	13	13	12	12	12	11	11	11	10	11	12	12	12	--	13	13	13	13	13	13	13	14	13	13	14	15	15	15	14	--	12
JULY.....	14	16	16	17	16	17	17	18	18	18	19	19	19	20	20	19	19	19	19	20	20	19	19	19	19	19	19	19	19	19	18	18
AUGUST...	18	18	19	19	19	19	20	19	--	18	18	18	17	18	18	17	17	17	17	17	17	17	17	17	18	18	18	18	18	18	18	17
SEPTEMBER	16	16	16	15	15	15	15	16	16	16	16	18	16	16	15	14	14	14	13	13	13	13	13	13	13	13	13	13	13	13	--	14

9-1525. 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.
RECORDS AVAILABLE.--Chemical analyses: October 1931 to September 1968.
Water temperatures: April 1949 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 1,570 mg/l July 19-28; minimum, 308 mg/l Dec. 2.
Hardness: Maximum, 835 mg/l July 19-28; minimum, 204 mg/l Dec. 2.
Specific conductance: Maximum daily, 1,990 micromhos Sept. 22; minimum daily, 435 micromhos May 23.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)
OCT.											
01-24	1020	16	188	64	132	--	246	777	16	--	7.5
25-31	1230	15	176	61	124	--	244	709	10	--	7.5
NOV.											
01-05	1300	15	170	62	110	--	244	691	16	--	6.3
06-09	1550	14	136	49	85	--	216	532	12	--	4.2
10-30	1930	12	107	40	68	--	192	398	10	--	3.8
DEC.											
01...	2220	10	84	30	51	--	134	304	7.6	--	2.9
02...	2130	5.9	68	8.3	16	--	100	146	2.2	--	1.3
03-23	2380	12	81	32	57	--	164	300	6.7	--	3.2
24-31	3590	9.8	67	23	38	2.4	164	194	3.8	--	1.8
JAN.											
01-07	3310	9.1	67	23	38	--	164	218	8.5	--	.8
08-26	1580	12	94	40	63	--	206	378	12	--	4.3
27-31	1300	14	153	62	130	--	250	732	24	--	7.3
FEB.											
01-02	2020	12	88	42	74	--	196	415	13	--	4.5
03-12	1580	10	91	34	63	--	184	362	12	--	3.3
13-21	1660	9.5	83	43	78	--	186	405	13	--	3.7
22-23	1840	14	106	52	126	4.5	202	645	21	.4	2.8
24-29	1650	9.8	106	35	78	--	188	376	15	--	3.8
MAR.											
01-06	1370	10	85	41	69	--	184	361	11	--	2.4
07-13	981	10	103	54	93	--	208	488	16	--	4.4
14-24	958	12	115	54	101	--	220	560	17	--	5.2
25-31	1010	12	102	48	85	--	202	460	15	--	4.6
APR.											
01-14	1080	13	87	48	74	--	188	392	16	--	4.5
15-18	1440	12	75	29	51	--	158	289	12	--	4.4
19-30	1120	13	95	40	68	--	178	402	15	--	4.7
MAY											
01-02	2060	12	94	38	62	--	176	333	13	--	4.1
03-20	3710	13	68	24	37	--	148	214	6.2	--	2.1
21-31	5850	13	55	19	26	--	120	157	5.4	--	2.5
JUNE											
01-10	6360	12	61	17	27	--	125	157	5.6	--	.8
11-14	3300	13	86	28	50	--	134	280	8.6	--	2.4
15-25	3940	13	68	22	37	--	116	213	6.5	--	1.6
26-30	1990	13	106	33	60	--	152	357	10	--	3.7
JULY											
01-04	1200	13	124	49	76	--	176	502	10	--	4.2
05-18	824	15	172	56	108	--	194	721	14	--	4.8
19-28	742	15	200	81	136	5.5	212	950	17	.9	2.3
29-31	2080	16	168	52	93	--	232	643	14	--	4.5
AUG.											
01-08	2290	16	158	50	90	--	224	598	16	--	6.4
09-13	2340	17	136	48	80	--	212	518	14	--	4.0
14-20	2020	18	172	54	97	--	226	640	17	--	5.4
21-31	893	17	182	74	123	--	238	790	19	--	8.0
SEPT.											
01-22	1040	8.1	188	71	120	--	222	772	22	--	7.4
23-30	1400	8.3	168	71	100	--	228	708	19	--	7.0
WTD. AVG. TIME	--	12	99	37	63	--	173	375	10	--	3.5
WTD. AVG. TONS PER DAY	1990	13	119	46	80	--	192	480	13	--	4.4
	--	67	534	197	340	--	931	2010	56	--	19

9-1525. GUNNISON RIVER NEAR GRAND JUNCTION, COLO.--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 22°C July 23; minimum, freezing point on many days during December and January.
EXTREMES, 1931-68.--Dissolved solids: Maximum, 2,820 mg/l Sept. 11-20, 1934; minimum, 203 mg/l May 11-20, 1944, May 22-26, 1964.
Hardness (1931-35, 1943-68): Maximum, 1,370 mg/l Sept. 1-20, 1934; minimum, 130 mg/l May 22-26, 1964.
Specific conductance (1941-68): Maximum daily, 2,730 micromhos Sept. 10, 1956; minimum daily, 280 micromhos May 23, 1948.
Water temperatures (1949-68): Maximum, 30°C Aug. 13, 1958; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-24	.06	--	1410	1.92	3880	735	533	2.1	1650	8.1
25-31	.05	--	1310	1.78	4350	690	490	2.1	1560	7.9
NOV.										
01-05	.02	--	1250	1.70	4390	680	480	1.8	1520	7.7
06-09	.07	--	1000	1.36	4190	540	363	1.6	1240	7.7
10-30	.00	--	768	1.04	4000	430	272	1.4	1010	7.7
DEC.										
01...	.07	--	590	.80	3540	332	222	1.2	791	7.8
02...	.01	--	308	.42	1770	204	122	.5	443	7.8
03-23	.03	--	595	.81	3820	332	197	1.4	815	7.9
24-31	.02	.08	438	.60	4250	261	126	1.0	631	7.8
JAN.										
01-07	.00	--	461	.63	4120	261	126	1.0	643	8.0
08-26	.04	--	744	1.01	3170	398	229	1.4	957	8.0
27-31	.02	--	1310	1.78	4600	636	431	2.2	1560	8.0
FEB.										
01-02	.01	--	748	1.02	4080	392	231	1.6	994	8.0
03-12	.02	--	679	.92	2900	364	213	1.4	905	8.0
13-21	.00	--	749	1.02	3360	382	229	1.7	990	8.0
22-23	.00	.26	1040	1.41	5170	478	312	2.5	1320	7.9
24-29	.01	--	799	1.09	3560	410	256	1.7	1040	8.0
MAR.										
01-06	.00	--	710	.97	2630	380	229	1.5	952	7.8
07-13	.01	--	918	1.25	2430	476	305	1.8	1180	8.1
14-24	.01	--	1010	1.37	2610	512	332	1.9	1270	7.8
25-31	.01	--	866	1.18	2360	452	286	1.7	1120	7.9
APR.										
01-14	.01	--	750	1.02	2190	414	260	1.6	1030	7.8
15-18	.03	--	566	.77	2200	308	178	1.3	779	7.7
19-30	.06	--	731	.99	2210	400	254	1.5	991	7.9
MAY										
01-02	.00	--	696	.95	3870	392	248	1.4	728	7.8
03-20	.02	--	456	.62	4570	268	147	1.0	632	7.8
21-31	.03	--	359	.49	5670	216	118	.8	507	7.8
JUNE										
01-10	.02	--	309	.42	5310	222	120	.8	527	7.4
11-14	.02	--	573	.78	5110	330	220	1.2	792	8.0
15-25	.01	--	450	.61	4790	262	167	1.0	639	7.9
26-30	.01	--	716	.97	3850	400	275	1.3	951	7.9
JULY										
01-04	.00	--	945	1.29	3060	510	366	1.5	1190	7.7
05-18	.01	--	1240	1.69	2760	660	501	1.8	1510	7.6
19-28	.01	.30	1570	2.14	3150	835	661	2.0	1830	7.7
29-31	.01	--	1130	1.54	6350	635	445	1.6	1400	7.7
AUG.										
01-08	.01	--	1090	1.48	6740	600	416	1.6	1360	8.1
09-13	.02	--	972	1.32	6140	536	362	1.5	1240	7.7
14-20	.01	--	1180	1.60	6440	650	465	1.7	1450	7.7
21-31	.00	--	1430	1.94	3450	760	565	1.9	1700	7.9
SEPT.										
01-22	.01	--	1420	1.93	3990	760	578	1.9	1690	7.8
23-30	.03	--	1270	1.73	4800	710	523	1.6	1550	7.9
WTD. AVG. TIME	.52	--	720	--	--	399	257	--	939	7.8
WTD. AVG. TONS PER DAY	.52	--	897	--	--	485	327	1.5	1130	7.9
	.60	--	--	--	--	--	--	--	--	--

