Quality of Surface Waters of the United States, 1970

Parts 9 and 10. Colorado River Basin and The Great Basin

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 2158

Prepared in cooperation with the States of Arizona, California, Idaho, New Mexico, Utah, Wyoming, U.S. Bureau of Reclamation, and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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Library of Congress catalog-card No. GS 43-68

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402
Stock Number 024-001-02698-8

PREFACE

This report was prepared by the U.S. Geological Survey in cooperation with the States of Arizona, California, Idaho, New Mexico, Utah, Wyoming, U.S. Bureau of Reclamation, and with other agencies by personnel of the Water Resources Division, J. S. Cragwall, Jr., chief hydrologist, G. W. Whetstone, assistant chief hydrologist for Scientific Publications and Data Management, under the general direction of G. A. Billingsley, chief, Reports Section, and B. A. Anderson, chief, Data Reports Unit.

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CONTENTS

ILLUSTRATION

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

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

QUALITY OF SURFACE WATERS OF THE UNITED STATES, 1970

PARTS 9 and 10

INTRODUCTION

The water-quality investigations of the United States Geological Survey are concerned with chemical and physical characteristics of surface- and ground-water supplies of the Nation. The data herein deal with the amounts of matter in solution and in suspension in streams, and represent that part of the National Water Data System collected by the U.S. Geological Survey in cooperation with State, municipal, and other Federal agencies.

The records of chemical analysis, water temperature, and suspended sediment of surface waters given in this volume serve as a basis for determining the suitability of waters for various uses. The flow and water quality of a stream are related to variations in rainfall and other forms of precipitation. In general, lower concentrations of dissolved solids may be expected during periods of high flow than during periods of low flow. Conversely, the suspended solids in some streams may change materially with relatively small variations in flow, whereas for other streams the quality of the water may remain relatively uniform throughout large ranges in discharge.

The Geological Survey has published annual records of chemical quality, water temperature, and suspended sediment since 1941. The records prior to 1948 were published each year in a single volume for the entire country, and in two volumes in 1948 and in 1949. From 1950 to 1958, the records were published in 4 volumes; from 1959 to 1963 in 5 volumes; from 1964 to 1967 in 6 volumes; and beginning with 1968 in 10 volumes. The drainage basins covered by the 10 volumes are shown in figure 1. The shaded area in figure 1 represents the section of the country covered in this volume for the water year 1970 (October 1, 1969 to September 30, 1970).

To meet interim requirements, water-quality records have been released by the Geological Survey in annual reports, beginning with the 1964 water year, by State. These reports are entitled, "Water Resources Data for (State), Part 2. Water Quality Records." These reports are for limited distribution, and are designed primarily for local needs. Any revisions or corrections found necessary to the records published in these annual State reports have been made and published in this volume without reference.

The records herein are listed by drainage basins in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream stations. Stations on tributaries to tributaries are listed in a similar manner. In the list of water-quality stations in the front of this volume, the rank of the tributaries is indicated by indention. Each indention represents one rank.

As an added means of identification, a station number has been assigned for each stream location where regular measurements of water quantity or quality have been made. The numbers have been assigned to conform with the standard downstream order of listing gaging stations. The numbering system consists of an 8-digit number, such as 09019000. The first two digits, "09" identifies the Part or hydrologic region used by the Geological Survey for reporting hydrologic data. The next six digits is the

station number which represents the location of the station in the standard downstream order within each of the 16 parts (fig. 1). The complete number (09019000) appears just to the left of the station name. The assigned numbers are in numerical order but are not consecutive. Gaps are left in the numbers to allow for new stations that may be established.

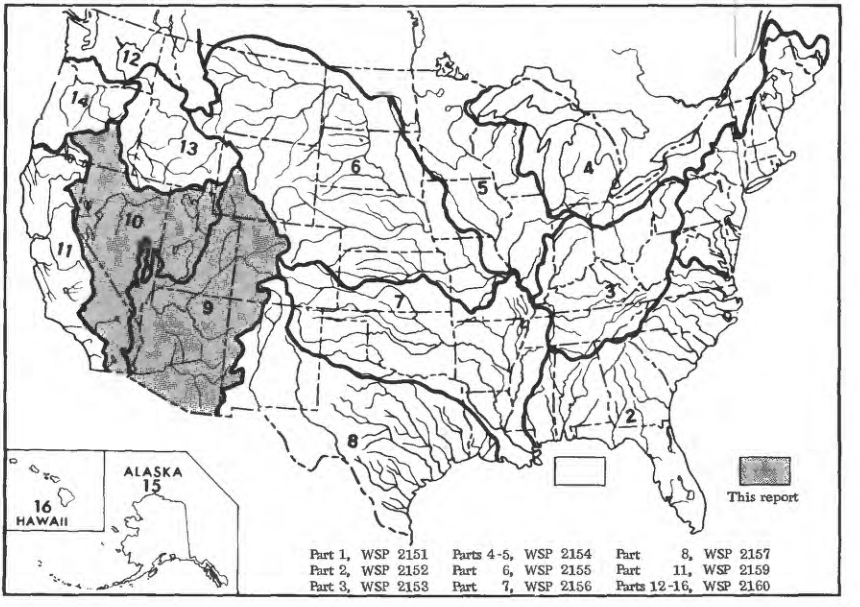

Figure 1.--Map of the United States showing basins covered by the 10 water-supply papers on quality of surface waters in 1970. The shaded part represents the section of the country covered by this volume; the unshaded part represents the section of the country covered by other water-supply papers.

Downstream order station numbers are not assigned to sites where only random water-quality samples are taken. These sites are classified as water-quality miscellaneous sites and as a means of location and identification a 15-digit number consisting of the latitude and longitude coordinates to the nearest second for each site plus a 2-digit sequential number are assigned. For example, the station number for a water-quality miscellaneous site with lat 42°28'47", long 071°41'04" would be 422847071410401.

Descriptive statements are given for each sampling station where chemical analyses, temperature measurements, or sediment determinations have been made. These statements include location of the station, drainage area, periods of records available, extremes of dissolved solids, hardness, specific conductance, temperature, sediment discharge, and other pertinent data. Records of discharge of the streams at or near the sampling station are included in most tables of analyses.

During the water year ending September 30, 1970, the Geological Survey maintained 154 stations on 88 streams for the study of chemical and physical characteristics of surface water. Samples were collected daily and monthly at 142 of these locations for chemical-quality studies. Samples also were collected less frequently at many other points. Water temperatures were measured continuously at 8 and daily at 45 stations. All surface water samples collected and analyzed during the

year have not been included. Single analyses made of daily samples before compositing have not been reported. Specific conductance is determined and reported for almost all daily samples.

For chemical-quality stations equipped with noncontinuous-digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained by writing the district office listed under Division of Work on page 22.

Quantities of suspended sediment are reported for 34 stations during the year ending September 30, 1970. Sediment samples were collected one or more times daily at most stations, depending on the rate of flow and changes in stage of the stream. Partical-size distributions of sediments were determined at 19 stations.

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

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

International Hydrological Decade (IHD) River Stations provide a general index of runoff and materials in the water balance (discharge of water, and dissolved and transported solids) of the world. In the United States, IHD Stations provide indices of runoff and the general distribution of water in the principal river basins of the conterminous United States and Alaska.

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

Pesticide program is a network of regularly sampled water-quality stations where additional monthly samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Pesticides are chemical compounds used to control the growth of undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Since the first application of DDT as an insecticide in the early 1930's, there have been almost 60,000 pesticide formulations registered, each containing at least one of the approximately 800 different basic pesticide compounds (Goerlitz and Brown, 1972, p. 24). The United States annually produces about 1 billion pounds of these compounds. Although efforts are being made to substitute many of the chlorinated hydrocarbon pesticides with more specific, fast-acting, and easily degradable compounds, chlorinated hydrocarbon pesticides are still commonly used in many areas of the country.

Radiochemical program is a network of regularly sampled water-quality stations where additional samples are collected twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Radioisotopes are isotope forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly exactly alike in chemical properties. The difference arises because the atoms of the

isotopic forms of an element differ in the number of neutrons in the nucleus. For example: Ordinary chlorine is a mixture of isotopes having atomic weights 35 and 37, with the natural mixture having atomic weight about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron (Rose, 1966). There are 275 isotopes of the 81 stable elements in addition to over 800 radioactive isotopes.

Radioisotopes that are determined in this program are those of uranium in micrograms per litre, radium as radium-226 in picocuries per litre, gross beta radiation as strontium/yttrium-90 in picocuries per litre, and gross alpha radiation as micrograms of uranium equivalent per litre.

A picocurie (PC/L, pCi/l) is one millionth of the amount of radioactivity represented by a microcurie, which is the quantity of radiation represented by one millionth of a gram of radium-226. A picocurie of radium results in 2.22 disintegration per minute.

COLLECTION AND EXAMINATION OF DATA

Quality of water stations usually are located at or near points on streams where streamflow is measured by the U.S. Geological Survey. The concentration of solutes and sediments at different locations in the stream-cross section may vary widely with different rates of water discharge depending on the source of the material and the turbulence and mixing of the stream. In general, the distribution of sediment in a stream section is much more variable than the distribution of solutes. It is necessary to sample some streams at several verticals across the channel and especially for sediment, to uniformly traverse the depth of flow. These measurements require special sampling equipment to adequately integrate the vertical and lateral variability of the concentration in the section. These procedures yield a velocity-weighted mean concentration for the section.

The near uniformly dispersed ions of the solute load move with the velocity of the transporting water. Accordingly, the mean section concentration of solutes determined from samples is a precise measure of the total solute load. The mean section concentration obtained from suspended sediment samples is a less precise measure of the total sediment discharge, because the sediment samplers do not traverse the bottom 0.3 foot of the sampling vertical where the concentration of suspended sediment is greatest and because a significant part of the coarser particles in many streams usually move in continuous contact with the bed and are not represented in the suspended sediment sample. Hence, the computed sediment discharges presented in this report are usually less than the total sediment discharges. For most streams the difference between the computed and total sediment discharges will be small, in the order of a few percent.

CHEMICAL QUALITY

The methods of collecting and compositing water samples for chemical analysis are described by Brown, Skougstad, and Fishman (1970). No single method of compositing samples is applicable to all problems related to the study of water quality. Composites are made on the basis of dissolved-solids content as indicated by measurements of conductivity of daily samples, supplemented by other information such as chloride content, river stage, weather conditions, and other background information of the stream.

TEMPERATURE

Daily water temperatures were measured at most of the stations at the time samples were collected for chemical quality or sediment content. So far as practicable, the water temperatures were taken at about the same time each day. Large streams have a small diurnal temperature change while small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

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

SEDIMENT

In general, suspended-sediment samples were collected daily with depth-integrating samplers (U.S. Inter-Agency, 1963). At some stations, samples were collected at a fixed sampling point at one vertical in the cross section. Depth-integrated samples were collected periodically at three or more verticals in the cross section to determine the cross-sectional distribution of the concentration of suspended sediment with respect to that at the daily sampling vertical. In streams where transverse distribution of sediment concentration ranged widely, samples were taken at two or more verticals to define more accurately the average concentration of the cross section. During periods of high or rapidly changing flow, samples generally were taken several times a day and, in some instances, hourly.

Sediment concentrations were determined by filtration-evaporation method. At many stations the daily mean concentration for some days was obtained by plotting the velocity-weighted instantaneous concentrations on the gage-height chart. The plotted concentrations, adjusted if necessary, for cross-sectional distribution were connected or averaged by continuous curves to obtain a concentration graph. This graph represented the estimated velocity-weighted concentration at any time, and for most periods daily mean concentrations were determined from the graph. The days were divided into shorter intervals when either the concentration or water discharge was changing rapidly. During some periods of minor variation in concentration, the average concentration of the samples was used as the daily mean concentration. During extended periods of relatively uniform concentration and flow, samples for a number of days were composited to obtain average concentrations and average daily sediment discharges for each period. (See Expression of Results, p. 7.)

For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment discharges for other periods of similar water discharge. The estimates were further guided by precipitation records and sediment discharge at other stations in the same or adjacent basins.

In many instances where there were no observations for several days, the suspended-sediment discharges for individual days were not estimated, because numerous factors influencing the quantities of transported sediment made it very difficult to make accurate estimates for individual days. However, estimated discharges of suspended sediment for missing days in an otherwise continuous period of sampling have been included in monthly and annual totals in order to provide a complete record. For some streams, samples were collected weekly, monthly, or less frequently, and only rates of sediment discharge at the time of sampling are shown.

In addition to the records of quantities of suspended sediment transported, records of particle sizes of sediment are included. The particle sizes of suspended sediment for many of the stations, and the particle sizes of the bed material for some of the stations were determined intermittently.

The size of particles carried in suspension by streams commonly ranges from colloids (finer than about 0.24 microns) to coarse sand (2.0 mm). The common methods of particle-size analysis cannot accommodate such a wide range. Hence, it was necessary to separate most samples into two parts, that part coarser than 0.062 mm and that part finer than 0.062 mm. The separations were made by sieve or by fall velocity technique. The coarse fractions were classified by sieve separation or by visual-accumulation tube (U.S. Inter-Agency, 1957). The fine fractions were classified by the pipet method (Kilmer and Alexander, 1949) or the bottom withdrawal tube method (U.S. Inter-Agency, 1943).

EXPRESSION OF RESULTS

The quantities of solute concentrations analyzed in the laboratory are measured in either milligrams per litre or micrograms per litre. Milligrams per litre (mg/l, MG/L) is a unit which represents the weight of solute per unit volume of water. A microgram per litre (µg/l, UG/L) is one thousandth of a milligram per litre.

Milliequivalents per litre are not reported but they can be converted easily from milligrams per litre data. A milliequivalent per litre (me/l) is one thousandth of a gram equivalent weight of a constituent. Chemical equivalence in milliequivalents per litre can be obtained by (a) dividing the concentration in milligrams per litre by the combining weight of that ion, or (b) by multiplying the concentration (in mg/l) by the reciprocals of the combining weights. Table 1 on page 6, lists the reciprocals of the combining atomic weights based on carbon-12 (International Union of Pure and Applied Chemistry, 1961).

The hardness of water is conventionally expressed in all water analyses in terms of an equivalent quantity of calcium carbonate. Such a procedure is required because hardness is caused by several different cations, present in variable proportions. It should be remembered that hardness is an expression in conventional terms of a property of water. The actual presence of calcium carbonate in the concentration given is not to be assumed. The hardness caused by calcium and magnesium (and other cations if significant) equivalent to the carbonate and bicarbonate is called carbonate hardness; the hardness in excess of this quantity is called noncarbonate hardness. Hardness or alkalinity values expressed in milligrams per litre as calcium carbonate may be converted to milliequivalents per litre by dividing by 50.

The value usually reported as dissolved solids is the residue on evaporation after drying at 180°C for 1 hour. For some waters, particularly those containing moderately large quantities of soluble salts, the value reported is calculated from the quantities of the various determined constituents using the carbonate equivalent of the reported bicarbonate. The calculated sum of the constituents may be given instead of or in addition to the residue. In the analyses of most waters used for irrigation, the quantity of dissolved solids is given in tons per acre-foot as well as in milligrams per litre.