9-1525. GUNNISON RIVER NEAR GRAND JUNCTION, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1650	1490	791	659	1010	944	1080	1070	484	1080	1640	1810
2.....	1620	1430	443	652	978	951	1020	787	476	1160	1330	1680
3.....	1630	1280	830	659	912	937	968	667	529	1260	1280	1640
4.....	1570	1630	786	600	912	956	1010	583	467	1240	1240	1620
5.....	1620	1770	721	579	918	940	1080	551	480	1320	1300	1620
6.....	1640	1170	819	676	889	951	1070	602	468	1380	1350	1590
7.....	1660	1110	835	668	889	1050	994	568	493	1420	1420	1660
8.....	1640	1190	844	932	884	1220	1010	603	539	1480	1330	1670
9.....	1600	1500	868	944	901	1180	1020	621	557	1550	1290	1670
10.....	1610	1100	798	932	911	1150	1090	562	656	1460	1260	1660
11.....	1630	1090	790	899	914	1190	1110	568	805	1450	1160	1690
12.....	1620	945	847	--	916	1180	1050	635	785	1510	1220	1700
13.....	1630	997	842	915	935	1180	1030	645	843	1560	1210	1650
14.....	1650	1080	786	1060	952	1400	877	620	740	1520	1640	1660
15.....	1690	994	811	990	975	1160	781	666	667	1580	1430	1710
16.....	1690	1050	697	1010	975	973	783	703	659	1630	1290	1690
17.....	1680	984	776	1010	975	1130	766	670	673	1660	1300	1660
18.....	1680	994	778	950	969	1320	773	702	636	1690	1390	1650
19.....	1710	1030	844	1060	1000	1340	831	677	628	1800	1460	1650
20.....	1690	1020	760	953	1040	1120	857	645	648	1880	1560	1630
21.....	1660	1030	812	1030	1030	1310	879	553	656	1940	1670	1650
22.....	1630	1020	767	956	1340	1340	941	512	623	1960	1660	1990
23.....	1640	1060	730	899	1290	1410	930	435	569	1980	1690	1590
24.....	1630	1050	654	875	1190	1300	990	441	612	1820	1690	1520
25.....	1590	1020	623	853	1070	1200	990	490	602	1810	1710	1540
26.....	1580	957	625	953	1070	1040	1020	518	821	1750	1700	1530
27.....	1580	954	627	1300	997	1030	1040	522	955	1730	1690	1550
28.....	1580	904	607	1560	945	1230	1080	513	1010	1730	1690	1530
29.....	1520	909	611	1500	942	1240	1140	540	977	1530	1730	1530
30.....	1550	978	622	1780	--	1110	1120	495	970	1440	1660	1520
31.....	1480	--	649	1610	--	933	--	460	--	1240	1710	--
AVERAGE	1620	1120	741	982	990	1140	977	600	667	1570	1470	1640

9-1525. GUNNISON RIVER NEAR GRAND JUNCTION, COLO.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	16	17	17	17	16	16	14	13	13	13	13	13	13	14	13	9	7	9	9	10	9	10	10	9	9	9	8	9	8	7	7	11
NOVEMBER.	7	6	6	6	6	4	5	6	6	6	7	7	7	7	7	7	7	7	8	7	8	7	8	5	8	7	6	2	6	4	--	6
DECEMBER.	5	2	2	1	1	2	2	2	0	1	1	2	1	0	1	2	3	1	2	2	2	0	0	0	0	2	1	3	3	3	1	1
JANUARY..	2	1	2	0	0	0	0	0	0	0	0	--	0	1	1	2	2	1	1	0	0	1	1	1	2	1	2	2	2	2	2	--
FEBRUARY.	2	2	2	2	3	3	3	3	4	4	4	4	5	5	6	6	6	6	6	6	7	7	7	7	8	7	7	6	7	--	--	5
MARCH....	7	7	7	7	7	7	7	8	7	8	9	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	7	7	9	9	9	7
APRIL....	11	11	7	5	8	8	7	6	7	6	7	10	10	5	5	10	9	8	7	8	7	7	6	7	8	9	7	8	9	11	--	7
MAY.....	12	13	11	11	10	8	7	8	11	10	11	10	9	9	9	11	10	11	11	12	12	13	11	10	10	12	13	13	13	13	12	10
JUNE.....	13	14	13	13	13	14	13	12	11	11	13	14	15	14	16	15	16	16	17	17	19	17	17	16	15	16	17	18	17	15	--	14
JULY.....	14	17	18	18	18	19	21	20	20	19	19	19	19	20	20	20	18	20	21	20	21	21	22	21	21	21	21	19	21	17	17	19
AUGUST...	18	17	18	19	19	19	18	19	19	19	19	18	18	18	14	16	17	17	16	17	16	17	16	16	21	18	17	17	19	17	17	17
SEPTEMBER	17	17	16	16	15	16	16	16	17	17	16	17	16	16	16	13	14	13	13	14	13	13	14	14	14	14	14	12	13	12	--	14

9-1635.3. COLORADO RIVER BELOW COLORADO-UTAH STATE LINE

LOCATION (revised).--Lat 39°04'45", long 109°06'15", in NW¼SW¼, sec.12, T.20 S., R.25 E., Grand County, at Westwater, 9.5 miles downstream from gaging station (9-1635.), and about 4 miles downstream from Colorado-Utah State line.
DRAINAGE AREA.--17,900 sq mi (at gaging station).
RECORDS AVAILABLE.--Chemical analyses: May 1962 to September 1968.
Water temperatures: May 1962 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 1,290 mg/l Sept. 1-30; minimum, 380 mg/l June 1-30.
Hardness: Maximum, 636 mg/l Sept. 1-30; minimum, 204 mg/l June 1-30.
Specific conductance: Maximum daily, 1,810 micromhos Sept. 7; minimum daily, 464 micromhos June 2.
Water temperatures: Maximum, 28°C July 13; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	SODIUM PLUS POTASSIUM (NA+K)	BICARBONATE (HCO3)	CARBONATE (CO3)	SULFATE (SO4)	CHLORIDE (CL)
OCT.											
01-31	2840	--	--	--	--	--	190	222	0	649	128
NOV.											
01-30	3662	--	--	--	--	--	139	208	0	437	105
DEC.											
01-31	4174	--	--	--	--	--	111	192	0	317	89
JAN.											
01-31	3314	--	--	--	--	--	160	216	0	420	135
FEB.											
01-29	3442	--	--	--	--	--	125	186	0	340	100
MAR.											
01-31	2835	--	--	--	--	--	155	194	0	396	138
APR.											
01-30	3258	--	--	--	--	--	129	178	0	344	94
MAY											
01-03	3710	--	--	--	--	--	123	182	0	395	100
04-20	7361	--	--	--	--	--	59	164	0	201	48
21-31	12680	--	--	--	--	--	55	170	0	152	40
JUNE											
01-30	16730	--	--	--	--	--	35	135	0	121	31
JULY											
01-07	6510	--	--	--	--	--	69	146	0	249	60
08-18	4451	--	--	--	--	--	110	186	0	412	95
19-31	3630	--	--	--		--	136	202	0	520	106
AUG.											
01-18	6709	--	--	--	--	--	72	180	0	317	65
19-31	3226	--	--	--	--	--	113	206	0	425	102
SEPT.											
01-30	2643	--	--	--	--	--	162	212	0	610	128
WTD. AVG. TIME	--	--	--	--	--	--	93	175	0	300	73
ATC. AVG. TONS	5130	--	--	--	--	--	122	191	0	385	98
PER DAY	--	--	--	--	--	--	1300	2430	0	4160	968

ANALYSES OF ADDITIONAL SAMPLES
(Instantaneous discharges shown)

OCT.											
17...	2740	11	132	75	158	4.8	--	220	0	608	128
MAR.											
27...	3200	8.0	100	41	145	4.3	--	196	0	375	135
JUNE											
02...	19800	10	50	13	26	2.2	--	128	0	98	20
AUG.											
28...	2560	12	142	58	137	4.7	--	212	0	552	110

9-1635.3. COLORADO RIVER BELOW COLORADO-UTAH STATE LINE--Continued

EXTREMES, 1962-68.--Dissolved solids: Maximum, 2,610 mg/l Jan. 3-5, 1965; minimum, 243 mg/l June 14-30, 1965.
Hardness: Maximum, 1,080 mg/l Jan. 3-5, 1965; minimum, 150 mg/l June 14-30, 1965.
Specific conductance: Maximum daily, 3,680 micromhos Mar. 19, 1965; minimum daily, 357 micromhos June 22, 1965.
Water temperatures: Maximum, 28°C July 30, 1966, July 13, 1968; minimum, freezing point on many days during winter months.
REMARKS.--Additional samples were collected for more comprehensive definition of water quality at this station. Records of discharge are given for station 9-1635. Colorado River near Colorado-Utah State line. Maximum observed during water year: Hardness, 640 mg/l Oct. 17. Minimum observed during water year: Dissolved solids, 304 mg/l, and hardness, 178 mg/l June 2.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	FLUO-RIDE (F)	NITRATE (NO3)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-31	--	--	1220	1.66	9350	626	444	3.3	1680	8.0
NOV.										
01-30	--	--	959	1.30	9480	472	301	2.8	1350	8.1
DEC.										
01-31	--	--	745	1.01	8400	372	215	2.5	1100	7.9
JAN.										
01-31	--	--	1030	1.40	9220	456	279	3.3	1400	7.9
FEB.										
01-29	--	--	844	1.15	7840	376	223	2.8	1210	7.9
MAR.										
01-31	--	--	968	1.32	7410	428	269	3.3	1400	7.9
APR.										
01-30	--	--	776	1.06	6830	356	210	3.0	1110	7.9
MAY										
01-03	--	--	915	1.24	9170	434	285	2.6	1250	7.9
04-20	--	--	536	.73	10700	282	148	1.5	772	7.9
21-31	--	--	459	.62	15700	234	95	1.6	680	7.9
JUNE										
01-30	--	--	380	.52	17200	204	93	1.1	547	7.7
JULY										
01-07	--	--	585	1.31	10300	314	194	1.7	872	7.7
08-18	--	--	962	.80	11600	476	323	2.2	1300	7.8
19-31	--	--	1120	1.52	11000	560	394	2.5	1520	7.8
AUG.										
01-18	--	--	772	1.05	14000	412	264	1.6	1070	7.7
19-31	--	--	999	1.36	8700	510	341	2.2	1370	7.7
SEPT.										
01-30	--	--	1290	1.75	9210	636	462	2.8	1700	7.7
WTD. AVG. TIME	--	--	698	--	--	345	203	--	1020	7.8
WTD. AVG. TONS PER DAY	--	--	881	--	--	428	272	2.6	1230	7.9
	--	--	--	--	--	--	--	--	--	--
ANALYSES OF ADDITIONAL SAMPLES										
OCT.										
17...	.9	8.0	1280	1.67	9470	640	460	2.7	1680	7.6
MAR.										
27...	.5	9.1	953	1.30	8230	420	259	3.1	1380	8.0
JUNE										
02...	.4	4.9	304	.41	16300	178	73	.8	464	7.6
AUG.										
28...	.7	8.7	1170	1.54	8090	592	418	2.5	1580	7.7

9-1635.3. COLORADO RIVER BELOW COLORADO-UTAH STATE LINE--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1710	1580	1240	1390	1200	--	1230	1310	--	749	1080	--
2.....	1710	1580	1220	1410	1190	--	1210	1220	464	749	1080	--
3.....	1710	1550	1240	1400	1180	--	1110	1220	--	934	1080	1680
4.....	1690	1580	1220	1400	1170	--	1050	880	--	942	1070	1670
5.....	1690	1590	1240	1410	1180	--	1070	792	--	937	1070	1700
6.....	1720	1580	1280	1400	1170	--	1130	714	--	958	1080	1680
7.....	1690	1390	1030	1400	1180	--	1170	725	--	824	1080	1810
8.....	1680	1270	1040	1390	1240	--	1130	725	--	1280	1070	--
9.....	1720	1260	1150	1410	1240	--	1130	736	--	1300	1080	1680
10.....	1660	1250	1270	1400	1260	--	1130	757	566	1300	1300	1670
11.....	1660	1260	1060	1540	1250	--	1170	733	571	1310	1080	1710
12.....	1640	1290	1060	1550	1250	--	1190	730	596	1300	1080	1760
13.....	1650	1290	1150	1540	1250	--	1030	723	600	1300	1080	1760
14.....	1660	1290	1260	1540	1240	--	1020	757	595	1300	1080	1800
15.....	1650	1290	1060	1540	1250	--	1030	746	532	1300	1060	--
16.....	1660	1340	1050	1550	1180	--	987	829	514	1300	1070	1800
17.....	1690	1330	1120	1550	1180	--	993	814	536	1300	1080	1750
18.....	1680	1320	1110	1550	1190	--	993	843	502	1340	1080	1700
19.....	1700	1330	1110	1240	1190	--	1000	816	523	1470	1260	1690
20.....	1700	1330	1150	1240	1190	--	1000	832	488	1480	1250	1670
21.....	1660	1330	1100	1230	1190	1400	1030	727	543	1480	1250	1660
22.....	1670	1350	1150	1240	1190	--	1050	735	504	1470	1250	--
23.....	1670	1340	1150	1240	1190	--	1080	577	512	1470	1440	1660
24.....	1660	1310	959	1380	1190	--	1100	--	556	1480	1430	1660
25.....	1660	1300	938	1400	1190	--	1170	--	549	1490	1430	1660
26.....	1660	1240	929	1400	1190	--	1170	--	593	1500	1420	1650
27.....	1620	1240	921	1400	1180	1380	1220	--	--	1480	1430	1690
28.....	1610	1240	926	1400	1180	--	1250	--	--	1490	--	1660
29.....	1660	1260	937	1400	1190	--	1230	--	--	1560	1430	--
30.....	1610	1260	929	1400	--	--	1250	--	--	1580	1420	1660
31.....	1610	--	932	1400	--	--	--	--	--	1720	--	--
AVERAGE	1670	1350	1090	1410	1200	--	1110	--	--	1290	1190	1700

9-1635.3. COLORADO RIVER BELOW COLORADO-UTAH STATE LINE--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	17	18	18	17	17	17	14	14	14	14	13	16	16	13	12	9	9	9	9	8	8	9	9	9	9	9	8	9	8	7	9	11
NOVEMBER.	7	8	6	6	6	6	6	6	6	6	8	8	8	8	7	6	6	5	5	4	4	4	3	3	3	3	5	3	3	3	--	5
DECEMBER.	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1
JANUARY..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	--
FEBRUARY.	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	4	--	--	2
MARCH....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
APRIL....	15	12	11	12	11	10	9	8	11	13	14	14	13	12	11	11	12	11	10	11	11	10	11	11	11	12	11	13	15	16	--	11
MAY.....	13	15	14	18	15	11	12	16	14	14	14	12	13	12	13	14	15	15	16	17	17	17	15	--	--	--	--	--	--	--	--	--
JUNE.....	--	--	--	--	--	--	--	--	--	15	16	19	20	18	19	18	17	17	19	16	19	19	20	19	17	20	--	--	--	--	--	--
JULY.....	19	20	19	19	21	23	24	22	19	19	23	26	28	21	21	23	22	--	--	--	--	--	--	--	27	--	--	26	--	--	--	--
AUGUST...	20	21	19	20	22	20	19	18	19	19	22	19	20	21	18	17	19	18	19	18	20	21	19	19	18	19	17	--	14	15	--	18
SEPTEMBER	--	--	17	19	18	19	17	--	19	17	20	18	19	18	--	19	18	19	19	17	17	--	17	16	17	16	17	17	--	16	--	17

9-2510. 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).
RECORDS AVAILABLE.--Chemical analyses: November 1950 to September 1968.
Water temperatures: November 1950 to September 1968.
Sediment records: December 1950 to May 1958.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 656 mg/l Aug. 11; minimum, 120 mg/l June 11-13.
Hardness: Maximum, 384 mg/l Aug. 11; minimum, 76 mg/l June 11-13.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)
OCT.											
01-24	278	7.6	37	17	37	--	176	73	18	--	.2
25-31	257	10	44	19	45	--	204	90	18	--	.3
NOV.											
01-30	246	12	50	25	50	2.6	232	108	25	.6	1.8
DEC.											
01-14	186	11	46	21	50	--	221	96	22	--	.3
15-31	203	13	42	18	44	--	202	81	20	--	.7
JAN.											
01-31	222	12	40	19	42	--	201	87	20	--	.6
FEB.											
01-29	244	13	39	20	44	--	194	98	22	--	.5
MAR.											
01-31	454	12	43	23	49	--	167	136	20	--	1.4
APR.											
01-13	1090	14	45	23	42	--	160	155	11	--	3.1
14-30	1800	12	26	10	11	1.7	106	42	3.0	.3	.8
MAY											
01-10	5280	11	24	12	8.4	--	104	30	3.3	--	.6
11-31	5730	10	22	6.3	5.8	--	80	19	2.8	--	.7
JUNE											
01-05	10190	7.9	14	17	10	--	92	24	4.6	--	.3
06-10	10180	8.9	26	15	21	--	126	43	9.8	--	.4
11-13	6960	7.2	14	9.7	11	--	84	24	5.3	--	.2
14-30	6600	8.3	27	13	21	1.9	132	42	10	.4	.3
JULY											
01-10	2610	4.6	34	18	34	--	169	67	19	--	.2
11-31	1020	5.3	38	17	45	--	176	81	22	--	.2
AUG.											
01-10	600	3.6	32	18	28	--	157	68	16	--	.3
11...	973	5.1	104	30	53	--	218	247	24	--	1.7
12-31	578	2.7	36	19	35	--	178	88	22	--	.2
SEPT.											
01-30	256	7.4	36	21	36	3.2	170	84	16	.5	1.1
WTD. AVG. TIME	--	9.0	27	13	20	--	123	47	9.1	--	.6
WTD. AVG. TONS PER DAY	1580	9.7	37	18	36	--	170	83	17	--	.8
	--	38	114	57	83	--	521	199	39	--	2.4

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	425	550	571	502	506	557	564	279	193	423	343	477
2.....	423	548	567	499	502	557	562	275	213	431	334	476
3.....	425	548	568	501	508	588	570	197	186	431	369	475
4.....	430	589	571	500	511	590	569	196	182	429	367	477
5.....	454	599	568	495	513	567	311	215	194	431	367	402
6.....	462	590	570	502	509	569	584	216	292	430	534	477
7.....	462	596	578	501	509	570	596	217	305	431	540	469
8.....	462	599	575	497	511	603	584	218	297	424	396	469
9.....	466	579	582	504	519	601	579	217	313	467	340	471
10.....	462	576	582	505	518	580	589	227	304	429	585	466
11.....	461	578	559	502	516	611	608	178	117	509	898	468
12.....	468	578	555	503	502	598	617	177	222	437	454	469
13.....	462	577	559	506	513	601	598	178	225	473	359	466
14.....	462	593	559	505	509	610	244	175	350	484	535	465
15.....	464	587	509	506	512	617	234	177	313	476	539	469
16.....	461	601	508	505	513	611	233	187	316	481	541	469
17.....	464	599	504	502	512	584	233	140	314	485	557	459
18.....	464	599	521	506	503	590	236	144	314	524	556	450
19.....	455	570	520	504	509	581	242	132	312	474	552	467
20.....	466	570	525	504	506	571	243	159	347	515	562	467
21.....	468	571	513	511	510	558	242	144	272	525	564	468
22.....	466	572	510	508	510	561	242	131	343	519	423	451
23.....	465	570	504	509	503	556	244	149	357	492	510	450
24.....	463	569	502	507	469	611	268	166	267	519	480	453
25.....	526	569	504	508	544	600	273	142	268	517	478	451
26.....	526	578	503	--	547	565	273	185	276	491	478	450
27.....	554	564	502	510	548	563	273	172	342	518	516	450
28.....	524	570	499	502	548	562	273	149	345	521	479	448
29.....	526	574	502	498	559	566	274	148	344	525	498	452
30.....	530	570	501	500	--	563	272	148	343	537	482	451
31.....	556	--	503	504	--	567	--	148	--	525	476	--
AVERAGE	474	577	535	503	515	581	387	180	282	479	487	460

9-2510. YAMPA RIVER NEAR MAYBELL, COLO.--Continued

EXTREMES, 1967-68.--Continued
Specific conductance: Maximum daily, 898 micromhos Aug. 11; minimum daily, 117 micromhos June 11.
Water temperatures: Maximum, 22°C on several days during August and September; minimum, 1°C on many days during November to March.
EXTREMES, 1950-68.--Dissolved solids: Maximum, 656 mg/l Aug. 11, 1968; minimum, 64 mg/l June 13, 1964.
Hardness: 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 IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-24	.03	--	286	.39	215	162	18	1.3	451	7.7
25-31	.02	--	343	.47	238	188	21	1.4	534	7.9
NOV.										
01-30	.02	.08	375	.51	249	228	38	1.4	593	8.1
DEC.										
01-14	.03	--	363	.49	182	202	21	1.5	573	8.0
15-31	.04	--	324	.44	178	179	13	1.4	510	7.9
JAN.										
01-31	.05	--	331	.45	198	178	13	1.4	504	7.9
FEB.										
01-29	.07	--	338	.46	223	178	19	1.4	518	7.9
MAR.										
01-31	.07	--	366	.50	449	201	64	1.5	588	7.6
APR.										
01-13	.11	--	388	.53	1140	208	77	1.3	568	7.6
14-30	.02	.10	175	.24	850	109	22	.5	259	8.0
MAY										
01-10	.04	--	159	.22	2270	108	23	.4	221	7.5
11-31	.06	--	124	.17	1920	80	14	.3	161	7.5
JUNE										
01-05	.06	--	166	.23	4560	104	29	.4	205	7.8
06-10	.05	--	193	.26	5310	124	71	.8	311	7.3
11-13	.01	--	120	.16	2260	76	7	.5	188	7.1
14-30	.01	.06	197	.27	3510	120	12	.8	321	7.8
JULY										
01-10	.00	--	264	.36	1860	160	21	1.2	436	8.0
11-31	.00	--	309	.42	851	166	22	1.5	504	7.8
AUG.										
01-10	.01	--	264	.36	428	156	27	1.0	419	7.9
11...	.01	--	656	.89	1720	384	205	1.2	898	7.0
12-31	.01	--	307	.42	479	168	22	1.2	507	7.9
SEPT.										
01-30	.01	.08	282	.38	195	176	37	1.2	468	7.5
WTD. AVG. TIME	.04	--	201	--	--	122	26	--	304	7.7
WTD. AVG. TONS PER DAY	.04	--	293	--	--	167	29	1.2	459	7.8
	.16	--	--	--	--	--	--	--	--	--