Table 1.--Factors for conversion of chemical constituents in milligrams per litre to milliequivalents per litre

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*	0.11119	Iodide (I^{-1})	0.00788
Ammonia as NH^{+1}	.05544	Iron (Fe^{+3})*	.05372
Arsenic (As^{+3})*	.04004	Lead (Pb^{+2})*	.00965
Barium (Ba^{+2})	.01456	Lithium (Li^{+1})	.14411
Bicarbonate (HCO_3^{-1})	.01639	Magnesium (Mg^{+2})	.08226
Bromide (Br^{-1})	.01251	Manganese (Mn^{+2})*	.03640
Cadmium (Cd^{+2})*	.01779	Mercury (Hg^{+2})*	.00997
Calcium (Ca^{+2})	.04990	Nickel (Ni^{+2})*	.03406
Carbonate (CO_3^{-2})	.03333	Nitrate (NO_3^{-1})	.01613
Chloride (Cl^{-1})	.02821	Nitrite (NO_2^{-1})	.02174
Chromium (Cr^{+6})*	.11539	Phosphate (PO_4^{-3})	.03159
Cobalt (Co^{+2})*	.03394	Potassium (K^{+1})	.02557
Copper (Cu^{+2})*	.03148	Sodium (Na^{+1})	.04350
Cyanide (CN^{-1})	.03844	Strontium (Sr^{+2})*	.02283
Fluoride (F^{-1})	.05264	Sulfate (SO_4^{-2})	.02082
Hydrogen (H^{+1})	.99209	Sulfide (S^{-2})	.06238
Hydroxide (OH^{-1})	.05880	Zinc (Zn^{+2})*	.03060

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

Specific conductance is given for most analyses and was determined by means of a conductance bridge and using a standard potassium chloride solution as reference. Specific conductance values are expressed in micromhos per centimetre at 25°C. Specific conductance in micromhos is 1 million times the reciprocal of specific resistance at 25°C. Specific resistance is the resistance in ohms of a column of water 1 centimetre long and 1 square centimetre in cross section.

The discharge of the streams is reported in cubic feet per second (see Streamflow, p. 20) and the temperature in degrees Celsius (°C). Color is expressed in units of the platinum-cobalt scale proposed by Hazen (1892). A unit of color is produced by one milligram per litre of platinum in the form of the chloroplatinate ion. Hydrogen-ion concentration is expressed in terms of pH units. By definition the pH value of a solution is the negative logarithm of the concentration of gram ions of hydrogen.

An average of analyses for the water year is given for most daily sampling stations. Most of these averages are arithmetical, time-weighted, or discharge-weighted; when analyses during a year are all on 10-day composites of daily samples with no missing days, the arithmetical and time-weighted averages are equivalent. 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 river each day for the water year. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all of the water passing a given station during the year. A discharge-weighted average is computed by multiplying the discharge for the 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. For most streams, discharge-weighted averages are lower than arithmetical averages because at times of high discharge the rivers generally have low concentrations of dissolved solids.

A program for computing these averages by digital computer was instituted in the 1962 water year. This program extended computations to include averages for pH values expressed in terms of hydrogen ion and averages for the concentration of individual constituents expressed in tons per day. Concentrations in tons per day are computed the same as daily sediment discharges.

The concentration of sediment in milligrams per litre is computed as 1,000,000 times the ratio of the weight of sediment to the weight of water-sediment mixture. Daily sediment discharges are expressed in tons per day and except for subdivided days, are usually obtained by multiplying daily mean sediment concentrations in mg/l by the daily mean discharge in cubic feet per second, and the conversion factor, normally 0.0027.

For those days when the published sediment discharge value differs from the value computed, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method.

Particle-size analyses are expressed in percentages of material finer than classified sizes (in millimetres). The size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

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

The particle-size distributions given in this report are not necessarily representative of all 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 in distilled water. Chemical dispersion is not used for native-water analysis (Guy 1969).

Prior to the 1968 water year, data for chemical constituents and concentrations of suspended sediment were reported in parts per million (ppm) and water temperatures

were reported in degrees Fahrenheit (°F). In October 1967, the U.S. Geological Survey began reporting data for chemical constituents and concentrations of suspended sediment in milligrams per litre (mg/l) and water temperatures are given in degrees Celsius (°C). In waters with a density of 1.000 g/ml (grams per millilitre), milligrams per litre and parts per million can be considered equal. In waters with a density greater than 1.000 g/ml, values in milligrams per litre should be divided by the density to convert to parts per million. (See table 2 on page 9.) Temperature in degrees Celsius may be converted to degrees Fahrenheit by using table 3 on page 9.

COMPOSITION OF SURFACE WATERS

All natural waters contain dissolved mineral matter. The quantity of dissolved mineral matter in a natural water depends primarily on the type of rocks or soils with which the water has been in contact and the length of time of contact. Ground water is generally more highly mineralized than surface runoff because it remains in contact with the rocks and soils for much longer periods. Some streams are fed by both surface runoff and ground water from springs or seeps. Such streams reflect the chemical character of their concentrated underground sources during dry periods and are more dilute during periods of heavy rainfall. The dissolved-solids content in a river is frequently increased by drainage from mines or oil fields, by the addition of industrial or municipal wastes, or--in irrigated regions--by drainage from irrigated lands.

The mineral constituents and physical properties of natural waters reported in the tables of analyses include those that have a practical bearing on water use. The results of analyses generally include silica, iron, calcium, magnesium, sodium, potassium (or sodium and potassium together calculated as sodium), carbonate, bicarbonate, sulfate, chloride, fluoride, nitrate, boron, pH, dissolved solids, and specific conductance. Aluminum, manganese, color, acidity, dissolved oxygen, and other dissolved constituents and physical properties are reported for certain streams. Microbiologic (coliforms) and organic components (pesticides, total organic carbon) and minor elements (arsenic, cobalt, cadmium, copper, lead, mercury, nickel, strontium, zinc, etc.) are determined occasionally for some streams in connection with specific problems and the results are reported. The source and significance of the different constituents and properties of natural waters are discussed in the following paragraphs. The constituents are arranged in the order that they appear in the tables.

MINERAL CONSTITUENTS IN SOLUTION

Silica (SiO_2)

Silica is dissolved from practically all rocks. Some natural surface waters contain less than 5 milligrams per litre of silica and few contain more than 50 mg/l, but the more common range is from 10 to 30 mg/l. Silica affects the usefulness of a water because it contributes to the formation of boiler scale; it usually is removed from feed water for high-pressure boilers. Silica also forms troublesome deposits on the blades of steam turbines. However, it is not physiologically significant to humans, livestock, or fish, nor is it of importance in irrigation water.

Aluminum (Al)

Aluminum is usually present only in negligible quantities in natural waters except in areas where the waters have been in contact with the more soluble rocks of high aluminum content such as bauxite and certain shales. Acid waters often contain large amounts of aluminum. It may be troublesome in feed waters where it tends to be deposited as a scale on boiler tubes.

Iron (Fe)

Iron is dissolved from many rocks and soils. On exposure to air, normal basic waters that contain more than 1 mg/l of iron soon become turbid with the insoluble reddish

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

Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

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

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

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0 0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

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

ferric compounds produced by oxidation. Surface waters, therefore, seldom contain as much as 1 mg/l of dissolved iron, although some acid waters carry large quantities of iron in solution. Iron causes reddish-brown stains on porcelain or enameled ware and fixtures and on fabrics washed in the water. The highest desirable level of concentrations of iron in culinary and drinking-water is 0.1 mg/l (100 µg/l) with a maximum permissible level of 1.0 mg/l (1,000 µg/l). (International Standards for Drinking-Water (ISD-W), 1971).

Manganese (Mn)

Manganese is dissolved in appreciable quantities from rocks in some sections of the country. It resembles iron in its chemical behavior and in its occurrence in natural waters. However, manganese in rocks is less abundant than iron. As a result the concentration of manganese is much less than that of iron and is not regularly determined in many areas. It is especially objectionable in water used in laundry work and in textile processing. Concentrations as low as 0.2 mg/l (200 µg/l) may cause a dark-brown or black stain on fabrics and porcelain fixtures. Appreciable quantities of manganese are often found in waters containing objectionable quantities of iron.

Calcium (Ca)

Calcium is dissolved from almost all rocks and soils, but the highest concentrations are usually found in waters that have been in contact with limestone, dolomite, and gypsum. Calcium and magnesium make water hard and are largely responsible for the formation of boiler scale. Most waters associated with granite or silicious sands contain less than 10 mg/l of calcium; waters in areas where rocks are composed of dolomite and limestone contain from 30 to 100 mg/l; and waters that have come in contact with deposits of gypsum may contain several hundred mg/l.

Magnesium (Mg)

Magnesium is dissolved from many rocks, particularly from dolomitic rocks. Its effect in water is similar to that of calcium. The magnesium in soft waters may amount to only 1 or 2 mg/l, but water in areas that contain large quantities of dolomite or other magnesium-bearing rocks may contain from 20 to 100 mg/l or more of magnesium.

Sodium and potassium (Na and K)

Sodium and potassium are dissolved from practically all rocks. Sodium is the predominant cation in some of the more highly mineralized waters found in the western United States. Natural waters that contain only 3 or 4 mg/l of the two together are likely to carry almost as much potassium as sodium. As the total quantity of these constituents increases, the proportion of sodium becomes much greater. Moderate quantities of sodium and potassium have little effect on the usefulness of the water for most purposes, but waters that carry more than 50 to 100 mg/l of the two may require careful operation of steam boilers to prevent foaming. More highly mineralized waters that contain a large proportion of sodium salts may be unsatisfactory for irrigation.

Bicarbonate, carbonate and hydroxide (HCO_3,CO_3, OH)

Bicarbonate, carbonate, or hydroxide is sometimes reported as alkalinity. The alkalinity of a water is produced by anions or molecular species of weak acids which are not fully dissociated above a pH of 4.5. Since the major causes of alkalinity in most natural waters are carbonate and bicarbonate ions dissolved from carbonate rocks, the results are usually reported in terms of these constituents. Although alkalinity may suggest the presence of definite amounts of carbonate, bicarbonate or hydroxide, there are other ions that contribute to alkalinity such as silicates, phosphates, borates, possibly fluoride, and certain organic anions which may occur in colored waters. The significance of alkalinity to the domestic, agricultural, and industrial user is usually dependent upon the nature of the cations (Ca, Mg, Na, K) associated with it. Alkalinity in moderate amounts does not adversely affect most users.

Hydroxide may occur in water that has been softened by the lime process. Its presence in streams usually can be taken as an indication of contamination and does not represent the natural chemical character of the water.

Sulfide (S)

Sulfide occurs in water as a result of bacterial and chemical processes. It usually is present as hydrogen sulfide. Variable amounts may be found in waters receiving sewage and (or) industrial wastes, such as from tanneries, papermills, chemical plants, and gas manufacturing work (California State Water Quality Control Board, 1963).

Waters containing sulfides, especially hydrogen sulfide, may be considered undesirable because of their odor. The toxicity to aquatic organisms differs significantly with the species and the nature of associated ions.

Sulfate (SO_4)

Sulfate is dissolved from most sedimentary rocks. Large quantities may be derived from beds of gypsum, sodium sulfate deposits, and some types of shale. Organic material containing sulfur adds sulfate to the water as a phase of the sulfur cycle. In natural waters, concentrations range from a few mg/l to several thousand mg/l.

ISD-W (1971) recommends 200 mg/l as the highest desirable level of sulfate concentration in drinking and culinary water.

Sulfates are less toxic to crops than chlorides.

Chloride (Cl)

Chloride is dissolved from rock materials in all parts of the country. Surface waters in the humid regions are usually low in chloride, whereas streams in arid or semiarid regions may contain several hundred mg/l of chloride leached from soils and rocks, especially where the streams receive return drainage from irrigated lands or are affected by ground-water inflow carrying appreciable quantities of chloride. Large quantities of chloride in water that contains a high content of calcium and magnesium increases the water's corrosiveness. The presence of abnormal concentrations of chloride and nitrogenous material together in water supplies indicates possible pollution by human or animal wastes.

Fluoride (F)

Fluoride has been reported as being present in some rocks to about the same extent as chloride. However, the quantity of fluoride in natural surface waters is ordinarily very small compared to that of chloride. Investigations have proved that fluoride concentrations of about 0.6 to 1.7 mg/l reduced the incidence of dental caries and that concentrations greater than 1.7 mg/l also protect the teeth from cavities but cause an undesirable black stain (Durfor and Becker, 1964, p. 20). Public Health Service, 1962, states, "When fluoride is naturally present in drinking water, the concentration should not average more than the appropriate upper control limit (0.6 to 1.7 mg/l). Presence of fluoride in average concentration greater than two times the optimum values shall constitute grounds for rejection of the supply." Concentration higher than the stated limits may cause mottled enamel in teeth, endemic cumulative fluorosis, and skeletal effects.

Bromide (Br)

Bromine is a very minor element in the earth's crust and is normally present in surface waters in only minute quantities. Measurable amounts may be found in some streams that receive industrial wastes, and some natural brines may contain rather high concentrations. It resembles chloride in that it tends to be concentrated in sea water.

Iodide (I)

Iodide is considerably less abundant both in rocks and water than bromine. Measurable amounts may be found in some streams that receive industrial wastes, and some natural brines may contain rather high concentrations. It occurs in sea water to the extent of less than 1 mg/l. Rankama and Sahama (1950) report iodide present in rainwater to the extent of 0.001 to 0.003 mg/l and in river water in about the same amount. Few waters will contain over 2.0 mg/l.

Nitrogen, organic (N)

Organic nitrogen includes all nitrogenous organic compounds, such as amino acid, polypeptides, and proteins. It is present naturally in all surface waters as the result of inflow of nitrogenous products from the watershed and the normal biological life of the stream.

Organic nitrogen is not pathologically significant but is sometimes an indication of pollution.

Nitrogen, ammonia (NH_4, as N)

Ammonia nitrogen includes nitrogen in the forms of NH_3 and NH_4^{+1}. As a component of the nitrogen cycle, it is often present in water, but usually in only small amounts. More than 0.1 mg/l usually indicates organic pollution (Rudolph, 1931).

There is no evidence that ammonia nitrogen in water is physiologically significant to man or livestock. Fish, however, cannot tolerate large quantities.

Nitrite (NO_2)

Nitrite is unstable in the presence of oxygen and is, therefore, either absent or present in only minute quantities in most natural waters under aerobic condition. The presence of nitrite in water is sometimes an indication of organic pollution.

Recommended tolerances of nitrite in domestic water supplies differ widely. A generally accepted limit is 2 mg/l, but as little as 0.1 mg/l has been proposed (California State Water Quality Control Board, 1963).

Nitrate (NO_3)

Nitrate in water is considered a final oxidation product of nitrogenous material and may indicate contamination by sewage or other organic matter, such as agricultural runoff, or industrial waste. The quantities of nitrate present in surface waters are generally less than 5 mg/l (as NO_3) and have no effect on the value of the water for ordinary uses.

It has been reported that as much as 2 mg/l of nitrate in boiler water tends to decrease intercrystalline cracking of boiler steel. Studies made by Faucett and Miller (1946), Waring (1949) and by the National Research Council (Maxcy, 1950) concluded that drinking water containing nitrates in excess of 44 mg/l (as NO_3) should be regarded as unsafe for infant feeding. ISD-W (1971) sets 45 mg/l as the upper limit.

Phosphorus (P)

Phosphorus is an essential element in the growth of plants and animals. It occurs in water as organically bound phosphorus or as phosphate (PO_4). Some sources that contribute nitrate, such as organic wastes are also important sources of phosphorus. The addition of phosphates in water treatment constitutes a possible source although the dosage is usually small. In some areas phosphate fertilizers may yield some phosphorus to water. Another important source is the use of phosphates in detergents. Domestic and industrial sewage effluents often contain considerable amounts of phosphorus. Concentrations of phosphorus found in water are not reported to be toxic to man, animal, or fish. However, the element can stimulate the growth of algae, which may cause taste and odor problems in public water treatment and esthetic problems in recreation areas.

Boron (B)

Boron in small quantities has been found essential for plant growth, but irrigation water containing more than 1 mg/l boron is detrimental to citrus and other boron-sensitive crops. Boron is reported in Survey analyses of surface waters in arid and semiarid regions of the Southwest and West where irrigation is practiced or contemplated, but few of the surface waters analyzed have harmful concentrations of boron.

Dissolved solids

The reported quantity of dissolved solids--the residue on evaporation--consists mainly of the dissolved mineral constituents in the water. It may also contain some

organic matter and water of crystallization. Waters with less than 500 mg/l of dissolved solids are usually satisfactory for domestic and some industrial uses. Water containing several thousand mg/l of dissolved solids are sometimes successfully used for irrigation where practices permit the removal of soluble salts through the application of large volumes of water on well-drained lands, but generally water containing more than about 2,000 mg/l is considered to be unsuitable for long-term irrigation under average conditions.

Arsenic (As)

Arsenic compounds are present naturally in some waters, but the occurrence of quantities detrimental to health is rare. Weed killers, insecticides and many industrial effluents contain arsenic and are potential sources of water pollution. The upper limits of arsenic concentration in drinking-water should not exceed 0.05 mg/l (50 µg/l) and it would seem wiser to keep the level as low as possible (ISD-W, 1971). Concentrations of 2-4 mg of arsenic per litre are reported not to interfere with the self-purification of streams (Rudolfs and others, 1944) but concentrations in excess of 15 mg/l may be harmful to some fish.

Barium (Ba)

Barium may replace potassium in some of the igneous rock minerals, especially feldspar, and barium sulfate (barite) is a common barium mineral of secondary origin. Only traces of barium are present in surface water and sea water. Because natural water contains sulfate, barium will dissolve only in trace amounts. Barium sometimes occurs in brines from oil-well wastes.

Barium concentrations in excess of 1.0 mg/l is not suitable for drinking and culinary use because of the serious toxic effects of barium on heart, blood vessels, and nerves.

Cadmium (Cd)

This element is found in nature largely in the form of the sulfide, and as an impurity in zinc-lead ores. The carbonate and hydroxide are not very soluble in water and will precipitate at high pH values; the chloride, nitrate, and sulfate are soluble and remain in solution under most pH conditions.

The extensive use of the element and its salts in metallurgy, electroplating, ceramics, and photography makes it a frequent component of industrial wastes.

The results of animal studies suggest that very small amounts of cadmium can produce nephrotoxic and cardiovascular effects. The reproductive organs of animals are specifically affected after parenteral administration of very small amounts of cadmium salts. The level of cadmium concentration proposed for water use is 0.01 mg/l (10 µg/l) or the lowest concentration that can be conveniently measured (ISD-W, 1971).

Chromium (Cr)

Few if any waters contain chromium from natural sources. Natural waters can probably contain only traces of chromium as a cation unless the pH is very low. When chromium is present in water, it is usually the result of pollution by industrial wastes. Concentrations of more than 0.05 mg/l of chromium in the hexavalent form constitute grounds for rejection of a water for domestic use on the basis of the standards of the U.S. Public Health Service (1962).

Cobalt (Co)

Cobalt occurs in nature in the minerals smaltite, $(Co,Ni)As_2$, and cobaltite, CoAsS. Alluvial deposits and soils derived from shales often contain cobalt in the form of phosphate or sulfate, but other soil types may be markedly deficient in cobalt in any form (Bear, 1955). Ruminant animals may be adversely affected by grazing on land deficient in cobalt.

For domestic water supplies, no maximum safe concentration has been established.

Copper (Cu)

Copper is a fairly common trace constituent of natural water. Small amounts may be introduced into water by solution of copper and brass water pipes and other copper-bearing equipment in contact with the water, or from copper salts added to control algae in open reservoirs. Copper salts such as the sulfate and chloride are highly soluble in waters with a low pH but in water of normal alkalinity the salts hydrolyze and the copper may be precipitated. In the normal pH range of natural water containing carbon dioxide, the copper might be precipitated as carbonate. The oxidized portions of sulfide-copper ore bodies contain other copper compounds. The presence of copper in mine water is common.

Copper imparts a disagreeable metallic taste to water. As little as 1.5 mg/l can usually be detected, and 5 mg/l can render the water unpalatable. Copper is not considered to be a cumulative systemic poison like lead and mercury; most copper ingested is excreted by the body and very little is retained. The pathological effects of copper are controversial, but it is generally believed very unlikely that humans could unknowingly ingest toxic quantities from palatable drinking water. The U.S. Public Health Service (1962) recommends that copper should not exceed 1.0 mg/l (1,000 µg/l) in drinking and culinary water. ISD-W, 1971 gives 0.05 mg/l (50 µg/l) as the highest desirable level.

Lead (Pb)

Lead seldom occurs in most natural waters, but industrial mine and smelter effluents may contain relatively large amounts of lead which contaminates the streams. Also, atmospheric contamination which is produced from several types of engine exhausts has considerably increased the availability of this element for solution in rainfall, resulting in contamination of lead in streams (Hem, 1970).

Lead in the form of sulfate is reported to be soluble in water to the extent of 31 mg/l (Seidell, 1940) at 25°C. In natural water this concentration would not be approached, however, since a pH of less than 4.5 would probably be required to prevent formation of lead hydroxide and carbonate. It is reported (Pleissner, 1907) that at 18°C water free of carbon dioxide will dissolve the equivalent of 1.4 mg/l of lead and the solubility is increased nearly four fold by the presence of 2.8 mg/l of carbon dioxide in the solution. Presence of other ions may increase the solubility of lead. Reports on human tolerance of lead vary widely. U.S. Public Health Service (1962) states that lead shall not exceed 0.05 mg/l (50 µg/l) in drinking and culinary water on carriers subject to Federal quarantine regulations. ISD-W, 1971 gives 0.10 mg/l (100 µg/l) as the upper limit.

Lithium (Li)

Lithium is present in some minerals but is not abundant in nature. From available information, most fresh waters rarely contain lithium of concentrations exceeding 10 mg/l, but larger quantities may be present in brines and thermal waters. Lithium is used in metallurgy, medicinal water, and some types of glass and storage batteries. Waste from such industries may contain lithium.

Mercury (Hg)

Mercury is the only common metal which is liquid at ordinary temperatures. It occurs free in nature but its chief source is cinnabar (HgS). Mercury compounds are virulent culminative poisons which are readily absorbed through the respiratory and gastrointestinal tracts or through unbroken skin (Weast and Selby, 1967).

The main source of high concentrations of dissolved mercury in water, in the form of highly toxic methyl mercury, $Hg(CH_3)_2$, comes from waste discharges from industrial users of mercury and from mercurial pesticides.

Fish from streams and lakes subject to mercury contamination have been found to contain amounts of mercury above the safe limits for food consumption. The U.S. Public Health Service has proposed that the upper limit of dissolved mercury in water for domestic use should not exceed 5 micrograms per litre (0.005 mg/l). ISD-W, 1971 recommends 0.001 mg/l (1 µg/l) as the upper limit of concentration.

Nickel (Ni)

Elemental nickel seldom occurs in nature, but its compounds are found in many ores and minerals. Many nickel salts are quite soluble and may contribute to water pollution, especially when discharged from metal-plating industries.

No set limit of nickel concentration has been established for public water supply.

Strontium (Sr)

Strontium is a typical alkaline-earth element and is similar chemically to calcium. Strontium may be present in natural water in amounts up to a few mg/l much more frequently than the available data indicate. In most surface water the amount of strontium is small in proportion to calcium. However, in sea water the ratio of strontium to calcium is 1:30.

Zinc (Zn)

Zinc is abundant in rocks and ores but is only a minor constituent in natural water because the free metal and its oxides are only sparingly soluble. In most alkaline surface waters it is present only in trace quantities, but more may be present in acid water. Chlorides and sulfates of zinc are highly soluble. Zinc is used in many commercial products, and industrial wastes may contain large amounts.

Zinc in water does not cause serious effects on health, but produces undesirable esthetic effects. ISD-W, 1971 gives 5 mg/l (5,000 µg/l) of zinc content as the highest desirable level for drinking water and 15 mg/l as the maximum permissible level.

PROPERTIES AND CHARACTERISTICS OF WATER

Dissolved solids

Theoretically, dissolved solids are anhydrous residues of the dissolved substances in water.

All solutes affect the chemical and physical properties of the water and result in an osmotic pressure. Water with several thousand mg/l of dissolved solids is generally not palatable, although those accustomed to highly mineralized water may complain that less concentrated water tastes flat. The U.S. Public Health Service (1962) recommends that the maximum concentration of dissolved solids not exceed 500 mg/l in drinking and culinary water on carriers subject to Federal quarantine regulations, but permits 1,000 mg/l if no better water is available. ISD-W (1971) recommends 500 mg/l as the highest desirable level and 1,500 mg/l as the maximum permissible level. Reported livestock tolerances range from 3,000 mg/l (Colorado Agricultural Experiment Station, 1943) to 15,000 mg/l (Heller, 1933).

Industrial tolerances for dissolved solids differ widely, but few industrial processes will permit more than 1,000 mg/l. The Geological Survey classifies the degree of salinity of these more mineralized bodies of water as follows (Swenson and Baldwin, 1965):

Dissolved solids (mg/l)	Degree of salinity
Less than 1,000	Nonsaline.
1,000 to 3,000	Slightly saline.
3,000 to 10,000.	Moderately saline.
10,000 to 35,000	Very saline.

Hardness

Hardness is the characteristic of water that receives the most attention in industrial and domestic use. It is commonly recognized by the increased quantity of soap required to produce lather. The use of hard water is also objectionable because it contributes to the formation of scale in boilers, water heaters, radiators, and pipes, with the resultant decrease in rate of heat transfer, possibility of boiler failure, and loss of flow.

Hardness is caused almost entirely by compounds of calcium and magnesium. Other constituents--such as iron, manganese, aluminum, barium, strontium, and free acid--also cause hardness, although they usually are not present in quantities large enough to have any appreciable effect.

Generally, bicarbonate and carbonate determine the proportions of "carbonate" hardness of water. Carbonate hardness is the amount of hardness chemically equivalent to the amount of bicarbonate and carbonate in solution. Carbonate hardness is approximately equal to the amount of hardness that is removed from water by boiling.

Noncarbonate hardness is the difference between the hardness calculated from the total amount of calcium and magnesium in solution and the carbonate hardness. The scale formed at high temperatures by the evaporation of water containing noncarbonate hardness commonly is tough, heat resistant, and difficult to remove.

Although many people talk about soft water and hard water, there has been no firm line of demarcation. Water that seems hard to an easterner may seem soft to a westerner. In this report hardness of water is classified as follows:

Hardness range (calcium carbonate in mg/l)	Hardness description
0-60	Soft
61-120	Moderately hard
121-180	Hard
More than 180	Very hard

Durfor and Becker, 1964, p. 23-27.

Acidity (H^{+1})

The use of the terms acidity and alkalinity is widespread in the literature of water analysis and is a cause of confusion to those who are more accustomed to seeing a pH of 7.0 used as a neutral point. Acidity of a natural water represents the content of free carbon dioxide and other uncombined gases, organic acids and salts of strong acids and weak bases that hydrolyze to give hydrogen ions. Sulfates of iron and aluminum in mine and industrial wastes are common sources of acidity.

Sodium-adsorption-ratio (SAR)

The term "sodium-adsorption-ratio (SAR)" was introduced by the U.S. Salinity Laboratory Staff (1954). It is a ratio expressing the relative activity of sodium ions in exchange reaction with soil and is an index of the sodium or alkali hazard to the soil. Sodium-adsorption-ratio is expressed by the equation:

$$SAR = \frac{Na^{+}}{\sqrt{\frac{Ca^{++}+Mg^{++}}{2}}}$$

where the concentrations of the ions are expressed in milliequivalents per litre.

Waters are divided into four classes with respect to sodium or alkali hazard: low, medium, high, and very high, depending upon the SAR and the specific conductance. At a conductance of 100 micromhos per centimetre the dividing points are at SAR values of 10, 18, and 26, but at 5,000 micromhos the corresponding dividing points are SAR values of approximately 2.5, 6.5, and 11. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Specific conductance (micromhos per centimetre at 25°C)

Specific conductance is a convenient, rapid determination used to estimate the amount of dissolved solids in water. It is a measure of the ability of water to transmit a small electrical current (see p. 7). The more dissolved solids in water that can transmit electricity the greater the specific conductance of the water. Commonly,

the amount of dissolved solids (in mg/l) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well and it may even vary in the same source with changes in the composition of the water (Durfor and Becker, 1964 p. 27-29).

Specific conductance of most waters in the eastern United States is less than 1,000 micromhos, but in the arid western parts of the country, a specific conductance of more than 1,000 micromhos is common.

Hydrogen-ion concentration (pH)

Hydrogen-ion concentration is expressed in terms of pH units (see p. 7). The values of pH often are used as a measure of the solvent power of water or as an indicator of the chemical behavior certain solutions may have toward rock minerals.

The degree of acidity or alkalinity of water, as indicated by the hydrogen-ion concentration, expressed as pH, is related to the corrosive properties of water and is useful in determining the proper treatment for coagulation that may be necessary at water-treatment plants. A pH of 7.0 indicates that the water is neither acid nor alkaline. pH readings progressively lower than 7.0 denote increasing acidity and those progressively higher than 7.0 denote increasing alkalinity. The pH of most natural surface waters ranges between 6 and 8. Some alkaline surface waters have pH values greater than 8.0 and waters containing free mineral acid or organic matter usually have pH values less than 4.5.

The investigator who utilizes pH data in his interpretations of water analyses should be careful to place pH values in their proper perspective.