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	14	17	17	14	14	15	14	15	12	15	15	11	14	12	13	12	14	12	14	11	11	11	9	9	9	7	8	7	6	8	4	11
NOVEMBER.	1	4	2	3	1	4	3	4	1	3	1	3	1	4	1	3	1	3	1	2	1	2	1	2	1	2	1	2	1	2	--	2
DECEMBER.	1	2	1	2	1	1	2	1	1	1	1	1	2	1	1	2	1	2	1	1	1	1	1	2	1	1	1	2	1	1	2	1
JANUARY..	1	2	1	2	1	2	1	2	1	1	1	2	1	1	1	2	1	2	1	1	1	2	1	2	--	--	1	--	1	2	1	1
FEBRUARY.	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	--	--	1
MARCH....	1	1	1	1	1	2	1	2	1	2	1	2	1	2	1	2	2	3	2	8	4	8	4	9	2	8	3	9	2	9	2	3
APRIL....	8	3	8	3	8	3	8	8	3	8	3	8	3	8	4	7	4	6	7	7	6	8	5	6	8	6	5	8	4	9	--	6
MAY.....	4	9	5	9	7	9	4	8	4	8	4	4	9	8	9	9	8	9	9	8	9	9	8	8	9	9	9	8	9	9	9	7
JUNE.....	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	15	12	15	12	15	12	15	13	16	--	12
JULY.....	13	17	13	17	13	17	13	17	13	17	12	17	13	17	13	17	13	17	17	14	18	15	18	14	20	14	19	19	21	17	21	16
AUGUST...	16	16	22	22	16	16	22	16	22	21	19	21	16	16	21	16	21	16	21	18	14	17	16	14	18	18	21	16	21	16	21	18
SEPTEMBER	21	15	21	16	15	21	15	21	16	21	15	21	16	21	21	15	14	21	16	21	16	16	21	22	15	21	21	15	22	21	--	18

9-2599.5. LITTLE SNAKE RIVER ABOVE LILY, COLO.

LOCATION.--Lat 40°36'27", long 108°20'11", Moffat County, at bridge on State Highway 318, about 6 miles upstream from gaging station, about 10 miles northeast of Lily, and 16 miles upstream from mouth.
DRAINAGE AREA.--3,730 sq mi, approximately (at gaging station).
RECORDS AVAILABLE.--Chemical analyses: December 1950 to September 1968.
Water temperatures: December 1950 to September 1960, October 1961 to September 1968.
Sediment records: May 1958 to September 1964.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 603 mg/l Sept. 1-30; minimum, 113 mg/l June 1-30.
Hardness: Maximum, 230 mg/l Nov. 26-30; minimum, 77 mg/l June 1-30.
Specific conductance: Maximum daily, 1,110 micromhos Aug. 12; minimum daily, 144 micromhos June 22.
Water temperatures: Maximum, 28°C July 25; minimum, freezing point on many days during November to March.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DIS-CHARGE (CFS)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)	NITRATE (NO3)
OCT.										
01-09	76	12	53	13	90	226	152	29	--	1.7
10-20	84	13	45	11	71	206	105	21	--	.5
21-31	66	12	51	13	77	222	127	24	--	.4
NOV.										
01-09	48	14	55	15	73	238	133	25	--	.2
10-25	79	15	49	13	57	216	99	19	--	.3
26-30	52	16	64	17	87	268	148	29	--	.7
DEC.										
01-18	98	20	63	16	70	273	120	21	--	.3
19-31	112	18	48	16	57	224	95	16	--	.2
JAN.										
01-31	101	17	38	23	58	231	106	18	--	.1
FEB.										
01-25	117	17	45	17	54	217	108	18	--	.4
26-29	195	12	28	8.8	104	175	146	44	--	1.5
MAR.										
01-31	262	13	42	10	81	190	116	32	--	.3
APR.										
01-17	476	14	44	12	56	180	117	19	--	.7
18-30	741	15	42	10	85	193	141	29	--	1.4
MAY										
01-04	1720	15	42	11	36	176	72	7.9	--	2.5
05-11	2610	15	36	8.3	17	136	42	5.0	--	1.7
12-31	3210	15	27	6.1	10	108	22	3.6	.3	.7
JUNE										
01-30	3240	13	24	4.1	8.6	90	14	2.9	--	.4
JULY										
01-09	779	12	26	6.8	19	113	35	6.0	--	.3
10-18	336	15	38	8.0	34	158	63	10	--	.4
19-24	129	15	44	17	60	208	118	22	--	.4
25-31	80	14	49	20	80	236	162	28	--	.3
AUG.										
01-15	100	12	59	19	111	232	205	34	--	1.6
16-26	110	11	50	17	81	228	132	24	--	.4
27-31	43	9.2	53	18	99	236	161	32	--	.2
SEPT.										
01-30	29	8.0	51	22	129	242	225	39	--	.1
WTD. AVG. TIME	--	14	30	7.0	23	124	42	7.8	--	.7
WTD. AVG. TONS PER DAY	661	14	44	14	65	198	112	21	--	.5
	--	25	54	13	42	221	75	14	--	1.2

9-2599.5. LITTLE SNAKE RIVER ABOVE LILY, COLO.--Continued

EXTREMES, 1950-68.--Dissolved solids (1950-51, 1952-68): Maximum, 2,330 mg/l July 24, 1955; minimum, 108 mg/l June 1-21, 1964.
Hardness (1950-51, 1952-68): Maximum, 1,340 mg/l July 24, 1955; minimum, 64 mg/l July 1-8, 10, 1957, June 1-14, 1958, Mar. 11, 1960.
Specific conductance (1950-51, 1952-68): Maximum daily, 3,150 micromhos Aug. 16, 1961; minimum daily, 135 micromhos June 10, 1958.
Water temperatures (1950-60, 1961-68): Maximum, 31°C July 17, 1955; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge are given for Little Snake River near Lily, Colo.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-09	.12	--	457	.62	93	186	1	2.9	716	7.9
10-20	.07	--	359	.49	81	156	0	2.5	575	7.8
21-31	.09	--	404	.55	72	182	0	2.5	644	7.9
NOV.										
01-09	.03	--	457	.62	59	198	3	2.4	682	7.9
10-25	.08	--	371	.50	79	177	0	1.9	563	7.7
26-30	.05	--	520	.71	73	230	10	2.5	772	7.8
DEC.										
01-18	.06	--	451	.61	119	223	0	2.0	674	8.1
19-31	.06	--	364	.50	110	185	1	1.8	560	8.0
JAN.										
01-31	.04	--	400	.54	109	190	1	1.8	591	8.0
FEB.										
01-25	.02	--	363	.49	115	180	2	1.8	558	8.0
26-29	.09	--	424	.58	223	106	0	4.4	651	7.9
MAR.										
01-31	.07	--	387	.53	274	147	0	2.9	615	7.8
APR.										
01-17	.10	--	358	.49	460	159	11	1.9	539	7.8
18-30	.11	--	412	.56	824	146	0	3.1	646	7.6
MAY										
01-04	.12	--	284	.39	1320	152	8	1.3	427	7.8
05-11	.11	--	206	.28	1450	123	11	.7	302	7.9
12-31	.12	.07	157	.21	1360	92	3	.5	218	7.8
JUNE										
01-30	.11	--	113	.15	989	77	3	.4	172	7.4
JULY										
01-09	.07	--	151	.21	318	94	1	.9	261	7.7
10-18	.10	--	237	.32	215	128	0	1.3	401	7.8
19-24	.08	--	374	.51	130	178	7	2.0	598	7.9
25-31	.06	--	463	.63	100	204	10	2.4	733	8.2
AUG.										
01-15	.13	--	577	.78	156	224	34	3.2	859	8.0
16-26	.00	--	433	.59	129	194	7	2.5	676	8.0
27-31	.07	--	505	.69	58	206	12	3.0	774	8.0
SEPT.										
01-30	.03	--	603	.82	47	220	28	3.8	907	8.2
WTD. AVG. TIME	.10	--	194	--	--	105	4	--	291	7.7
WTD. AVG. TONS PER DAY	.07	--	374	--	--	166	6	2.0	572	7.9
	.12	--	--	--	--	--	--	--	--	--

9-2599.5. LITTLE SNAKE RIVER ABOVE LILY, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	662	629	--	571	586	--	558	--	185	210	--	806
2.....	675	633	--	561	592	686	557	490	197	205	--	--
3.....	691	--	--	563	583	580	--	425	181	227	807	--
4.....	691	--	735	577	--	607	--	366	177	245	796	--
5.....	699	731	--	--	574	522	487	340	170	265	815	--
6.....	729	733	705	587	573	520	485	301	173	288	829	--
7.....	698	735	692	592	579	503	494	314	172	300	--	--
8.....	--	646	--	600	564	561	593	274	--	303	799	--
9.....	822	687	644	603	--	--	591	--	161	307	815	893
10.....	610	--	--	596	--	574	555	287	156	337	845	--
11.....	--	--	626	590	564	598	--	270	162	353	928	912
12.....	550	576	649	590	556	695	--	247	170	356	1110	910
13.....	543	581	620	588	562	654	--	234	169	370	903	--
14.....	556	562	673	595	575	586	--	217	167	--	743	--
15.....	--	587	695	607	547	609	--	216	158	403	810	--
16.....	572	573	709	616	--	638	556	212	--	421	694	993
17.....	--	--	660	610	--	--	498	215	--	455	697	--
18.....	592	554	--	610	--	558	816	235	--	493	706	--
19.....	602	550	--	--	525	656	604	--	--	537	--	--
20.....	--	547	--	--	533	660	653	235	152	565	618	--
21.....	627	540	559	--	--	609	771	211	149	594	609	--
22.....	638	--	--	605	490	699	649	208	144	633	--	--
23.....	602	577	566	--	504	655	620	213	154	--	646	--
24.....	649	597	573	--	--	696	586	209	149	653	--	--
25.....	--	--	576	--	--	663	584	188	156	681	--	--
26.....	657	--	--	581	658	638	628	191	163	700	700	--
27.....	660	--	559	572	615	594	--	--	178	709	775	--
28.....	647	847	545	--	693	--	615	197	189	--	759	--
29.....	652	785	--	--	606	526	581	173	194	753	770	--
30.....	--	684	--	577	--	569	591	172	199	763	774	--
31.....	641	--	555	569	--	572	--	168	--	773	--	--
AVERAGE	644	--	--	--	--	608	--	252	169	460	--	--

9-2599.5. LITTLE SNAKE RIVER ABOVE LILY, COLO.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

	DAY																												AVER-
MONTH	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	AGE
OCTOBER..	17	17	18	17	18	12	--	--	14	16	--	15	12	9	--	6	--	3	9	--	11	12	9	8	--	9	7	6	6	--	2	--
NOVEMBER.	2	3	--	--	1	1	1	3	1	--	--	1	7	1	1	7	--	4	3	4	1	--	0	0	--	--	--	0	0	0	--	--
DECEMBER.	--	--	--	0	--	0	0	--	0	--	0	0	0	0	0	0	0	--	--	--	0	--	0	0	0	--	0	0	--	--	0	--
JANUARY..	0	0	0	0	--	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	--	0	--	--	--	0	0	--	--	0	0	--
FEBRUARY.	0	0	0	--	0	0	0	0	--	--	0	0	0	0	0	--	--	--	0	0	--	0	0	--	--	0	0	0	0	--	--	--
MARCH....	--	0	0	0	0	0	0	0	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	9	--	12	12	11	--
APRIL....	9	9	--	--	9	6	5	7	10	11	--	--	--	--	--	9	6	6	9	9	8	4	9	9	8	8	--	15	16	17	--	--
MAY.....	--	14	17	15	14	11	9	11	--	14	15	14	11	10	11	9	10	11	--	14	16	13	12	12	11	13	--	16	16	16	16	13
JUNE.....	15	14	20	17	15	16	13	--	12	13	16	16	17	16	15	--	--	--	--	20	20	20	18	18	19	21	21	20	18	18	--	17
JULY.....	17	22	23	20	21	24	24	24	23	24	23	24	24	--	24	24	25	26	25	27	24	24	--	22	28	24	26	--	26	24	24	23
AUGUST...	--	--	26	25	21	23	--	23	25	20	21	22	17	14	18	19	18	14	--	19	20	--	18	--	--	24	23	21	20	20	--	--
SEPTEMBER	20	--	--	--	--	--	--	--	20	--	19	19	--	--	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

9-3065. 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).
RECORDS AVAILABLE.--Chemical analyses: December 1950 to September 1968.
Water temperatures: December 1950 to September 1968.
EXTREMES, 1967-68.--Dissolved solids: Maximum, 1,050 mg/l Aug. 14-15; minimum, 243 mg/l June 1-10.
Hardness: Maximum, 534 mg/l Aug. 14-15; minimum, 154 mg/l June 15-25.
Specific conductance: Maximum daily, 1,660 micromhos Aug. 4; minimum daily, 316 micromhos June 27.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)
OCT.											
01-04	330	--	--	--	--	--	220	194	82	--	--
05-09	417	--	--	--	--	--	326	201	78	--	--
14-29	344	--	--	--	--	--	208	183	84	--	--
30-31	368	--	--	--	--	--	220	195	87	--	--
NOV.											
01-14	350	--	--	--	--	--	241	197	83	--	--
15-30	316	--	--	--	--	--	242	195	90	--	--
DEC.											
01-31	296	--	--	--	--	--	256	205	103	--	--
JAN.											
01-31	291	--	--	--	--	--	256	192	100	--	--
FEB.											
01-29	352	--	--	--	--	--	248	180	117	--	--
MAR.											
01-14	394	--	--	--	--	--	240	210	82	--	--
15-19	457	--	--	--	--	--	248	216	88	--	--
20-31	380	--	--	--	--	--	256	240	84	--	--
APR.											
01-30	480	--	--	--	--	--	234	233	78	--	--
MAY											
01-04	589	--	--	--	--	--	224	215	72	--	--
05-11	885	--	--	--	--	--	194	136	46	--	--
12-21	1026	--	--	--	--	--	194	131	42	--	--
22-31	1721	--	--	--	--	--	194	94	26	--	--
JUNE											
01-10	2960	--	--	--	--	--	149	52	20	--	--
11-14	2225	--	--	--	--	--	156	58	20	--	--
15-25	2616	--	--	--	--	--	139	48	18	--	--
26-30	1602	--	--	--	--	--	136	58	21	--	--
JULY											
01-04	1068	--	--	--	--	--	155	78	34	--	--
05-10	772	--	--	--	--	--	183	105	45	--	--
11-14	600	--	--	--	--	--	201	133	62	--	--
15-24	415	--	--	--	--	--	224	157	62	--	--
25-31	453	--	--	--	--	--	266	229	70	--	--
AUG.											
01-13	738	--	--	--	--	--	290	255	72	--	--
14-15	1225	--	--	--	--	--	264	395	120	--	--
16-17	832	--	--	--	--	--	246	187	26	--	--
18-31	554	--	--	--	--	--	234	135	28	--	--
SEPT.											
01-30	362	--	--	--	--	--	224	171	27	--	--
WTD. AVG. TIME	--	--	--	--	--	--	203	138	51	--	--
WTD. AVG. TONS PER DAY	655	--	--	--	--	--	230	177	71	--	--
	--	--	--	--	--	--	359	244	91	--	--

ANALYSES OF ADDITIONAL SAMPLES

OCT.											
02...	A299	12	63	29	87	1.2	214	178	78	.8	.0
JAN.											
08...	A270	15	76	29	104	2.1	256	176	109	.5	1.0
APR.											
05...	A419	13	74	30	95	2.2	232	217	74	.5	.2
JULY											
19...	A391	13	60	34	72	2.2	232	166	59	.5	.1
SEPT.											
13...	A287	12	64	28	60	1.9	224	178	29	.6	.6

A Discharge at time of sampling.

9-3065. WHITE RIVER NEAR WATSON, UTAH--Continued

EXTREMES, 1967-68.--Continued
Water temperatures: Maximum, 22°C on several days during July and August; minimum, freezing point on many days during November and December.
EXTREMES, 1950-68.--Dissolved solids (1950-54, 1955-68): Maximum, 2,380 mg/l July 21, 1966; minimum, 209 mg/l May 23-31, 1964.
Hardness (1954-68): 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 2., 1968.
Water temperatures: Maximum, 31°C Aug. 8, 1954; minimum, freezing point on many days during winter months.
REMARKS.--Additional samples were collected for more comprehensive definition of water quality at this station.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
01-04	--	--	566	.77	504	280	100	2.6	904	8.0
05-09	--	--	598	.81	673	304	37	3.2	938	8.0
14-29	--	--	550	.75	511	278	107	2.4	880	8.1
30-31	--	--	560	.76	556	276	96	2.8	903	8.0
NOV.										
01-14	--	--	610	.83	576	290	92	2.7	932	8.1
15-30	--	--	649	.88	554	296	98	2.7	971	8.0
DEC.										
01-31	--	--	704	.96	563	320	110	2.8	1070	8.1
JAN.										
01-31	--	--	672	.91	528	306	96	2.8	1030	8.0
FEB.										
01-29	--	--	676	.92	642	296	93	3.0	1060	7.9
MAR.										
01-14	--	--	660	.90	702	272	75	3.1	998	8.1
15-19	--	--	660	.90	814	294	91	3.0	1030	7.6
20-31	--	--	714	.97	733	328	118	2.8	1060	8.2
APR.										
01-30	--	--	679	.92	880	314	122	2.6	1020	7.8
MAY										
01-04	--	--	629	.86	1000	280	96	2.7	910	8.1
05-11	--	--	461	.63	1100	232	73	1.8	664	8.0
12-21	--	--	437	.59	1210	220	61	1.8	637	8.0
22-31	--	--	356	.48	1650	203	44	1.3	523	7.8
JUNE										
01-10	--	--	243	.33	1940	162	40	.7	404	7.9
11-14	--	--	284	.39	1710	166	38	.8	419	8.0
15-25	--	--	246	.33	1740	154	40	.6	362	7.8
26-30	--	--	268	.36	1160	160	48	.7	394	8.0
JULY										
01-04	--	--	334	.45	963	187	60	1.0	484	7.9
05-10	--	--	474	.64	988	228	78	1.3	612	8.0
11-14	--	--	526	.72	852	252	87	1.8	764	8.1
15-24	--	--	705	.96	790	286	102	1.8	812	8.2
25-31	--	--	610	.83	746	346	128	2.3	1020	7.9
AUG.										
01-13	--	--	762	1.04	1520	376	138	2.4	1120	8.0
14-15	--	--	1050	1.43	3470	534	318	2.3	1460	7.7
16-17	--	--	584	.79	1310	316	114	1.3	856	8.0
18-31	--	--	476	.65	712	276	84	1.2	723	7.9
SEPT.										
01-30	--	--	474	.64	463	268	84	1.6	724	7.9
WTD. AVG. TIME	--	--	475	--	--	243	77	--	713	7.9
WTD. AVG. TONS PER DAY	--	--	582	--	--	281	93	2.2	877	8.0
	--	--	--	--	--	--	--	--	--	--
ANALYSES OF ADDITIONAL SAMPLES										
OCT.										
02...	.02	.05	581	.79	469	274	99	2.3	884	7.5
JAN.										
08...	.00	.06	672	.91	490	310	100	2.6	1030	7.7
APR.										
05...	.03	.07	641	.87	725	308	118	2.3	972	7.9
JULY										
19...	.05	.08	537	.73	567	288	98	1.8	829	8.2
SEPT.										
13...	.05	.05	487	.66	377	276	92	1.6	757	7.7