Temperature

Temperature is an important factor in properly determining the quality of water. This is very evident for such a direct use as an industrial coolant. Temperature is also important, but perhaps not so evident, for its indirect influence upon aquatic biota, concentrations of dissolved gases, and distribution of chemical solutes in lakes and reservoirs as a consequence of thermal stratification and variation.

Surface water temperatures tend to change seasonally and daily with air temperatures, except for the outflow of large springs. Superimposed upon the annual temperature cycle is a daily fluctuation of temperature which is greater in warm seasons than in cold and greater in sunny periods than with a cloud cover. Natural warming is due mainly to absorption of a solar radiation by the water and secondarily to transfer of heat from the air. Condensation of water vapor at the water surface is reported to furnish measurable quantities of heat. Heat loss takes place largely through radiation, with further losses through evaporation and conduction to the air and to the streambed. Thus the temperature of a small stream generally reaches a maximum in mid- to late afternoon due to solar heating and reaches a minimum from early to mid-morning after nocturnal radiation.

Color

In water analysis the term "color" refers to the appearance of water that is free from suspended solids. Many turbid waters that appear yellow, red, or brown when viewed in the stream show very little color after the suspended matter has been removed. The yellow-to-brown color of some waters is usually caused by organic matter extracted from leaves, roots, and other organic substances in the ground. In some areas objectionable color in water results from industrial wastes and sewage. Clear deep water may appear blue as the result of a scattering of sunlight by the water molecules. Water for domestic use and some industrial uses should be free from any perceptible color. A color less than 15 units generally passes unnoticed (U.S. Public Health Service, 1962). Some swamp waters have natural color in excess of 300 units.

The extent to which a water is colored by material in solution is commonly reported as a part of a water analysis because a significant color in water may indicate the presence of organic material that may have some bearing on the dissolved solids content. Color in water is expressed in terms of units between 0 and 500 or more based on the above standard (see p. 7).

Turbidity

Turbidity is the optical property of a suspension with reference to the extent to which the penetration of light is inhibited by the presence of insoluble material. Turbidity is a function of both the concentration and particle size of the suspended material. It is reported in terms of mg/l of silica or Jackson turbidity units (JTU).

Turbid water is abrasive in pipes, pumps, and turbine blades. Although turbidity does not directly measure the safety of drinking water, it is related to the consumer's acceptance of the water. The highest desirable level of turbidity for drinking water is 5 JTU with a maximum permissible level of 25 JTU (ISD-W, 1971).

Density at 20°C

Density is the mass of any substance per unit volume at a designated standard temperature. Density should not be confused with specific gravity, which is a mass-to-mass relation.

The density value has some use in industries that utilize brines and whose basic unit of concentration of dissolved material is density. Density is used primarily by the chemist in the computation of milligrams per litre for highly mineralized waters.

Dissolved oxygen (DO)

Oxygen dissolved in water is derived from the air and from the oxygen given off in the process of photosynthesis by aquatic plants.

Dissolved oxygen in water has no adverse physiological effect and actually increases the palatability of the water. No minimum concentration of dissolved oxygen required to support fish life has been listed because the oxygen requirements of fish vary with the species and age, with temperature, and with concentration of other substances in the water.

Dissolved oxygen is responsible for many of the corrosion problems in industry.

Chemical oxygen demand (COD)

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

Biochemical oxygen demand (BOD)

Biochemical oxygen demand is a measure of the oxygen required to oxidize the organic material usable as a source of food by aerobic organisms.

Biological and microbiological information

Biological and microbiological information is an important aspect in the evaluation of water quality. The kinds and amount of aquatic biota in a stream or lake can be useful "indicators" of environmental conditions and particularly of the degree of pollution of water with organic wastes (Doudoroff and Warren, 1957). Biological information includes qualitative and quantitative analyses of plankton, bottom organisms, and particulate inorganic and amorphous matter present. Microbiological information includes quantitative identification of certain bacteriological indicator organisms.

Chlorophyll (plant pigment).--The concentrations of photosynthetic pigments in natural waters vary with time and changing aquatic conditions. Concentrations of chlorophyll a, b, and c (spectrophotometric determination) are used to estimate the biomass and photosynthetic capacity of phytoplankton (blue-green algae). Ratios between the different forms of chlorophyll are thought to indicate the taxonomic composition or the physiological state of the algae community (Slack, 1970).

Plankton.--Plankton is the floating (or weakly swimming) animal or plant life in a body of water consisting, chiefly of minute plants (as diatomes and blue-green algae) and of minute animals (as protozoan, entomostracans and various larvae). Algae are known to cause tastes and odor in water supply.

Plankton population in water is obtained by count level (the number of organisms per millilitre).

Coliform bacteria.--Coliform organisms have long been used as indicators of sewage pollution, although the group includes bacteria from diverse natural sources and habitats. For example, members of the coliform group are indigenous to soil and vegetation as well as feces. Standards for drinking-water quality provide definite minimums as to number of samples examined and the maximum number of coliform organisms allowable per 100 millilitres (ml) of finished water (Slack, 1970). The coliform population of water is determined either by the most probable number (MPN), or by the incubation membrane filter method, a direct count of coliform colonies per plate.

Fecal coliform bacteria.--Fecal coliform is that portion of the coliform group that is present in the intestinal tract of warm-blooded animals and is capable of producing gas from lactos in suitable culture medium at 44.5°C. Organisms from other sources generally cannot produce gas in this manner. (American Public Health Assoc. and others, 1965). Thus, in general, the presence of fecal coliform organisms indicates recent pollution (Slack, 1970).

Organics

Phenols.--Phenolic material in water resources is invariably the result of pollution. Phenols are widely used as disinfectants and in the synthesis of many organic compounds. Waste products from oil refineries, coke areas, and chemical plants may contain high concentrations. Fortunately, phenols decompose in the presence of oxygen and microorganisms, and their persistence downstream from point of entry is relatively short lived. The rate of decomposition is dependent on the environment.

Very low concentrations impart such a disagreeable taste to water that it is highly improbable that harmful amounts could be consumed unknowingly. Reported thresholds of detection of taste and odor range from 0.001 to 0.01 mg/l.

Cyanide (CN).--Cyanides are not found free in nature, but may become contaminants of water supplies by means of effluents from gasworks, coke ovens, steel mills, electroplating processes, and chemical industries. In natural streams and organic soils, simple cyanides are decomposed by bacterial action, whereas the metal-cyanide complexes are often quite stable and more resistant to degradation. The U.S. Public Health Service (1962) set a recommended limit of 0.01 mg cyanide per litre and a mandatory limit of 0.2 mg/l for waters subject to interstate regulations. ISD-W (1971) sets the upper limit for drinking water as 0.05 mg/l.

Detergents (methylene blue active substance, MBAS).--Anionic surfactants in detergents resist chemical oxidation and biological breakdown. Soap is an example of this class and the synthetic members are sodium salts of organic sulfonates or sulfates (Rose, 1966). Their persistence in water over long periods of time contributes to pollution of both ground water and surface water. Some of the effects produced from detergent pollution are unpleasant taste, odor, and foaming (Wayman, and others, 1962). Although the physiological implications of MBAS to human beings is unknown, prolonged ingestion of this material by rats is believed to be nontoxic (Paynter, 1960). The U.S. Public Health Service (1962) recommends that MBAS should not exceed 0.5 mg/l in drinking and culinary waters. ISD-W (1971) sets 0.2 mg/l as the highest desirable level and 1.0 mg/l as the maximum permissible level.

Total organic carbon (TOC).--Total organic carbon is a measure of the organically related carbonaceous content of water. It includes all natural and manmade organic compounds which are combustible at a temperature of 950°C.

Sediment

Fluvial sediment generally is regarded as that material which is transported by, suspended in, or deposited by water. Suspended sediment is that part which remains in suspension in water owing to the upward components of turbulent currents or by colloidal suspension. Much fluvial sediment results from the natural process of erosion,

which in turn is part of the geologic cycle of rock transformation. This natural process may be accelerated by agricultural practices. Sediment also is contributed by a number of industrial and construction activities. In certain sections, waste materials from mining, logging, oil-field, and other industrial operations introduce large quantities of suspended material.

The quantity of sediment, transported or available for transportation, is affected by climatic conditions, form or nature of precipitation, character of the solid mantle, plant cover, topography, and land use. The mode and rate of sediment erosion, transport, and deposition is determined largely by the size distribution of the particles or more precisely by the fall velocities of the particles in water. Sediment particles in the sand size range (larger than 0.062 mm) do not appear to be affected by flocculation or dispersion resulting from the mineral constituents in solution. In contrast, the sedimentation diameter of clay and silt particles in suspension may vary considerably from point to point in a stream or reservoir, depending on the mineral matter in solution and in suspension and the degree of turbulence present. The size of sediment particles in transport at any point depends on the type of erodible and soluble material in the drainage area, the degree of flocculation present, time in transport, and characteristics of the transporting flow. The flow characteristics include velocity of water, turbulence, and the depth, width, and roughness of the channel. As a result of these variable characteristics, the size of particles transported, as well as the total sediment load, is in constant adjustment with the characteristics and physical features of the stream and drainage area.

STREAMFLOW

Most of the records of stream discharge, used in conjunction with the chemical analyses and in the computation of sediment loads in this volume, are published in the Geological Survey water-supply paper series, "Surface Water Supply of the United States, 1966-70." The discharge reported for a composite sample is usually the average of daily mean discharges for the composite period. The discharges reported in the tables of single analyses are either daily mean discharges or discharges obtained at the time samples were collected and computed from a stage-discharge relation or from a discharge measurement.

PUBLICATIONS

Reports giving records of chemical quality and temperatures of surface waters and suspended-sediment discharges of streams in the area covered by this volume for the water years 1941-70, are listed below:

Numbers of water-supply papers containing records for Parts 9-10, 1941-70

Year	WSP	Year	WSP	Year	WSP	Year	WSP
1941	942	1949	1163	1957	1523	1965	1965
1942	950	1950	1189	1958	1574	1966	1995
1943	970	1951	1200	1959	1645	1967	2015
1944	1022	1952	1253	1960	1745	1968	2098
1945	1030	1953	1293	1961	1885	1969	2148
1946	1050	1954	1353	1962	1945	1970	2158
1947	1102	1955	1403	1963	1951		
1948	1133	1956	1453	1964	1958		

Geological Survey reports containing chemical quality, temperature, and sediment data obtained before 1941 are as follows. Publications dealing largely with the quality of ground-water supplies and only incidentally covering the chemical composition of surface waters are not included. Publications that are out of print are preceded by an asterisk.

PROFESSIONAL PAPER

*135. Composition of river and lake waters of the United States, 1924.

BULLETINS

*479. The geochemical interpretation of water analyses, 1911.
770. The data of geochemistry, 1924.

WATER-SUPPLY PAPERS

*108. Quality of water in the Susquehanna River drainage basin, with an introductory chapter on physiographic features, 1904.
*161. Quality of water in the upper Ohio River basin and at Erie, Pa., 1906.
*193. The quality of surface waters in Minnesota, 1907.
*236. The quality of surface waters in the United States, Part 1, Analyses of waters east of the one hundredth meridian, 1909.
*237. The quality of the surface waters of California, 1910.
*239. The quality of surface waters of Illinois, 1910.
*273. Quality of the water supplies of Kansas, with a preliminary report on stream pollution by mine waters in southeastern Kansas, 1911.
*274. Some stream waters of the western United States, with chapters on sediment carried by the Rio Grande and the industrial application of water analyses, 1911.
*339. Quality of the surface waters of Washington, 1914.
*363. Quality of the surface waters of Oregon, 1914.
*418. Mineral springs of Alaska, with a chapter on the chemical character of some surface waters of Alaska, 1917.
*596-B. Quality of water of Colorado River in 1925-26, 1928.
*596-D. Quality of water of Pecos River in Texas, 1928.
*596-E. Quality of the surface waters of New Jersey, 1928.
*636-A. Quality of water of the Colorado River in 1926-28, 1930.
*636-B. Suspended matter in the Colorado River in 1925-28, 1930.
*638-D. Quality of water of the Colorado River in 1928-30, 1932.
*839. Quality of water of the Rio Grande basin above Fort Quitman, Tex., 1938.
*889-E. Chemical character of surface water of Georgia, 1944.
*998. Suspended sediment in the Colorado River, 1925-41, 1947.
1048. Discharge and sediment loads in the Boise River drainage basin, Idaho, 1939-40, 1948.
1110-C. Quality of water of Conchas Reservoir, New Mexico, 1939-49, 1952.

Many of the reports listed are available for consultation in the larger public and institutional libraries. Copies of Geological Survey publications still in print may be purchased at a nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, who will, upon request, furnish lists giving prices.

COOPERATION

Many municipal, State, and Federal agencies assisted in collecting records for quality-of-water investigations. Many of the investigations were supported by funds appropriated directly to the U.S. Geological Survey. Chemical-quality and sediment-discharge investigations in the Colorado River basin in Arizona, Colorado, New Mexico, and Utah have been a continuing project since 1925.

The State, local, and Federal agencies that cooperated in these quality-of-water investigations are as follows:

Arizona--Bureau of Reclamation, U.S. Department of the Interior; Environmental Protection Agency; Soil Conservation Service, U.S. Department of Agriculture; International Boundary and Water Commission, U.S. Department of State; Arizona Water Commission; Salt River Valley Water Users' Association; Metropolitan Water District of Southern California.

California--California Department of Water Resources; California Water Control Board; Metropolitan Water District of Southern California.

Idaho--Idaho Department of Water Administration, R. K. Higginson, director.

Nevada--Bureau of Reclamation, U.S. Department of the Interior; Soil Conservation Service, U.S. Department of Agriculture; Environmental Protection Agency.

New Mexico--New Mexico State Engineer, S. E. Reynolds; New Mexico Interstate Stream Commission, S. E. Reynolds, secretary; New Mexico Institute of Mining and Technology, S. A. Colgate, president; Bureau of Reclamation, U.S. Department of the Interior; Environmental Protection Agency; Corps of Engineers, U.S. Army; Soil Conservation Service, U.S. Department of Agriculture; U.S. Department of the Air Force.

Utah--Utah Department of Natural Resources, Gordon Harmston, executive director; Bureau of Reclamation, U.S. Department of the Interior; Environmental Protection Agency.

Wyoming--Wyoming Department of Agriculture, G. J. Hertzler, commissioner; Wyoming State Engineer, F. A. Bishop; Wyoming Game and Fish Commission, J. B. White, commissioner; Wyoming Department of Economic Planning and Development, M. W. Goodson, chief of water development; Bureau of Reclamation and Bureau of Land Management, U.S. Department of the Interior; Environmental Protection Agency.

DIVISION OF WORK

The quality-of-water work was performed by the Water Resources Division of the Geological Survey, J. S. Cragwall, Jr., chief hydrologist, and under the direction of the district chiefs listed in the preface.

Correspondence regarding the records in this report or any additional information should be directed to the district chief of the appropriate Geological Survey-Water Resources Division district office as indicated below.