9-3065. WHITE RIVER NEAR WATSON, UTAH.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	--	917	1070	--	--	--	1060	1020	--	425	1070	687
2.....	912	937	949	--	--	--	1030	956	461	--	1320	699
3.....	896	904	--	--	--	--	1020	886	435	510	1120	702
4.....	904	899	1000	--	--	977	1030	786	403	517	1660	686
5.....	1030	915	1150	--	--	1020	972	749	518	570	1070	772
6.....	990	904	1220	--	--	--	965	661	411	577	993	713
7.....	978	972	1270	--	--	--	1020	657	381	604	1320	654
8.....	826	922	1280	--	--	--	1040	627	380	620	1090	677
9.....	861	926	--	--	--	--	1030	649	415	631	1150	679
10.....	810	960	--	--	--	--	1030	665	377	655	1180	739
11.....	822	894	--	--	--	--	1060	644	408	844	1050	690
12.....	871	899	1080	--	--	--	1020	740	416	685	1080	711
13.....	852	933	1070	--	--	--	1050	590	427	--	981	729
14.....	889	942	952	--	--	--	1030	633	422	--	1540	--
15.....	--	923	1080	--	--	--	990	591	382	754	1370	736
16.....	874	928	1070	--	--	1030	944	593	374	762	910	778
17.....	866	972	--	--	--	--	978	606	372	768	801	815
18.....	878	975	1100	--	--	--	1030	638	356	834	740	769
19.....	874	928	1020	--	--	--	994	733	361	847	729	741
20.....	876	940	997	--	--	--	--	647	346	842	753	792
21.....	1050	1070	1020	--	--	--	--	610	363	842	710	735
22.....	876	942	977	--	--	--	1070	589	364	819	711	747
23.....	876	917	997	--	--	1080	1070	606	330	825	729	687
24.....	907	893	--	--	--	--	1030	506	336	798	717	730
25.....	856	951	--	--	--	1050	1030	496	360	1000	729	723
26.....	902	945	1060	--	--	1040	1050	516	351	1080	712	718
27.....	913	951	1120	--	--	1060	1010	526	316	917	697	738
28.....	866	1070	1150	--	--	1030	978	514	398	892	709	699
29.....	844	978	1000	--	--	1070	971	510	406	997	696	704
30.....	910	1070	968	--	--	1080	--	--	430	974	751	692
31.....	896	--	1060	--	--	1060	--	447	--	1220	698	--
AVERAGE	893	945	1070	--	--	--	1020	646	389	778	960	722

9-3065. WHITE RIVER NEAR WATSON, UTAH.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	--	14	14	14	14	13	11	11	10	10	11	10	10	10	--	7	7	7	7	6	9	9	7	6	6	6	4	4	4	3	4	8
NOVEMBER.	4	4	4	1	--	1	2	1	1	1	1	4	13	4	5	4	6	3	6	4	7	3	2	0	4	1	0	0	0	0	--	2
DECEMBER.	1	0	--	0	0	0	0	0	--	--	--	0	0	0	0	0	--	0	0	0	0	0	0	--	--	0	0	0	0	0	0	--
JANUARY..	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FEBRUARY.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MARCH....	--	--	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	--	6	4	4	5	4	9	9	--
APRIL....	9	8	7	8	6	6	4	7	5	8	--	8	11	8	7	7	8	6	6	--	--	7	8	8	8	7	7	6	8	--	--	7
MAY.....	14	13	13	13	14	9	7	9	11	12	13	14	13	13	14	12	10	10	11	11	13	12	13	11	11	11	11	13	16	--	14	12
JUNE.....	--	16	16	14	14	14	16	16	13	14	14	14	16	16	14	14	16	14	17	17	17	17	17	17	16	17	17	17	16	14	--	15
JULY.....	16	--	16	18	17	19	18	18	18	18	18	18	--	--	18	18	18	21	21	22	21	22	19	22	18	19	21	21	21	22	21	19
AUGUST...	21	17	18	19	21	21	21	22	22	20	21	21	21	18	16	17	17	16	16	17	17	17	16	17	15	16	17	17	17	17	18	18
SEPTEMBER	17	17	17	16	16	14	16	14	16	16	16	17	16	--	14	11	12	13	14	14	12	12	16	11	11	11	11	12	11	11	--	13

9-3529. VALLECITO CREEK NEAR BAYFIELD, COLO.
(Hydrologic bench-mark station)

LOCATION (revised).--Lat 37°28'39", long 107°32'35", in NW¼ sec.16, T.37 N., R.6 W. (projected), La Plata County, 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.
RECORDS AVAILABLE.--Chemical analyses: October 1963 to September 1968 (discontinued).

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
OCT.										
10...	42	3.2	10	2.4	1.0	.8	33	8.6	1.0	.4
JAN.										
08...	12	3.9	11	3.4	1.2	.4	42	9.2	.8	.3
FEB.										
01...	12	3.9	11	3.1	1.4	.5	40	8.8	.9	.3
MAR.										
01...	13	3.9	12	2.2	1.7	.8	38	10	1.1	.2
APR.										
04...	51	3.8	9.6	2.4	1.0	.4	33	7.8	1.1	.3
MAY										
10...	186	3.9	9.6	2.4	1.0	.4	32	7.5	1.3	.2
JUNE										
01...	1360	2.6	8.0	.5	.5	.3	19	5.5	1.5	.2
JULY										
15...	192	2.5	6.4	1.9	.5	.2	20	5.0	1.2	.3
AUG.										
01...	339	2.4	10	1.2	.5	.3	32	5.0	.9	.3
30...	77	3.5	9.6	3.9	1.0	.4	38	8.5	.9	.2

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER																																
MAXIMUM	--	--	--	--	--	--	--	--	--	7	6	7	7	6	6	4	4	4	4	4	4	4	4	4	4	3	--	--	--	--	--	--
MINIMUM	--	--	--	--	--	--	--	--	--	6	4	5	4	5	4	3	3	3	3	3	3	3	3	3	3	3	--	--	--	--	--	--
NOVEMBER																																
MAXIMUM	--	3	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	--	1
MINIMUM	--	2	1	1	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	--	1
DECEMBER																																
MAXIMUM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--
JANUARY																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	--
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	--
FEBRUARY																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	--	--	--
MINIMUM	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	--	--	--
MARCH																																
MAXIMUM	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	1
MINIMUM	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
APRIL																																
MAXIMUM	2	2	2	2	3	3	2	3	3	3	4	3	3	4	3	3	3	2	2	3	3	2	3	3	4	3	3	4	6	6	--	3
MINIMUM	1	2	1	1	1	2	1	1	1	1	2	2	3	1	2	2	2	2	1	1	2	1	2	1	2	2	2	1	2	2	--	1
MAY																																
MAXIMUM	4	4	3	3	3	3	5	6	4	4	4	3	3	4	6	4	6	5	6	6	6	4	4	3	6	6	6	6	4	4	6	4
MINIMUM	2	2	2	3	2	1	2	3	3	3	1	2	2	2	2	2	2	2	2	2	3	3	3	3	2	3	3	3	3	3	3	2
JUNE																																
MAXIMUM	6	6	4	6	6	4	5	4	5	6	8	8	7	7	7	7	7	7	8	8	7	8	7	8	8	9	9	8	8	--		6
MINIMUM	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	--	3
JULY																																
MAXIMUM	8	8	8	7	7	9	8	9	9	9	11	9	10	9	11	10	11	11	11	11	11	12	12	11	11	11	11	11	11	10	10	9
MINIMUM	3	4	6	6	7	7	7	7	7	8	7	7	8	7	7	7	7	8	8	8	8	9	10	9	9	9	9	8	9	9	9	7
AUGUST																																
MAXIMUM	9	9	10	12	11	10	11	10	11	11	10	11	10	10	9	9	9	9	11	10	9	9	9	10	11	10	10	11	11	10	10	10
MINIMUM	9	8	8	8	8	9	9	9	9	9	9	9	9	8	6	6	7	7	7	8	8	8	7	6	7	8	8	8	8	7	7	7
SEPTEMBER																																
MAXIMUM	9	9	9	8	8	8	8	8	8	9	9	8	9	9	8	8	7	8	8	8	7	7	7	7	7	7	7	7	7	8	--	7
MINIMUM	7	7	8	6	6	7	7	7	7	7	8	8	8	7	7	7	4	6	6	6	7	6	6	6	6	6	6	6	7	7	--	6

9-3529. VALLECITO CREEK NEAR BAYFIELD, COLO.--Continued

RECORDS AVAILABLE.--Continued
Water temperatures: November 1962 to September 1968.
EXTREMES, 1967-68.--Water temperatures: Maximum, 12°C July 22, 23, Aug. 4; minimum, freezing point on many days during December to February.
EXTREMES, 1962-68.--Water temperatures: Maximum, 17°C July 21, 1963; minimum, freezing point on many days during winter months.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	NITRATE (NO3)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.										
10...	.8	.01	63	.09	7.14	36	9	.1	78	7.0
JAN.										
08...	.8	.01	54	.07	1.75	42	8	.1	87	7.4
FEB.										
01...	.8	.00	53	.07	1.72	40	7	.1	85	7.5
MAR.										
01...	.1	.01	39	.05	1.37	40	9	.1	84	7.2
APR.										
04...	.5	.02	44	.06	6.06	34	7	.1	71	7.4
MAY										
10...	.8	.00	38	.05	19.1	34	8	.1	68	6.9
JUNE										
01...	.7	.00	25	.03	91.8	22	6	.0	45	7.0
JULY										
15...	.1	.00	17	.02	8.81	24	8	.0	42	7.3
AUG.										
01...	.3	.00	35	.05	32.0	30	4	.0	58	7.2
30...	.1	.02	43	.06	8.94	40	9	.1	77	7.2

CHEMICAL ANALYSES, IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	NITRATE (NO3)

PART 8. WESTERN GULF OF MEXICO BASINS

RIO GRANDE BASIN

08-2242.00 - RASPBERRY CREEK NEAR VILLA GROVE (LAT 38 20 25 LONG 105 56 35)

OCT., 1967										
19...	.59	2	5.8	8.0	1.2	1.5	27	5.8	.8	.7
APR., 1968										
09...	.35	1	6.1	8.0	1.0	1.7	24	5.2	1.3	1.6
JULY										
09...	.73	8	6.1	8.4	2.2	1.4	30	4.5	1.6	.5
SEP.										
06...	.95	5	5.6	9.2	1.2	1.4	28	5.8	1.8	.8

08-2267.00 - COTTON CREEK NEAR MINERAL HOT SPRINGS (LAT 38 07 58 LONG 105 47 30)

OCT., 1967										
18...	10	5	6.2	37	11	2.1	114	52	1.4	2.3
JAN., 1968										
23...	5.8	0	6.5	42	12	2.2	114	62	1.1	1.4
MAR.										
04...	7.6	1	7.1	42	13	2.7	116	67	.9	1.0
APR.										
03...	5.6	2	7.4	44	13	2.8	121	60	1.0	1.1
JULY										
09...	18	4	4.8	29	9.2	1.2	87	38	2.3	.5
SEP.										
06...	13	9	6.8	36	10	2.0	106	46	1.1	1.2

08-2275.00 - NORTH CRESTONE CREEK NEAR CRESTONE (LAT 38 00 49 LONG 105 41 32)

OCT., 1967										
19...	8.6	5	6.1	18	1.0	1.6	60	5.0	.9	.3
JAN., 1968										
02...	3.1	0	5.7	20	1.5	1.7	66	5.2	.8	.8
APR.										
03...	6.0	1	5.7	18	2.4	1.9	65	5.5	1.0	.3
JUNE										
14...	36	--	3.4	10	1.5	.7	36	4.2	1.1	.1
JULY										
02...	20	7	3.6	13	1.5	1.0	46	3.8	.8	.2
SEP.										
03...	14	7	4.5	16	1.5	1.2	55	4.0	.9	.3

08-2295.00 - COTTONWOOD CR. NR CRESTONE, COLO. (LAT 37 55 58 LONG 105 38 47)

OCT., 1967										
16...	3.1	2	5.8	11	1.0	1.1	38	5.5	.4	.3
JAN., 1968										
26...	1.5	0	6.8	13	1.2	2.3	44	5.0	1.4	1.7
APR.										
03...	1.3	2	6.9	13	1.7	2.1	41	5.2	1.5	1.4
JUNE										
14...	21	4	3.3	7.2	.5	.7	22	3.8	.6	.7
JULY										
02...	9.3	6	3.8	7.6	1.2	.8	28	3.2	1.7	.3
SEP.										
19...	3.8	5	6.1	9.6	1.9	1.0	36	5.0	1.1	.7

08-2342.00 - MOSCA CREEK NEAR MOSCA (LAT 37 44 05 LONG 105 30 27)

OCT., 1967										
16...	.19	4	17	33	6.3	9.6	136	14	3.1	.2
JAN., 1968										
02...	.21	1	15	29	6.1	9.2	120	14	3.7	.1
APR.										
02...	.43	2	15	25	7.3	8.2	110	14	2.8	.2
MAY										
15...	2.5	--	15	18	6.3	5.8	80	14	1.9	.7
JULY										
02...	.83	10	16	20	5.4	6.2	88	9.5	1.5	.1
SEP.										
03...	.95	6	16	23	6.3	6.1	99	13	3.2	.5

CHEMICAL ANALYSES, IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968--Continued

DATE	ORTHO PHOS-PHATE (PO4)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH

PART 8. WESTERN GULF OF MEXICO BASINS--Continued

RIO GRANDE BASIN--Continued

08-2242.00 - RASPBERRY CREEK NEAR VILLA GROVE (LAT 38 20 25 LONG 105 56 35)

OCT., 1967									
19...	.01	37	.05	.06	25	3	.1	62	7.2
APR., 1968									
09...	.00	37	.05	.03	24	4	.2	58	6.9
JULY									
09...	.00	40	.05	.08	30	5	.1	57	7.4
SEP.									
06...	.00	40	.05	.10	28	5	.1	57	7.2

08-2267.00 - COTTON CREEK NEAR MINERAL HOT SPRINGS (LAT 38 07 58 LONG 105 47 30)

OCT., 1967									
18...	.04	168	.23	4.54	138	45	.1	274	7.7
JAN., 1968									
23...	.01	183	.25	2.87	154	61	.1	300	7.5
MAR.									
04...	.00	191	.26	3.92	159	64	.1	314	7.7
APR.									
03...	.00	189	.26	2.86	164	65	.1	317	7.8
JULY									
09...	.00	128	.17	6.22	110	39	.0	217	7.5
SEP.									
06...	.02	155	.21	5.44	132	45	.1	263	7.6

08-2275.00 - NORTH CRESTONE CREEK NEAR CRESTONE (LAT 38 00 49 LONG 105 41 32)

OCT., 1967									
19...	.00	63	.09	1.46	50	1	.1	106	7.4
JAN., 1968									
02...	.01	68	.09	.57	55	1	.1	113	7.4
APR.									
03...	.00	67	.09	1.09	56	3	.1	114	7.2
JUNE									
14...	.00	39	.05	3.79	32	2	.1	61	7.1
JULY									
02...	.00	47	.06	2.54	38	0	.1	75	7.1
SEP.									
03...	.00	55	.07	2.08	46	1	.1	94	7.1

08-2295.00 - COTTONWOOD CR. NR CRESTONE, COLO. (LAT 37 55 58 LONG 105 38 47)

OCT., 1967									
16...	.00	44	.06	.37	32	1	.1	72	7.4
JAN., 1968									
26...	.01	53	.07	.21	37	1	.2	90	7.3
APR.									
03...	.00	52	.07	.18	40	6	.1	85	7.4
JUNE									
14...	.00	28	.04	1.59	20	2	.1	42	7.2
JULY									
02...	.00	33	.04	.83	29	1	.1	49	7.2
SEP.									
19...	.00	43	.06	.44	32	2	.1	70	7.4

08-2342.00 - MOSCA CREEK NEAR MOSCA (LAT 37 44 05 LONG 105 30 27)

OCT., 1967									
16...	.05	150	.20	.08	108	0	.4	241	7.9
JAN., 1968									
02...	.02	136	.18	.08	97	0	.4	220	7.6
APR.									
02...	.02	127	.17	.15	92	2	.4	204	7.6
MAY									
15...	.05	101	.14	.68	70	4	.3	151	7.3
JULY									
02...	--	102	.14	.23	72	0	.3	163	7.4
SEP.									
03...	.04	117	.16	.30	83	2	.3	183	7.5

CHEMICAL ANALYSES, IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968--Continued

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)
PART 9. COLORADO RIVER BASIN											
COLORADO RIVER MAIN STEM											
09-0705.00 - COLORADO RIVER NEAR DOTSERO (LAT 39 38 40 LONG 107 04 40)											
NOV., 1967											
30...	886	1	9.8	60	12	29	2.0	138	104	36	.4
APR., 1968											
04...	1610	2	9.2	45	12	21	--	112	88	18	--
JUNE											
03...	7790	10	8.6	34	6.1	7.0	--	110	29	5.6	--
AUG.											
08...	2810	23	9.5	69	12	170	--	178	84	22	--
GUNNISON RIVER BASIN											
09-1495.00 - UNCOMPAHGRE RIVER AT DELTA (LAT 38 44 30 LONG 108 04 50)											
NOV., 1967											
10...	163	7	16	282	96	228	4.9	286	1310	23	1.0
MAR., 1968											
18...	334	0	12	123	46	92	--	204	514	13	--
JUNE											
05...	1220	18	12	111	29	55	--	160	362	6.5	--
AUG.											
08...	750	22	16	138	60	90	--	228	540	14	--

INSTANTANEOUS SUSPENDED SEDIMENT AND PARTICLE SIZE, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968
(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-ERA-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
PART 7. LOWER MISSISSIPPI RIVER BASIN																	
ARKANSAS RIVER BASIN																	
7-0945. ARKANSAS RIVER AT PARKDALE, COLO.																	
OCT 3, 1967	1430	17	435	11	13	--	--			--	--	--	--	--			
OCT 19.....	1100	9	349	9	8	--	--			--	--	--	--	--			
NOV 7.....	1100	2	435	21	25	--	--			--	--	--	--	--			
NOV 21.....	1015	5	391	8	8	--	--			--	--	--	--	--			
DEC 5.....	1000	0	381	12	12	--	--			--	--	--	--	--			
DEC 19.....	1045	0	381	12	12	--	--			--	--	--	--	--			
JAN 10, 1968	0915	0	315	5	4	--	--			--	--	--	--	--			
JAN 23.....	0930	0	341	12	11	--	--			--	--	--	--	--			
FEB 6.....	1700	2	333	19	17	--	--			--	--	--	--	--			
FEB 15.....	1030	0	294	14	11	--	--			--	--	--	--	--			
MAR 5.....	1535	6	290	6	5	--	--			--	--	--	--	--			
MAR 20.....	1215	4	294	6	5	--	--			--	--	--	--	--			
APR 2.....	1440	8	337	32	29	--	--			--	--	--	--	--			
APR 22.....	0945	6	294	9	7	--	--			--	--	--	--	--			
MAY 7.....	1845	11	852	112	258	--	--			--	--	--	--	--			
MAY 16.....	1030	11	780	65	140	--	--			--	--	--	--	--			
JUN 4.....	1850	13	3320	949	8510	8	10		19	35	50	73	90	95	100		SVPWC
JUN 20.....	1520	16	2730	297	2190	6	8			34	51	78	98	100	--		VPWC
JUL 2.....	1100	14	1470	76	300	--	--			--	--	--	--	--			
JUL 29.....	1015	17	1800	297	1440	15	18			62	79	89	97	100	--		VPWC
AUG 7.....	1935	18	1450	405	1590	7	10			72	91	97	100	--	--		VPWC
AUG 19.....	1150	15	1290	89	310	--	--			--	--	--	--	--			
SEP 4.....	2100	14	738	15	30	--	--			--	--	--	--	--			
SEP 26.....	1445	17	405	6	7	--	--			--	--	--	--	--			

CHEMICAL ANALYSES, IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968--Continued