State	District Office	Address
Arizona	Tucson 85701	Federal Building 301 W. Congress St.
California	Menlo Park 94025	855 Oak Grove Avenue
Colorado	Lakewood 80225	Building 53 Denver Federal Center
Idaho	Boise 83724	Room 365 550 West Fort Street Box 036, Federal Bldg.
Nevada	Carson City 89701	Room 229 Federal Bldg. 705 North Plaza Street
New Mexico	Albuquerque 87106	Geology Bldg., 2nd floor Univ. of New Mexico Campus P. O. Box 4369
Oregon	Portland 97208	830 N. E. Holladay Street P. O. Box 3202
Utah	Salt Lake City 84138	8002 Federal Bldg. 125 South State Street
Wyoming	Cheyenne 82001	4015 Warren Avenue P. O. Box 2087

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PART 9. COLORADO RIVER BASIN

COLORADO RIVER MAIN STEM

09019000 COLORADO RIVER BELOW LAKE GRANBY, COLO.

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

DRAINAGE AREA.--312 sq mi.

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

CHEMICAL ANALYSES, JULY 1969 TO AUGUST 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
JULY 1969									
09...	81	8.0	7.3	1.9	2.7	.9	32	3.8	.9
AUG.									
20...	31	9.0	8.0	1.7	2.7	1.0	32	3.6	1.3
20...	31	9.0	7.6	1.7	2.7	1.0	32	3.6	1.3
SEPT.									
17...	33	9.0	8.0	1.4	2.5	.9	33	3.8	1.3
17...	33	9.0	7.8	1.6	2.5	.9	32	3.8	1.3
OCT.									
21...	15	8.0	6.7	1.6	2.4	.7	32	1.4	1.2
NOV.									
21...	18	5.0	6.4	2.4	2.4	.8	32	2.0	1.7
DEC.									
30...	20	3.0	6.4	2.4	2.3	.7	35	3.5	1.6
JAN 1970									
23...	20	3.5	7.6	1.1	2.4	.9	33	3.8	1.7
FEB.									
18...	19	2.0	8.8	1.7	2.5	1.0	33	4.8	2.6
MAR.									
17...	18	4.0	8.0	1.9	2.5	1.1	32	6.5	1.7
APR.									
22...	18	3.0	8.4	1.0	2.2	.9	30	3.2	1.4
MAY									
21...	59	4.0	8.3	1.9	2.3	1.0	33	6.5	1.4
JUNE									
17...	81	8.0	7.4	.9	2.6	.9	26	4.0	1.3
JULY									
21...	89	7.0	6.4	2.9	2.5	1.0	35	3.0	1.6
AUG.									
25...	29	8.0	7.5	1.1	2.3	1.0	31	2.2	1.7

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
JULY 1969								
09...	50	.07	10.9	26	1	.2	58	6.8
AUG.								
20...	49	.07	4.10	27	1	.2	58	6.2
20...	49	.07	4.10	26	0	.2	58	6.3
SEPT.								
17...	50	.07	4.45	26	0	.2	58	6.3
17...	50	.07	4.45	26	0	.2	58	6.7
OCT.								
21...	40	.05	1.62	23	0	.2	55	6.8
NOV.								
21...	41	.06	1.99	26	0	.2	57	7.5
DEC.								
30...	42	.06	2.27	26	0	.2	56	7.7
JAN 1970								
23...	30	.04	1.62	24	0	.2	56	7.6
FEB.								
18...	44	.06	2.26	29	2	.2	56	7.0
MAR.								
17...	46	.06	2.24	28	2	.2	56	7.2
APR.								
22...	44	.06	2.14	25	0	.2	56	6.4
MAY								
21...	41	.06	6.53	30	3	.2	59	7.2
JUNE								
17...	44	.06	9.62	22	1	.2	55	7.5
JULY								
21...	40	.05	9.61	28	0	.2	54	7.6
AUG.								
25...	40	.05	3.13	23	0	.2	61	7.8

09034500 COLORADO RIVER AT HOT SULPHUR SPRINGS, COLO.

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

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

PERIOD OF RECORD.--Chemical analyses: April 1947 to September 1970.
Water temperatures: April 1949 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 191 micromhos Apr. 20; minimum daily, 67 micromhos May 31.
Water temperatures: Maximum, 19.0°C Aug. 25; minimum, freezing point on many days during December to April.

Period of record:
Dissolved solids (1947-50, 1952-69): Maximum, 167 mg/l Jan. 25-28, 1967; minimum, 38 mg/l June 21-30, 1947.
Hardness (1947-50, 1952-69): Maximum, 98 mg/l Feb. 12-16, 1967; minimum, 20 mg/l June 21-30, 1947.
Specific conductance: Maximum daily, 263 micromhos Mar. 6, 1968; minimum daily, 48 micromhos June 27, 1947.
Water temperatures (1949-70): Maximum, 24.0°C Aug. 8, 1957, July 6, 11, 14, 21, 1966; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
21...	107	2.0	12	19	3.8	6.7	1.4	89	4.2	2.0	.3
NOV.											
21...	77	2.0	14	19	3.4	34	2.6	141	11	11	1.0
DEC.											
30...	76	0.0	13	15	4.7	6.7	1.4	78	6.0	1.9	.3
JAN.											
23...	70	0.0	12	15	4.4	6.7	1.3	76	4.8	1.3	.2
FEB.											
18...	70	0.0	12	17	2.9	7.0	1.9	78	5.0	2.2	.2
MAR.											
17...	74	1.0	12	19	3.4	7.8	4.3	81	10	2.4	.2
APR.											
22...	127	3.0	11	20	2.9	6.5	2.9	89	5.5	3.1	.2
MAY											
21...	2120	10.0	11	11	.7	5.0	1.7	38	7.5	3.8	.3
JUNE											
18...	580	15.0	11	17	2.2	4.7	1.7	70	5.2	1.6	.2
JULY											
21...	247	16.0	13	21	3.2	5.9	1.2	86	5.0	1.7	.3
AUG.											
25...	88	13.0	15	16	4.6	6.6	1.6	84	2.8	1.1	.3
SEPT.											
17...	65	13.5	13	19	3.1	7.2	1.6	89	6.2	2.0	.1

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

09034500 COLORADO RIVER AT HOT SULPHUR SPRINGS, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

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

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.5	5.0	0.0	0.5	0.5	0.5	2.0	3.0	8.0	16.0	18.0	15.0
2	14.5	--	0.0	0.5	0.0	0.0	1.0	3.0	10.0	17.0	18.0	16.0
3	4.5	5.5	0.5	0.5	0.0	0.0	1.0	3.0	10.0	16.0	18.0	15.0
4	4.5	5.5	0.5	0.5	0.0	0.0	1.0	2.0	10.0	16.0	18.0	15.0
5	5.0	4.5	0.5	0.5	0.0	0.0	2.0	2.0	10.0	16.0	17.0	15.0
6	5.0	5.0	0.5	0.5	0.5	0.5	3.0	2.0	10.0	15.0	17.0	15.0
7	5.5	3.5	0.0	0.5	0.0	0.0	--	0.0	10.0	13.0	18.0	--
8	4.5	5.0	0.5	1.0	0.5	0.0	2.0	2.0	10.0	15.0	--	15.0
9	5.5	4.5	0.0	0.5	0.5	0.5	1.0	2.0	10.0	15.0	--	16.0
10	4.5	5.0	0.5	0.5	0.0	0.0	1.0	2.0	10.0	16.0	18.0	16.0
11	5.5	5.0	0.0	0.5	0.0	0.0	2.0	2.0	10.0	--	17.0	15.0
12	5.0	4.5	0.5	0.0	0.0	0.0	2.0	3.0	11.0	17.0	16.0	12.0
13	8.5	4.5	0.5	0.5	0.5	0.0	1.0	4.0	12.0	18.0	16.0	13.0
14	7.0	3.5	0.5	0.5	0.5	0.0	0.0	4.0	11.0	17.0	16.0	14.0
15	8.0	--	0.5	0.5	--	0.5	2.0	4.0	11.0	18.0	16.0	13.0
16	8.5	4.5	0.5	0.5	0.5	0.5	2.0	5.0	11.0	17.0	17.0	14.0
17	7.0	3.5	0.5	0.5	0.0	0.0	3.0	7.0	15.0	18.0	15.0	12.0
18	8.0	--	0.5	0.5	0.5	0.0	1.0	7.0	15.0	17.0	18.0	16.0
19	9.0	--	0.0	0.5	0.0	0.0	1.0	8.0	15.0	17.0	17.0	17.0
20	7.0	--	0.5	0.5	0.5	0.0	0.0	0.0	14.0	16.0	18.0	17.0
21	7.0	--	0.0	0.5	0.5	0.0	0.0	0.0	12.0	16.0	17.0	11.0
22	7.0	3.5	0.0	0.5	0.5	0.0	2.0	8.0	12.0	16.0	16.0	11.0
23	5.5	5.5	0.0	0.5	--	0.5	2.0	9.0	12.0	17.0	15.0	13.0
24	5.5	5.0	0.0	1.5	0.0	0.0	0.0	9.0	13.0	16.0	15.0	13.0
25	5.5	5.0	0.0	0.5	0.0	0.0	2.0	9.0	15.0	16.0	19.0	13.0
26	6.0	3.5	--	0.5	0.5	--	2.0	9.0	14.0	16.0	16.0	13.0
27	--	3.5	0.0	0.5	0.5	--	1.0	9.0	15.0	18.0	16.0	13.0
28	5.5	1.5	0.0	0.0	0.5	0.0	4.0	--	15.0	17.0	17.0	13.0
29	5.5	1.5	0.0	0.0	--	0.0	2.0	9.0	14.0	16.0	16.0	13.0
30	6.0	1.5	0.0	0.5	--	0.0	1.0	8.0	13.0	16.0	16.0	13.0
31	5.0	--	0.5	0.0	--	0.0	--	8.0	--	17.0	15.0	--
AVG	6.7	4.1	0.2	0.4	0.2	0.1	1.5	5.4	11.9	16.3	16.7	14.0

09069000 EAGLE RIVER AT GYPSUM, COLO.

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

DRAINAGE AREA.--844 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1947 to September 1970.
Water temperatures: April 1949 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,210 micromhos Dec. 30; minimum daily, 171 micromhos May 28.
Water temperatures: Maximum, 16.0°C July 20, Aug. 3, 20; minimum, freezing point on many days during November to February.

Period of record:
Dissolved solids (1947-69): Maximum, 1,370 mg/l Aug. 11, 12, 1952; minimum, 100 mg/l June 13-25, 1968.
Hardness (1947-50, 1957-69): Maximum, 600 mg/l Dec. 7-9, 1964; minimum, 70 mg/l June 23, 1957.
Specific conductance: Maximum daily, 1,850 micromhos Aug. 6, 1949; minimum daily, 155 micromhos May 23, 1958.
Water temperatures: Maximum, 24.0°C Aug. 24, 1949; minimum, freezing point on many days during winter periods.

REMARKS.--Records of discharge are given for Eagle River below Gypsum, Colo. (station 09070000).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
27...	340	8.0	7.7	99	23	41	2.4	167	200	58	.2
NOV.											
20...	201	0.5	9.0	125	28	68	2.9	194	255	110	.2
DEC.											
22...	208	2.0	8.4	106	24	58	2.7	167	243	84	.0
JAN.											
26...	208	1.0	8.4	118	28	54	3.4	147	245	108	.2
FEB.											
25...	170	2.0	8.3	111	27	46	4.2	166	248	63	.3
MAR.											
24...	170	1.5	7.5	112	27	58	2.9	177	279	77	.2
APR.											
22...	233	8.5	16	85	23	49	2.5	152	200	64	.2
MAY											
21...	3510	7.0	5.8	26	6.3	3.8	1.4	76	26	3.1	.4
JUNE											
22...	2880	11.0	4.9	29	6.0	4.9	1.0	74	38	5.9	.2
JULY											
28...	464	14.0	7.6	106	17	23	2.4	151	213	32	.4
AUG.											
26...	280	16.0	9.1	105	16	27	2.3	180	180	37	.5
SEPT.											
23...	464	8.0	36	95	24	23	2.4	165	192	29	.2

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

09069000 EAGLE RIVER AT GYPSUM, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	837	803	912	945	958	915	984	--	215	199	631	743
2	852	787	914	983	919	866	946	573	230	258	609	694
3	838	839	937	1020	922	895	952	529	219	270	662	673
4	867	883	911	1000	883	934	934	485	196	276	654	734
5	806	794	859	1000	946	967	943	412	196	268	610	763
6	857	794	871	977	946	920	938	351	189	303	597	759
7	821	798	983	936	919	961	877	329	196	316	617	486
8	775	801	1050	970	925	918	819	328	220	312	605	609
9	810	825	1000	986	1030	915	802	319	188	324	542	646
10	823	857	1030	901	1020	931	781	337	239	296	610	693
11	812	820	990	933	990	942	740	318	197	299	654	725
12	830	857	903	912	939	953	722	290	261	330	544	744
13	832	647	964	921	937	931	810	262	269	363	682	765
14	816	831	914	954	931	934	781	250	267	334	711	390
15	771	853	1020	970	946	897	817	261	261	380	724	476
16	784	867	1020	945	974	934	812	268	254	389	719	530
17	842	819	1000	945	942	926	821	248	242	408	735	602
18	785	871	1000	930	987	950	719	197	225	425	782	620
19	679	1040	1000	915	983	976	719	240	203	440	773	643
20	771	901	961	921	1050	1070	741	200	196	447	758	661
21	822	833	940	915	1080	953	815	199	195	476	672	689
22	788	1050	--	895	1000	926	771	182	197	497	600	697
23	794	856	937	866	908	950	819	186	199	507	525	645
24	785	907	928	921	891	961	773	183	203	479	647	659
25	534	939	911	901	899	878	783	179	193	515	686	640
26	820	950	919	918	897	928	751	192	210	438	721	638
27	767	1010	911	954	967	979	666	175	230	553	750	644
28	812	1090	943	927	939	947	492	171	201	545	765	619
29	774	973	1100	896	--	961	475	184	206	576	741	611
30	774	1040	1210	1160	--	926	514	192	245	595	788	622
31	786	--	1090	1150	--	934	--	192	--	615	796	--
AVG	795	877	970	953	954	938	783	274	217	431	674	647