DATE	NITRATE (NO3)	ORTHO PHOS-PHATE (PO4)	BORON (B)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
PART 9. COLORADO RIVER BASIN--Continued											
COLORADO RIVER MAIN STEM--Continued											
09-0705.00 - COLORADO RIVER NEAR DOTSERO (LAT 39 38 40 LONG 107 04 40)											
NOV., 1967											
30...	.4	.02	.02	316	.43	756	198	85	.9	522	7.6
APR., 1968											
04...	.5	.02	--	250	.34	1090	160	68	.7	412	7.5
JUNE											
03...	.6	.00	--	157	.21	3300	111	21	.3	242	7.2
AUG.											
08...	.3	.00	--	306	.42	2320	220	74	5.0	491	7.4
GUNNISON RIVER BASIN--Continued											
09-1495.00 - UNCOMPAHGRE RIVER AT DELTA (LAT 38 44 30 LONG 108 04 50)											
NOV., 1967											
10...	21	.00	.24	2210	3.00	973	1100	865	3.0	2470	7.5
MAR., 1968											
18...	7.0	.05	--	950	1.29	857	494	327	1.8	1210	7.6
JUNE											
05...	4.7	.00	--	684	.93	2250	394	263	1.2	908	7.4
AUG.											
08...	6.2	.00	--	1040	1.41	2110	592	405	1.6	1310	7.5

CHEMICAL ANALYSES OF GROUND WATER IN COLORADO

Concentrations of dissolved constituents, dissolved solids, and hardness given in milligrams per liter

Well number	Geologic source 1/	Depth of well (feet)	Date of collection	Temperature (°C)	Silica (SiO_2)	Iron (Fe) 2/	Manganese (Mn) 2/	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, Magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
PART 7. LOWER MISSISSIPPI RIVER BASIN																									
ARKANSAS RIVER BASIN																									
ARKANSAS VALLEY AREA																									
(C-20-63)36dca	Qvf	39	9-12-68	12	--			--	--	305	--	424	0	1350	50	--	40	--	2350	1160	812	36	3.9	2750	8.1
(C-20-64)36bcd	Qvf	37	9-12-68	12	--			--	--	105	--	372	0	602	35	--	9.8	--	1220	715	410	24	1.7	1550	8.1
(C-21-48)24dba	Qvf	--	9-30-68	20	22			381	187	465	5.2	310	0	2190	120	--	3.1	--	3890	1720	1470	37	4.9	4090	7.7
(C-21-61)7aaa	Qvf	35	9-12-68	13	--			--	--	388	--	396	0	876	55	--	1.3	--	1580	520	195	62	7.4	2190	8.2
24cda	Qvf	--	9-12-68	13	--			--	--	288	--	340	0	1310	52	--	5.8	--	2220	1020	741	38	3.9	2580	8.1
(C-21-62)4bab	Qvf	46	9-12-68	13	--			--	--	264	--	328	0	843	28	--	27	--	1520	620	351	48	4.6	1970	8.0
(C-22-44)32caa	Qvf	--	9-10-68	14	--			--	--	406	--	328	0	1990	115	--	29	--	3510	1630	1360	35	4.4	3750	7.9
35dcc	Qvf	64	9-10-68	13	--			--	--	625	--	402	0	2650	175	--	41	--	4560	1940	1610	41	6.2	4830	7.8
(C-22-45)3ddd	Qvf	125	9-10-68	15	--			--	--	225	--	220	0	830	52	--	11	--	1480	564	384	46	4.1	1880	7.8
23bbb	Qvf	109	9-10-68	15	--			--	--	331	--	258	0	1680	98	--	26	--	2880	1380	1170	34	3.9	3180	7.8
(C-22-46)20bca	Qvf	--	9-10-68	14	--			--	--	375	--	288	0	2260	100	--	23	--	3840	1890	1650	30	3.8	3920	7.8
33bad	Qvf	53	9-10-68	12	--			--	--	362	--	308	0	1630	130	--	12	--	3020	1390	1140	36	4.2	3330	7.7
(C-22-47)17cdd2	Qvf	52	9-10-68	14	--			--	--	570	--	370	0	2390	200	--	32	--	4300	1830	1530	40	5.8	4560	8.0
28dab	Qvf	--	9-10-68	13	--			--	--	763	--	357	0	3010	230	--	24	--	5440	2080	1780	44	7.3	5560	7.8
(C-22-49)28cab	Qvf	--	10- 2-68	13	26			485	168	388	4.7	302	0	2290	120	1.7	23	0.63	A3660	1900	1650	31	3.9	3960	7.7
(C-22-51)21dbb2	Qvf	48.9	9-11-68	13	--			--	--	206	--	252	0	1440	60	--	12	--	2520	1400	1190	24	2.4	2690	7.7
29cbc	Qvf	78.6	9-11-68	13	--			--	--	354	--	292	0	2140	100	--	52	--	3530	1850	1610	29	3.6	3670	7.8
(C-22-52)32acb	Qvf	--	10- 2-68	13	17			445	119	190	3.2	292	0	1660	65	2.5	32	.31	A2680	1600	1360	20	2.1	2940	7.7
(C-22-53)26acc	Qvf	41	9-11-68	14	--			--	--	282	--	316	0	1410	65	--	15	--	2430	1220	961	33	3.5	2710	7.5
(C-22-57)31aac	Qvf	40	9-11-68	14	--			--	--	100	--	248	0	846	28	--	52	--	1490	900	697	19	1.4	1780	7.8
(C-22-58)3ccb	Qvf	--	10- 1-68	16	22			273	151	355	1.6	356	0	1600	90	--	53	--	2830	1300	1010	37	4.3	3150	7.9
22cbc2	Qvf	36	9-11-68	14	--			--	--	138	--	376	0	1060	40	--	32	--	1900	1120	812	21	1.8	2170	7.8
(C-22-59)13abc2	Qvf	44.4	9-11-68	13	--			--	--	413	4.6	280	0	2140	65	--	23	--	3430	1580	1350	36	4.5	3610	8.0
17ccc	Qvf	--	9-11-68	14	--			--	--	137	2.6	416	0	816	35	--	42	--	1640	980	639	23	1.9	1940	7.9
24bbb	Qvf	--	9-11-68	13	--			--	--	133	--	348	0	1110	40	--	41	--	1910	1180	895	20	1.7	2190	8.0
(C-22-60)1dda	Qvf	--	9-11-68	17	--			--	--	346	--	304	0	2050	40	--	1.6	--	3220	1700	1450	31	3.6	3400	7.9
(C-23-41)29bbc	Qvf	33	9-10-68	13	--			417	129	417	--	206	0	2060	200	--	13	--	3420	1570	1400	37	4.6	3750	7.9
(C-23-42)3dda	Qvf	--	9-10-68	14	--			--	--	375	--	270	0	1840	118	--	16	--	3190	1450	1230	36	4.3	3470	7.9
4bcb	Qvf	138	9-10-68	14	--			--	--	381	--	252	0	1720	118	--	24	--	3180	1360	1150	38	4.5	3430	7.9
30ddd2	Qvf	120	9-10-68	15	--			--	--	220	--	186	0	1060	90	--	26	--	2020	980	827	33	3.1	2350	7.6

See footnotes at end of table.

CHEMICAL ANALYSES OF GROUND WATER IN COLORADO--Continued

Concentrations of dissolved constituents, dissolved solids, and hardness given in milligrams per liter--Continued

Well number	Geologic source 1/	Depth of well (feet)	Date of collection	Temperature (°C)	Silica (SiO_2)	Iron (Fe) 2/	Manganese (Mn) 2/	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, Magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
PART 7. LOWER MISSISSIPPI RIVER BASIN--Continued																									
ARKANSAS RIVER BASIN--Continued																									
ARKANSAS VALLEY AREA--Continued																									
(C-23-44)10acc	Qvf	54	9-10-68	14	--			--	--	349	--	292	0	1640	100	--	19	--	2740	1260	1020	38	4.3	3110	7.7
(C-23-46)22bab	Qvf	66	9-10-68	15	--			--	--	20	--	149	0	162	10	--	22	--	414	262	140	14	.5	594	8.2
(C-23-47)6bdb	Qvf	--	10- 7-68	17	15			273	122	308	4.8	304	0	1440	80	2.0	12	0.34	A2410	1180	931	36	3.9	2880	7.8
(C-23-48)5adc	Qvf	--	9-10-68	13	--			--	--	435	--	338	0	2040	110	--	34	--	3370	1650	1370	36	4.7	3670	7.9
(C-23-51)4bbb	Qvf	24	9-11-68	14	--			--	--	302	--	316	0	1860	80	--	69	--	3170	1660	1400	28	3.2	3370	7.8
18bba	Qvf	--	9-11-68	14	--			--	--	363	--	378	0	1880	100	--	17	--	3200	1700	1390	32	3.8	3440	7.7
(C-23-52)7ccc	Qvf	37.8	9-11-68	14	--			--	--	367	--	336	0	1590	95	--	8.0	--	2660	1180	904	40	4.6	3090	7.5
10bbb2	Qvf	24	10- 2-68	16	17			461	219	669	8.8	456	0	2820	238	--	1.8	--	4370	2050	1680	41	6.4	4730	8.0
(C-23-53)4cbb2	Qvf	25.7	9-11-68	12	--			--	--	402	--	404	0	2060	100	--	21	--	3460	1750	1420	33	4.2	3690	8.0
(C-23-54)14aad	Qvf	35	9-11-68	16	--			--	--	186	2.1	296	0	1110	75	--	33	--	2010	1100	857	27	2.4	2320	8.0
(C-23-55)31abc	Qvf	42	9-11-68	13	--			--	--	281	3.1	320	0	1900	100	--	66	--	3210	1740	1480	26	2.9	3380	7.8
34dca	Qvf	40	9-11-68	15	--			--	--	138	--	336	0	794	40	--	5.7	--	1480	850	574	26	2.1	1800	8.0
(C-23-56)26bcb	Qvf	50	9-11-68	14	--			--	--	190	--	308	0	1420	58	--	50	--	2360	1350	1100	23	2.2	2600	8.0
35ada	Qvf	--	10- 2-68	15	19			440	112	253	2.4	280	0	1690	85	--	70	--	2860	1560	1330	26	2.8	3080	7.8
(C-23-57)3dbb	Qvf	62	9-11-68	13	--			--	--	186	1.7	360	0	1200	60	--	47	--	2160	1280	985	24	2.3	2440	7.9
(C-23-43)21abb	Qvf	--	9-10-68	13	--			--	--	622	13	266	0	2440	180	--	11	--	4060	1640	1420	45	6.5	4400	7.9

1 Qvf, valley fill deposits.
2 In solution at time of sampling, unless otherwise indicated.
A Calculated from determined constituents.

GPO 851-921