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	5.5	1.0	0.0	0.0	1.0	4.5	6.5	4.5	11.0	14.0	12.0
2	13.0	4.5	0.0	0.0	0.0	5.5	5.0	6.5	5.0	10.0	14.0	11.5
3	11.0	3.0	0.0	0.0	0.0	2.0	5.5	6.5	6.5	11.0	16.0	14.0
4	11.5	4.0	0.0	0.0	1.0	5.0	4.5	7.0	7.0	12.0	15.0	11.5
5	11.0	5.5	0.0	0.0	2.0	3.5	6.0	5.0	8.0	12.0	15.5	9.5
6	7.0	5.5	0.0	0.0	1.5	6.5	8.5	5.5	8.5	13.0	15.0	11.0
7	7.0	4.5	0.0	0.0	2.0	6.0	10.0	6.0	9.0	14.0	15.0	10.0
8	7.0	4.5	0.0	0.0	2.0	5.5	10.5	4.0	8.5	11.5	14.5	10.0
9	9.5	4.0	0.0	0.0	3.0	5.0	7.0	3.5	9.0	14.0	14.5	12.0
10	8.5	5.5	0.0	0.0	1.5	5.5	10.5	4.5	8.5	13.0	13.5	10.0
11	6.0	5.5	0.0	0.0	3.0	5.0	9.0	6.0	7.0	13.0	13.5	13.0
12	6.5	5.5	1.0	0.0	3.5	6.0	10.0	7.0	10.5	11.5	13.0	11.5
13	6.0	5.5	1.0	0.0	3.0	1.5	7.0	5.0	8.5	12.0	11.5	11.5
14	6.0	4.5	0.5	0.0	3.5	3.0	5.5	4.5	9.5	11.5	13.5	13.5
15	5.5	4.5	0.0	0.0	4.0	5.0	8.0	3.0	8.5	13.0	13.0	12.0
16	6.5	4.5	0.0	0.0	1.0	3.0	9.0	5.5	8.5	14.5	14.0	9.0
17	6.5	3.0	0.0	0.5	2.0	2.0	8.5	6.0	14.0	13.0	12.0	13.5
18	6.0	0.0	0.5	0.0	1.0	4.0	6.0	5.0	13.0	12.0	13.0	14.0
19	6.0	0.0	1.0	0.0	1.5	3.0	5.0	5.5	8.5	15.0	15.5	10.0
20	8.0	0.0	1.0	0.0	1.5	3.5	7.0	5.5	9.5	16.0	16.0	10.5
21	6.5	0.5	0.5	0.5	4.0	1.5	8.0	6.0	10.5	12.0	15.5	10.0
22	5.5	0.0	--	1.0	1.0	1.5	8.0	6.5	11.5	14.5	15.0	8.5
23	8.5	0.0	1.5	0.0	4.0	4.0	7.0	6.5	10.0	13.5	15.5	8.5
24	6.0	0.0	0.5	0.0	4.5	8.0	8.0	8.0	11.0	13.0	13.0	9.0
25	6.5	0.5	1.0	1.0	1.5	4.0	7.0	5.5	10.5	14.0	13.0	6.0
26	6.0	0.0	0.0	1.5	1.0	4.0	8.0	6.0	9.0	14.5	13.0	6.0
27	6.5	0.0	0.0	1.5	3.0	4.5	7.0	6.5	9.5	13.5	12.0	7.0
28	6.0	0.0	0.0	0.0	1.5	5.0	7.0	7.0	9.5	12.0	14.0	6.5
29	6.5	0.0	0.0	1.0	--	5.5	4.5	6.5	11.0	13.0	11.5	10.0
30	4.5	0.0	0.0	0.0	--	4.5	6.0	5.5	9.5	13.0	12.0	7.0
31	4.5	--	0.0	0.0	--	4.0	--	8.5	--	13.5	13.0	--
AVG	7.3	2.6	0.3	0.2	2.0	4.1	7.2	5.8	9.1	12.8	13.8	10.2

09071100 COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.
(Irrigation network station)

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

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

PERIOD OF RECORD.--Chemical analyses: October 1941 to September 1970.
Water temperatures: May 1949 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 819 micromhos Dec. 31; minimum daily, 196 micromhos May 25.
Water temperatures: Maximum, 20.0°C Aug. 6-8; minimum, freezing point on many days during November to February.

Period of record:
Dissolved solids (1941-69): Maximum, 2,030 mg/l Aug. 10, 1947; minimum, 105 mg/l June 1-10, 1942.
Hardness (1941-69): Maximum, 1,480 mg/l Aug. 10, 1947; minimum, 72 mg/l June 1-20, 1942.
Specific conductance: Maximum daily, 2,260 micromhos Aug. 10, 1947; minimum daily, 153 micromhos May 24, 1948.
Water temperatures (1949-70): Maximum, 21.5°C July 31, 1954, Aug. 19, 1955; minimum, freezing point on many days during winter periods.

REMARKS.--Discharges obtained by subtracting the daily mean flow in Roaring Fork River at Glenwood Springs (station 09085000) from the daily mean flow in Colorado River below Glenwood Springs (station 09085100).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DISCHARGE (CFS)	TEMPERATURE (DEG C)	SILICA (SIO2) (MG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)
OCT.											
28...	1680	6.5	8.4	53	17	44	2.3	137	88	60	.4
NOV.											
21...	1250	0.0	8.8	61	19	64	2.6	152	98	95	.4
DEC.											
23...	1280	2.0	8.7	48	11	57	2.4	120	71	79	.2
JAN.											
27...	1280	1.0	9.6	50	11	57	2.6	124	77	81	.3
FEB.											
25...	1290	4.0	8.8	50	11	51	2.5	119	76	75	.4
MAR.											
24...	1140	5.0	6.5	49	11	59	.2	128	94	79	.4
APR.											
22...	1430	4.0	14	46	12	59	3.3	131	84	45	.3
MAY											
21...	13500	10.0	9.5	30	5.6	8.0	1.9	95	24	7.1	.3
JUNE											
22...	7570	13.0	7.0	34	5.5	13	2.0	104	38	15	.3
JULY											
28...	2140	16.5	9.1	51	9.2	36	2.1	121	74	47	.5
AUG.											
26...	1630	17.5	12	51	13	48	2.2	126	85	66	.6
SEPT.											
23...	1750	11.5	11	58	12	46	2.5	137	90	70	.3

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

09071100 COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

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

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.5	3.5	0.5	0.0	0.0	3.5	3.5	6.5	9.5	14.0	19.5	17.0
2	10.5	3.5	0.5	0.0	0.5	3.5	4.0	6.0	9.5	14.5	19.0	17.0
3	8.5	3.0	0.5	0.0	0.5	3.5	5.0	10.0	10.5	15.0	19.0	16.0
4	9.0	3.0	0.5	0.0	0.5	3.5	6.5	10.0	11.5	15.0	19.5	14.5
5	7.0	3.5	0.5	0.0	0.5	3.5	6.0	10.5	11.0	15.5	19.5	14.0
6	8.5	3.5	0.0	0.0	0.5	3.5	6.5	11.0	11.0	14.5	20.0	14.0
7	8.5	4.0	0.5	0.0	0.0	3.5	8.0	9.0	13.5	15.0	20.0	13.0
8	9.0	3.5	0.0	0.0	0.5	5.5	8.5	9.5	11.0	16.0	20.0	14.5
9	9.5	3.5	0.5	0.0	1.0	4.5	8.0	10.0	10.0	17.0	18.5	15.5
10	9.5	4.0	0.5	0.0	1.5	4.0	8.0	7.0	9.5	17.0	19.0	15.0
11	6.0	4.5	0.5	0.0	1.5	4.0	6.5	10.5	9.5	17.0	19.0	14.5
12	5.0	4.5	0.5	0.0	1.0	3.5	5.0	10.5	10.0	18.0	19.5	14.0
13	5.5	4.0	0.5	0.0	1.0	3.5	4.0	10.5	10.5	17.0	19.5	14.5
14	6.0	4.0	0.0	0.0	0.0	4.5	6.0	10.5	11.5	17.0	18.5	13.5
15	5.5	3.0	0.5	0.0	0.5	--	5.0	8.0	12.0	18.0	15.5	13.0
16	4.5	4.5	0.5	0.0	1.0	5.0	5.0	7.0	12.0	18.0	15.5	13.5
17	6.0	3.0	3.0	0.5	1.0	3.5	6.0	9.0	12.0	18.5	16.5	13.0
18	6.0	0.5	1.0	0.0	1.0	3.0	6.5	9.0	12.0	18.5	17.0	13.5
19	6.0	0.5	0.5	0.0	0.5	1.5	4.5	9.0	13.0	17.0	17.0	14.5
20	6.0	0.5	0.0	0.0	0.0	2.0	4.0	9.0	14.0	17.0	18.0	15.0
21	5.5	0.5	0.5	--	0.5	2.0	4.5	9.0	14.5	18.0	16.5	13.0
22	4.0	--	0.0	0.5	1.5	4.0	4.5	9.5	14.0	18.5	16.5	13.5
23	6.0	1.0	0.0	0.5	1.0	4.5	5.0	9.0	13.0	18.5	--	11.5
24	--	0.5	0.5	0.5	1.5	5.0	6.0	10.0	13.5	18.5	18.0	11.5
25	6.5	0.5	0.0	0.0	2.0	6.0	--	9.0	14.5	19.0	18.0	10.5
26	6.0	0.5	0.0	0.5	2.0	3.5	9.5	9.5	14.5	18.5	18.0	10.0
27	7.0	0.5	0.0	0.5	2.0	3.0	9.0	10.0	15.0	--	17.0	10.5
28	6.0	0.5	0.0	0.5	--	3.5	9.0	10.0	15.5	19.5	17.0	10.5
29	4.0	--	--	0.5	--	4.5	8.5	9.5	15.5	18.5	17.0	11.0
30	4.0	0.0	0.0	0.5	--	4.5	6.0	10.0	14.5	19.0	17.0	12.0
31	3.5	--	0.0	0.0	--	4.0	--	10.0	--	19.5	18.0	--
AVG	6.6	2.4	0.4	0.1	0.8	3.7	6.1	9.2	12.2	17.2	18.1	13.4

09085000 ROARING FORK RIVER AT GLENWOOD SPRINGS, COLO.

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

DRAINAGE AREA.--1,451 sq mi.

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

Period of record:
Dissolved solids (1962-67): Maximum, 509 mg/l Sept. 1-30, 1966; minimum, 124 mg/l July 1-13, 1965.
Hardness (1962-67): Maximum, 320 mg/l Oct. 1-13, 1963; minimum, 93 mg/l July 1-13, 1985.
Specific conductance (1968-69): Maximum daily, 870 micromhos Oct. 1, 1966; minimum daily, 189 micromhos May 26, 1964.
Water temperatures: Maximum, 22.0°C July 30, 1966; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, AUGUST 1969 TO AUGUST 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG 1969									
26...	656	18.0	88	17	31	2.1	200	134	40
SEPT.									
25...	752	16.0	83	18	30	1.8	169	136	43
OCT.									
28...	815	6.0	81	13	24	1.3	158	130	31
NOV.									
21...	593	1.0	77	18	31	1.6	169	132	39
DEC.									
23...	521	2.0	75	20	23	1.8	164	131	34
JAN 1970									
27...	406	3.0	87	15	28	1.9	181	152	34
FEB.									
24...	382	6.0	76	15	29	1.7	135	152	32
APR.									
22...	716	5.0	84	11	16	1.6	143	151	17
MAY									
21...	4840	11.0	38	4.9	4.8	1.2	8	46	4.2
JUNE									
23...	5300	14.5	32	4.6	5.3	.9	85	35	6.7
JULY									
28...	1390	14.5	73	3.9	18	1.5	133	92	24
AUG.									
26...	752	14.5	80	17	32	2.0	150	127	43

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
AUG 1969								
26...	436	.59	772	287	123	.8	675	7.2
SEPT.								
25...	435	.59	883	284	145	.8	654	7.2
OCT.								
28...	383	.52	843	254	124	.7	587	7.7
NOV.								
21...	415	.56	664	266	127	.8	634	7.5
DEC.								
23...	422	.57	594	272	138	.6	621	7.6
JAN 1970								
27...	427	.58	468	280	132	.7	653	7.9
FEB.								
24...	391	.53	403	250	139	.8	602	8.0
APR.								
22...	379	.52	733	254	136	.4	556	8.1
MAY								
21...	159	.22	2080	116	45	.2	252	7.7
JUNE								
23...	142	.19	2030	98	29	.2	220	7.9
JULY								
28...	319	.43	1200	198	80	.6	467	8.7
AUG.								
26...	431	.59	875	270	147	.8	648	8.2

09095500 COLORADO RIVER NEAR CAMEO, COLO.

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

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

PERIOD OF RECORD.--Chemical analyses: October 1933 to September 1970.
Water temperatures: April 1949 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,380 micromhos Dec. 24; minimum daily, 272 micromhos May 25.
Water temperatures: Maximum, 21.5°C Aug. 4-6; minimum, freezing point on many days during December to January.

Period of record:
Dissolved solids (1933-43, 1950-69): Maximum, 1,080 mg/l Sept. 22, 1962; minimum, 143 mg/l June 11-20, 1935.
Hardness (1933-35, 1957-69): Maximum, 474 mg/l Sept. 22, 1962; minimum, 98 mg/l June 21-30, 1935.
Specific conductance (1941-70): Maximum daily, 1,860 micromhos June 16, 1964; minimum daily, 244 micromhos July 2, 1947, July 3, 1957.
Water temperatures (1949-70): Maximum, 24.5°C Aug. 16, 1962; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.											
22...	2840	7.0	3.9	75	19	86	3.2	172	153	110	.4
NOV.											
26...	2010	3.0	8.0	71	20	120	3.6	178	148	156	.4
DEC.											
23...	1600	3.0	6.9	66	18	119	3.8	162	132	158	.4
JAN.											
14...	1750	0.5	9.0	68	19	128	4.6	172	134	162	.4
FEB.											
11...	1650	3.0	7.0	72	19	145	5.3	168	158	205	.4
MAY											
01...	3900	7.0	9.7	54	11	63	3.2	136	96	78	.3
JUNE											
26...	14100	15.5	6.6	32	6.6	21	1.4	97	38	25	.3
JULY											
29...	3660	19.0	8.3	61	14	73	3.1	143	112	96	.4
AUG.											
31...	2100	23.0	10	65	17	112	5.7	167	160	140	.5
SEPT.											
25...	2560	10.5	12	71	17	103	3.7	167	147	134	.4

DATE	NITRATE (ND3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
22...	2.7	.00	0	568	.77	4360	268	127	2.3	913	7.5
NOV.											
26...	3.6	.01	0	649	.88	3520	260	115	3.2	1050	8.1
DEC.											
23...	6.2	.03	0	618	.84	2670	239	106	3.3	1020	7.9
JAN.											
14...	7.5	.02	0	641	.87	3030	250	109	3.5	1060	7.8
FEB.											
11...	8.6	.01	0	734	1.00	3270	260	122	3.9	1230	7.4
MAY											
01...	3.2	.02	0	389	.53	4100	178	66	2.1	625	7.7
JUNE											
26...	1.3	.03	4	188	.26	7160	107	28	.9	310	7.9
JULY											
29...	3.2	.00	5	463	.93	4580	212	90	2.2	744	8.4
AUG.											
31...	--	.00	8	623	.85	3530	232	95	3.2	1020	7.5
SEPT.											
25...	3.2	.01	3	599	.81	4140	246	109	2.9	959	8.1

09095500 COLORADO RIVER NEAR CAMEO, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1050	1060	1360	1160	1060	1020	571	298	336	833	1030
2	1060	1050	1070	1360	1180	1040	1020	623	317	435	832	1030
3	980	1050	1090	1360	1190	1050	1020	619	326	455	832	946
4	980	1050	1150	1350	1180	1050	889	619	327	428	896	943
5	977	1050	1170	1360	1180	1090	1020	621	330	446	957	971
6	977	1050	1160	1360	1180	1100	1020	535	345	452	957	1100
7	980	1020	1150	1360	1170	1100	1020	472	323	442	837	803
8	980	1040	1160	1360	1180	1100	1020	430	330	453	840	795
9	967	1040	1150	1360	1180	1100	1020	453	327	532	837	797
10	968	1030	1170	1090	1180	987	1020	460	375	535	832	850
11	952	1040	1170	1080	1180	987	887	449	369	536	846	847
12	955	1040	1170	1070	1190	987	884	447	--	543	855	906
13	952	1040	1160	1080	1050	983	887	404	372	534	945	904
14	974	1020	1350	1080	1050	983	886	360	386	590	931	904
15	949	--	1350	1070	1050	983	886	320	366	590	940	792
16	949	1030	1350	1070	1050	983	914	320	376	631	972	781
17	949	1030	1360	1080	1050	987	914	317	371	631	972	787
18	949	1020	1360	1060	1050	980	915	317	370	651	972	809
19	912	1020	1370	1090	1050	987	915	319	344	668	966	787
20	915	1020	1360	1060	1050	987	915	291	337	677	981	907
21	917	1030	1370	1070	1040	1030	549	287	311	679	966	903
22	910	1030	1360	1070	1050	1040	546	298	310	807	972	982
23	987	1030	1360	1080	1050	1040	545	291	315	816	997	977
24	994	1030	1380	1100	1050	1040	541	280	308	--	1000	952
25	979	1070	1370	1100	1050	970	547	272	305	--	1010	944
26	958	1070	1360	1100	1050	964	541	278	309	746	1010	916
27	953	1070	1370	1100	1040	967	530	284	323	746	1010	908
28	950	1070	1360	1100	1070	967	543	284	324	744	1010	940
29	947	1070	1370	1100	--	958	543	284	325	742	1010	943
30	1300	1030	1370	1100	--	964	550	284	329	753	1010	957
31	1010	--	--	1100	--	964	--	284	--	753	983	--
AVG	967	1040	1270	1160	1100	1010	816	389	336	598	935	903

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	6.5	0.5	0.5	1.0	7.0	7.0	8.5	9.5	15.0	20.0	19.0
2	14.0	6.5	0.5	0.0	1.0	7.0	7.0	10.0	10.0	15.5	20.0	18.5
3	13.5	6.5	0.5	0.0	1.0	6.0	7.0	11.0	11.5	16.5	21.0	18.0
4	13.5	6.5	0.5	0.0	1.0	6.0	7.0	11.5	11.5	17.0	21.5	18.0
5	13.5	6.5	0.5	0.0	1.5	6.0	7.0	12.0	11.5	17.0	21.5	18.5
6	11.0	6.5	0.5	0.0	1.5	6.0	7.0	12.0	11.5	17.0	21.5	13.5
7	9.0	6.0	0.5	0.0	1.5	--	7.0	11.5	11.5	17.0	--	11.0
8	8.5	5.5	0.0	0.0	1.5	6.5	7.0	9.5	11.5	17.0	21.0	15.5
9	10.5	5.5	0.0	0.0	1.5	7.0	7.0	8.5	11.5	17.0	20.5	15.5
10	10.5	5.5	0.0	0.0	1.5	7.0	8.0	9.0	10.0	17.0	20.5	16.0
11	9.5	5.5	0.0	0.0	1.5	7.0	8.5	8.5	10.0	17.0	20.0	16.0
12	7.0	5.5	0.0	0.0	1.5	7.0	8.5	10.5	--	17.0	20.0	16.0
13	6.5	5.5	0.0	0.0	2.0	7.0	8.5	10.5	13.5	17.0	20.0	16.0
14	6.5	5.5	0.5	0.0	2.0	7.0	8.5	10.0	14.0	18.5	19.5	16.0
15	7.0	--	0.5	0.0	2.0	7.0	8.5	11.0	13.5	19.0	19.5	15.0
16	7.0	5.5	0.5	0.0	2.0	7.0	8.5	11.0	13.5	19.5	19.5	14.5
17	6.5	5.5	0.5	0.0	2.0	7.0	8.5	11.0	13.5	19.5	19.5	13.5
18	6.5	4.5	0.5	0.0	2.0	7.0	8.5	11.0	13.5	19.0	20.0	13.5
19	8.0	4.5	0.5	0.5	2.0	7.0	8.5	11.0	14.5	19.5	19.0	13.5
20	8.0	3.5	0.5	0.5	2.0	4.5	8.5	10.5	14.0	19.5	19.0	11.5
21	8.0	1.0	0.5	0.5	2.0	4.0	8.0	10.5	14.0	19.5	19.5	11.5
22	8.0	1.5	0.5	0.5	1.5	5.5	8.0	11.0	14.0	19.5	19.5	12.0
23	8.0	1.5	0.5	0.0	1.5	6.0	8.0	11.0	14.0	19.5	19.5	12.0
24	8.0	1.0	0.5	1.0	1.5	6.5	8.0	11.5	14.5	--	19.5	11.0
25	8.0	0.5	0.0	1.0	1.5	6.5	8.0	11.5	14.5	--	19.5	11.0
26	8.5	0.5	0.0	1.0	1.5	6.5	8.0	11.5	15.0	19.5	20.0	10.0
27	6.5	0.5	0.0	1.0	5.0	6.5	8.5	11.5	15.5	19.5	20.0	11.0
28	6.5	0.5	0.0	1.0	5.5	6.5	8.5	11.5	--	19.5	20.0	12.0
29	6.0	0.5	0.0	0.0	--	6.5	8.5	11.5	16.0	19.5	19.5	13.0
30	6.5	0.5	0.0	0.0	--	6.0	8.5	11.0	15.0	19.5	19.5	13.0
31	7.0	--	--	0.0	--	6.0	--	9.5	--	19.5	19.0	--
AVG	8.7	3.9	0.3	0.2	1.8	6.4	7.9	10.6	12.9	18.1	19.9	14.1

09152500 GUNNISON RIVER NEAR GRAND JUNCTION, COLO.
(Irrigation network station)

LOCATION.--Lat 38°59'00", long 108°27'00", near center of sec.14, T.2 S., R.1 E., Ute meridian, Mesa County, at gaging station at bridge on State Highway 141, 0.4 mile downstream from Whitewater Creek, 0.5 mile south of Whitewater, and 8 miles southeast of Grand Junction.

DRAINAGE AREA.--7,928 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1931 to September 1970.
Water temperatures: April 1949 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,910 micromhos Oct. 12; minimum daily, 340 micromhos June 29.
Water temperatures: Maximum, 22.0°C Aug. 3; minimum, freezing point on many days during December to January.

Period of record:
Dissolved solids (1931-69): Maximum, 2,820 mg/l Sept. 11-20, 1934; minimum, 122 mg/l Mar. 1, 1969.
Hardness (1931-35, 1943-69): Maximum, 1,370 mg/l Sept. 1-20, 1934; minimum, 105 mg/l May 1-6, 1969.
Specific conductance (1941-70): Maximum daily, 2,730 micromhos Sept. 10, 1956; minimum daily, 280 micromhos May 23, 1948.
Water temperatures (1949-70): Maximum, 30.0°C Aug. 13, 1958; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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

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

09152500 GUNNISON RIVER NEAR GRAND JUNCTION, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1190	834	782	771	680	695	678	434	657	1230	1240
2	1180	1030	838	797	744	815	724	704	565	711	1220	1210
3	1160	1010	838	759	713	971	702	721	604	864	1210	1230
4	1230	1000	870	728	736	892	653	702	551	435	1220	1210
5	1220	1020	901	708	759	805	597	573	582	488	1240	1240
6	1210	1010	881	754	759	752	700	552	582	692	1180	1150
7	1150	997	1020	707	777	714	680	498	448	941	1170	1070
8	1080	981	1480	708	761	689	676	471	500	960	1220	1040
9	1090	978	1620	681	749	682	686	462	693	562	1190	1090
10	1400	962	1190	713	767	691	654	520	706	657	1190	1110
11	1750	1000	878	735	789	693	668	505	690	620	1220	1080
12	1910	987	821	755	755	698	700	458	716	432	1200	1080
13	1190	972	827	777	765	688	733	412	670	422	1190	990
14	1150	975	809	771	801	660	737	403	503	520	1220	1000
15	1110	960	813	771	773	658	751	422	503	1130	1220	891
16	1100	1000	809	765	730	764	793	433	606	1150	1210	901
17	1070	1040	805	786	718	731	780	435	721	1210	1290	934
18	1140	1020	799	805	704	745	765	404	673	1170	1200	948
19	1110	931	803	837	670	706	900	405	646	1130	1180	957
20	1100	874	807	836	677	664	921	392	634	1130	907	984
21	1070	895	853	860	705	667	851	378	387	584	1300	1000
22	1210	899	870	841	732	666	870	406	396	1040	1190	997
23	1200	902	893	859	709	663	856	386	537	1190	1130	1020
24	1100	891	878	866	706	647	921	342	612	1190	1140	1000
25	1170	871	866	884	697	646	798	360	547	1170	1170	1000
26	1240	876	888	891	684	639	778	448	537	1190	1160	1010
27	1250	871	861	864	685	639	680	458	399	1010	1180	990
28	1140	850	853	879	681	638	603	463	349	1020	1180	997
29	1040	830	801	864	--	636	575	490	340	1170	1230	1010
30	1160	828	795	759	--	640	622	544	512	1230	1220	1000
31	1070	--	781	725	--	675	--	446	--	1190	1230	--
AVG	1200	955	902	789	732	704	732	479	554	898	1190	1050

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	8.0	2.0	0.0	2.0	6.0	4.0	8.5	12.0	16.5	20.5	19.5
2	11.0	7.0	2.0	0.0	2.0	6.0	5.0	7.0	13.0	16.5	19.0	17.0
3	12.0	5.5	4.0	0.0	1.0	5.0	6.5	9.5	14.5	18.0	22.0	17.0
4	10.0	5.5	3.0	0.0	3.0	5.5	5.5	11.0	15.0	16.5	21.5	16.0
5	10.0	6.0	4.0	0.0	3.5	6.0	6.0	11.0	14.0	17.0	21.5	15.0
6	9.5	7.0	2.0	0.0	3.5	6.0	7.0	11.0	15.0	18.0	21.0	12.0
7	10.0	7.0	3.0	0.0	4.5	6.0	9.0	10.5	13.5	19.0	20.5	14.0
8	10.5	6.5	1.5	0.0	5.0	6.0	9.5	10.0	13.5	20.5	21.5	15.0
9	11.0	7.0	1.5	0.5	4.0	6.5	8.5	9.0	14.0	18.5	21.5	16.5
10	11.0	6.0	1.0	0.0	4.5	6.5	10.0	9.0	12.0	18.0	20.5	16.5
11	10.0	7.0	1.5	1.0	3.5	4.5	9.5	11.0	12.0	17.0	18.0	16.0
12	8.0	8.0	3.0	2.0	5.5	4.5	7.0	11.5	11.0	16.5	19.5	16.5
13	7.0	7.0	2.0	1.5	7.0	5.5	6.5	10.5	14.5	19.0	18.5	15.5
14	9.0	7.0	3.0	1.5	8.0	5.5	7.0	10.5	14.5	16.5	20.5	15.5
15	9.0	5.5	3.0	1.5	4.5	7.0	8.0	9.5	14.5	19.0	20.0	14.5
16	9.0	8.0	1.5	1.5	4.0	5.5	8.0	11.0	14.5	19.5	18.5	14.5
17	8.5	6.5	3.0	3.0	4.5	6.5	8.0	11.5	15.5	20.5	20.0	14.0
18	10.0	4.5	2.0	1.0	3.0	4.0	7.0	13.0	16.0	20.0	19.0	13.5
19	9.0	4.0	3.0	0.0	3.0	3.5	7.0	12.0	16.5	21.0	21.0	14.5
20	8.0	3.5	3.5	3.0	3.5	4.5	6.0	10.5	16.5	21.5	18.5	15.5
21	8.0	3.5	4.5	1.0	4.5	5.0	7.0	11.5	15.0	21.5	18.5	14.5
22	8.5	4.0	6.0	1.0	4.0	5.5	6.5	11.5	15.0	19.0	19.0	13.0
23	8.5	5.0	5.5	4.5	6.5	6.0	7.0	12.0	16.0	16.0	18.5	13.5
24	9.5	7.0	5.0	4.5	6.0	6.5	7.0	12.0	18.0	19.5	19.0	13.5
25	9.5	6.5	4.5	4.5	5.5	6.5	9.0	12.0	17.0	21.0	18.5	11.5
26	4.5	5.5	4.5	7.0	6.0	5.5	10.0	13.0	16.5	19.5	18.0	10.5
27	8.5	5.5	2.0	8.0	4.5	4.5	10.5	13.5	16.5	18.5	20.0	11.5
28	9.5	2.0	1.0	7.0	5.0	1.5	6.0	13.5	18.5	18.5	19.0	12.0
29	10.0	3.0	1.0	1.5	--	6.0	6.0	14.0	15.5	19.0	20.0	12.0
30	7.0	1.0	0.5	1.0	--	7.0	5.0	14.5	15.5	21.0	20.0	14.5
31	6.5	--	0.0	1.5	--	5.5	--	12.0	--	20.0	19.0	--
AVG	9.2	5.6	2.7	1.8	4.3	5.4	7.3	11.1	14.8	18.7	19.7	14.5

09163500 COLORADO RIVER NEAR COLORADO-UTAH STATE LINE

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

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

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

CHEMICAL ANALYSES, SEPTEMBER 1969 TO AUGUST 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
SEPT 1969									
10...	3810	20.0	143	54	134	5.0	222	552	95
10...	3810	20.0	147	54	134	5.0	238	552	95
OCT.									
07...	5380	10.0	118	42	107	4.7	205	412	78
NOV.									
19...	4720	3.0	93	39	101	3.5	191	325	86
DEC.									
29...	3810	0.5	82	38	91	3.6	181	269	84
JAN 1970									
20...	4050	2.0	77	39	96	4.2	182	262	100
FEB.									
10...	3810	3.0	80	30	99	2.6	174	264	89
MAR.									
11...	4630	5.0	75	28	86	3.4	180	226	82
APR.									
09...	4030	12.0	63	31	87	3.8	165	221	80
MAY									
05...	7960	13.5	69	22	60	3.4	165	178	52
JULY									
02...	13200	18.0	52	14	38	2.4	117	122	31
AUG.									
14...	3570	22.0	122	41	111	4.3	192	400	85

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
SEPT 1969								
10...	1140	1.50	11700	577	395	2.4	1490	7.8
10...	1140	1.52	11700	591	396	2.4	1490	7.7
OCT.								
07...	925	1.26	13400	469	301	2.1	1260	7.7
NOV.								
19...	803	1.09	10200	392	235	2.2	1150	7.6
DEC.								
29...	714	.97	7350	360	212	2.1	1060	7.1
JAN 1970								
20...	737	1.00	8060	352	203	2.2	1060	7.8
FEB.								
10...	693	.94	7130	323	180	2.4	1040	7.7
MAR.								
11...	636	.86	7950	304	156	2.2	956	7.8
APR.								
09...	620	.84	6750	285	150	2.2	925	7.9
MAY								
05...	509	.69	10900	261	126	1.6	769	8.0
JULY								
02...	350	.48	12500	186	90	1.2	534	7.6
AUG.								
14...	940	1.28	9060	474	313	2.2	1300	8.3

09177100 SAN MIGUEL RIVER BELOW URAVAN, COLO.

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

DRAINAGE AREA.--1,549 sq mi.

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

CHEMICAL ANALYSES, AUGUST 1969 TO JULY 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG 1969									
28...	86	20.0	144	72	81	5.4	128	644	65
SEP.									
18...	199	15.5	106	46	46	3.6	132	367	72
18...	199	15.5	117	40	46	3.6	119	367	72
OCT.									
16...	196	8.5	91	50	38	3.6	65	388	42
16...	196	8.5	88	50	38	3.3	58	388	32
NOV.									
13...	150	5.5	110	57	56	4.4	61	546	45
DEC.									
11...	107	0.0	105	58	69	8.5	177	497	64
JAN 1970									
15...	107	1.0	113	124	88	13	128	840	94
FEB.									
12...	100	4.5	104	73	73	7.5	138	578	66
MAR.									
12...	166	5.5	111	63	75	6.1	148	495	70
JUNE									
04...	1200	13.0	48	12	13	1.8	86	106	11
18...	700	15.0	51	16	15	2.0	103	128	8.8
JULY									
16...	293	19.5	64	33	34	3.9	113	252	36

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
AUG 1969								
28...	1100	1.46	256	657	552	1.4	1490	7.1
SEP.								
18...	736	1.00	395	454	345	.9	1030	7.3
18...	704	1.00	395	457	359	.9	1030	7.0
OCT.								
16...	714	.97	378	432	379	.8	1000	6.7
16...	692	.94	366	424	376	.8	961	6.7
NOV.								
13...	888	1.21	360	512	461	1.1	1230	7.0
DEC.								
11...	893	1.21	258	500	354	1.3	1350	7.8
JAN 1970								
15...	1450	1.96	419	796	691	1.3	2160	7.4
FEB.								
12...	1000	1.36	270	561	448	1.3	1530	7.2
MAR.								
12...	964	1.31	432	536	415	1.4	1430	7.4
JUNE								
04...	260	.35	842	163	98	.4	402	7.5
18...	306	.42	578	192	108	.5	450	7.6
JULY								
16...	491	.67	388	296	203	.9	780	7.6

09179500 DOLORES RIVER AT GATEWAY, COLO.

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

DRAINAGE AREA.--4,350 sq mi.

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

REMARKS.--Records of discharge are given for Dolores River near Cisco, Utah (station 09180000).

CHEMICAL ANALYSES, JANUARY TO JULY 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
JAN.									
15...	200	1.0	106	45	398	20	164	325	587
FEB.									
12...	195	1.0	104	48	411	22	166	343	609
MAR.									
12...	231	5.0	103	61	519	26	166	358	825
APR.									
24...	597	13.0	78	30	127	7.7	181	206	164
JUNE									
04...	1930	11.5	44	10	24	2.3	108	7.2	29
18...	1270	20.0	53	14	52	4.0	128	100	72
JULY									
16...	394	21.0	68	23	174	9.4	108	176	255

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

09180000 DOLORES RIVER NEAR CISCO, UTAH

LOCATION.--Lat 38°47'50", long 109°11'40", in SW¼SE¼, sec.18, T.23 S., R.25 E., Grand County, at gaging station 9 miles upstream from mouth, 13.5 miles downstream from Colorado-Utah State line, and 14 miles southeast of Cisco.

DRAINAGE AREA.--4,580 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: March 1951 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: March 1951 to September 1959, October 1964 to September 1970.
Sediment records: March 1951 to September 1964.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 5,750 micromhos Jan. 8; minimum daily, 300 micromhos May 21.
Water temperatures: Maximum, 26.0°C Aug. 17; minimum, freezing point on many days during December and January.

Period of record:
Dissolved solids (1953-69): Maximum, 8,220 mg/l Mar. 4, 1964; minimum, 200 mg/l June 1-10, 1957, May 1-31, 1958.
Hardness (1953-69): Maximum, 1,900 mg/l Sept. 21-30, 1956; minimum, 132 mg/l May 1-31, 1958.
Specific conductance: Maximum daily, 12,800 micromhos Mar. 4, 1964; minimum daily, 254 micromhos May 8, June 6, 1952.
Water temperatures (1951-59, 1968-70): Maximum, 29.5°C Aug. 14, 1958; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
23...	1100	269	--	105	42	294	17	141	0	368	440	--
NOV.												
14...	1130	276	--	91	43	250	13	171	0	312	359	--
JAN.												
13...	1115	200	7.8	111	50	623	26	173	0	359	942	.4
FEB.												
16...	1050	220	4.7	107	48	567	28	168	0	336	865	.3
MAR.												
13...	1030	170	5.0	103	54	544	27	146	0	386	825	.3
APR.												
13...	1410	790	5.5	84	25	94	7.1	155	0	232	110	.4
MAY												
15...	1230	3930	7.1	38	9.2	13	2.3	114	0	48	16	.3
JUNE												
12...	1240	1680	6.4	54	18	45	3.3	128	0	120	51	.4
JULY												
14...	1110	478	7.0	72	23	143	7.8	137	0	177	230	.3
AUG.												
14...	1300	139	5.4	107	37	196	11	138	0	321	290	.5
SEP.												
17...	1050	1020	8.0	72	17	35	4.3	133	0	172	29	.1

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
23...	--	--	1420	1340	1.93	1030	436	320	6.1	1920	7.3
NOV.											
14...	--	--	1170	1150	1.56	872	401	261	5.4	1960	7.8
JAN.											
13...	--	120	2240	2210	3.01	2990	483	341	12	3780	7.7
FEB.											
16...	--	110	2090	2050	2.79	1240	466	328	11	3470	7.6
MAR.											
13...	--	450	2060	2020	2.75	946	478	358	11	3420	7.6
APR.											
13...	--	70	673	651	.92	1440	314	186	2.3	1030	7.8
MAY											
15...	--	30	219	194	.30	2320	132	39	.5	313	7.5
JUNE											
12...	--	40	394	367	.54	1790	209	104	1.4	619	7.9
JULY											
14...	3.4	20	735	712	1.00	949	273	161	3.8	1190	8.0
AUG.											
14...	3.8	20	1100	1060	1.43	413	42	307	4.2	1700	8.0
SEP.											
17...	--	40	398	405	.54	1100	256	141	1.0	673	7.4

09180000 DOLORES RIVER NEAR CISCO, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	2440	2520	3650	3050	2550	---	434	872	---	1800
2	2240	---	2800	3380	4210	3160	2560	551	413	882	1960	---
3	3000	2540	2770	---	5490	3280	2520	574	422	902	2260	---
4	---	2640	2630	5170	5010	4090	---	551	436	1040	3520	---
5	3360	2890	2440	5160	3500	4950	2620	516	456	1260	3170	---
6	3090	3050	2180	4970	3090	4410	2740	---	---	1290	2050	1390
7	2650	2290	---	5210	---	---	3010	406	561	1320	---	1140
8	2440	---	2310	5750	2210	3740	2990	391	491	1220	---	587
9	2030	3500	2650	5600	---	3450	2920	---	---	1060	---	602
10	2090	3530	---	---	2390	3200	2420	371	---	1190	---	637
11	2250	3360	---	5300	2590	3250	---	---	632	---	---	828
12	2370	3050	2720	4710	2950	3380	1360	380	636	1350	---	---
13	---	2000	---	3780	2820	3670	1250	361	---	1320	---	861
14	2530	1950	2860	3390	---	---	1070	354	677	1210	---	1020
15	---	---	---	2720	2570	---	---	---	683	---	---	1340
16	2620	1920	2900	---	---	4060	1140	329	678	1460	---	1160
17	2810	1990	2830	---	---	4450	---	---	677	1440	3200	685
18	2840	2240	2710	3190	2590	4490	---	324	669	1180	2550	1160
19	---	2320	2850	3220	2630	4610	1130	322	638	1400	2410	---
20	2750	2560	---	3170	2860	4660	1110	327	---	---	2190	---
21	---	2520	3310	3070	---	---	1160	300	559	1990	1890	958
22	1970	---	---	2770	3200	4730	1260	311	567	2880	---	1060
23	2330	2310	2350	2870	3020	4900	1450	304	587	2660	1230	1150
24	---	2300	3020	---	2960	5270	---	---	620	---	1160	1410
25	2390	2260	---	3110	2830	4870	1380	315	674	---	1030	---
26	2530	2130	---	---	2700	---	1080	323	676	---	1280	1510
27	2650	---	---	3130	2860	---	1000	---	---	---	1690	1820
28	2970	1750	3110	3110	---	---	692	342	683	---	1730	---
29	2800	1910	3020	2990	---	4180	640	373	748	---	---	2060
30	2190	2250	2810	3130	---	---	493	---	---	---	1770	2270
31	---	---	2720	---	---	2650	---	425	---	---	1770	---
AVG	---	2470	---	---	---	---	1690	---	---	---	---	---

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	1.0	0.0	1.0	5.0	8.0	---	14.0	21.0	---	23.0
2	14.0	---	1.0	0.0	2.0	6.0	9.0	10.5	14.5	21.0	25.5	---
3	14.0	8.0	2.0	---	2.0	6.0	10.0	12.5	14.0	22.0	25.0	---
4	---	8.0	2.0	0.0	2.0	6.0	---	14.0	12.5	22.0	24.5	---
5	12.0	8.0	1.0	0.0	3.0	6.0	11.0	12.0	14.0	23.0	24.5	---
6	12.0	8.0	1.0	0.0	3.0	8.0	12.0	---	---	23.0	24.0	18.5
7	12.0	8.0	---	0.0	---	---	12.0	12.0	14.5	23.5	---	18.0
8	12.0	---	1.0	0.0	4.0	9.0	14.0	12.0	15.0	23.0	---	18.0
9	12.0	7.0	1.0	0.0	---	8.0	14.0	---	---	22.5	---	21.5
10	11.0	8.0	---	---	5.0	7.0	14.0	12.0	---	24.0	---	21.5
11	10.0	9.0	---	0.0	5.0	7.0	---	---	12.5	---	---	21.5
12	10.0	9.0	1.0	0.0	5.0	8.0	10.0	12.0	14.0	24.0	---	---
13	---	9.0	---	0.0	5.0	9.0	10.0	12.0	---	22.0	---	20.0
14	10.0	9.0	1.0	0.0	---	---	9.0	12.0	15.5	23.0	---	19.0
15	---	---	---	0.0	6.0	---	---	---	16.5	---	---	18.5
16	9.0	8.0	1.0	---	---	10.0	9.5	14.0	16.5	24.5	---	17.5
17	9.0	5.0	1.0	---	---	10.0	---	---	18.5	23.5	26.0	17.5
18	9.0	5.0	1.0	0.0	6.0	7.0	---	14.0	19.0	---	25.0	17.0
19	---	3.0	1.0	0.0	5.0	7.0	10.0	14.0	19.0	24.0	23.5	---
20	9.0	4.0	---	0.0	6.0	7.0	10.0	14.0	---	23.5	23.0	---
21	---	3.0	3.0	1.0	---	---	10.0	14.0	20.0	23.0	23.0	17.0
22	7.0	---	---	2.0	6.0	---	10.0	12.0	20.0	---	---	17.0
23	10.0	3.0	2.0	3.0	6.0	10.0	10.0	12.0	21.0	23.5	23.5	15.0
24	---	3.0	3.0	---	6.0	11.5	---	---	20.5	---	24.0	15.0
25	10.0	3.0	---	3.0	6.0	10.0	12.0	12.0	21.5	23.5	24.0	---
26	11.0	3.0	---	---	6.0	---	14.0	14.0	21.0	23.0	23.0	14.5
27	11.0	---	---	4.0	6.0	---	10.0	---	---	23.5	23.5	14.0
28	10.0	3.0	1.0	2.0	---	---	10.0	14.0	21.0	---	23.0	---
29	10.0	1.0	0.0	2.0	---	8.0	10.0	14.0	21.0	24.0	---	14.5
30	10.0	1.0	0.0	3.0	---	---	9.5	---	---	25.0	23.5	14.5
31	---	---	0.0	---	---	6.0	---	14.0	---	24.5	23.0	---
AVG	---	5.5	---	---	---	---	11.0	---	---	23.0	---	---

COLORADO RIVER MAIN STEM

09180500 COLORADO RIVER NEAR CISCO, UTAH
(Irrigation network station)

LOCATION.--Lat 38°48'40", long 109°17'34", in NW¼NW¼ sec.17, T.23, S., R.24 E., Grand County, at gaging station 1 mile downstream from Dolores River, 11 miles south of Cisco, 36 miles downstream from Colorado-Utah State line, 97 miles upstream from Green River, 235 miles upstream from San Juan River, and at mile 1,002.3.

DRAINAGE AREA.--24,100 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: August 1928 to September 1969 (daily), October 1969 to September 1970.
Water temperatures: May 1949 to September 1959, October 1964 to September 1970.
Sediment records: May 1930 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,590 micromhos Sept. 1; minimum daily, 360 micromhos May 25.
Water temperatures: Maximum, 25.0°C Aug. 12; minimum, freezing point on several days during December and January.
Sediment concentrations: Maximum daily, 23,600 mg/l Sept. 7; minimum daily, 17 mg/l Dec. 29.
Sediment discharge: Maximum daily, 949,000 tons Sept. 7; minimum daily, 179 tons Dec. 29.

Period of record:
Dissolved solids (1928-52, 1953-69): Maximum, 2,670 mg/l Aug. 11-21, 1940; minimum, 202 mg/l June 11-20, 1933, July 1-10, 1957.
Hardness (1928-35, 1943-52, 1953-69): Maximum, 1,090 mg/l Sept. 1-10, 1934; minimum, 131 mg/l June 11-20, 1952.
Specific conductance (1941-52, 1953-70): Maximum daily, 4,820 micromhos Dec. 13, 1957; minimum daily, 291 micromhos May 31, 1958.
Water temperatures (1949-52, 1953-59, 1964-70): Maximum, 29.5°C July 29, 1966; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 69,000 mg/l Oct. 27, 1951; minimum daily, 4 mg/l Aug. 22, 1960.
Sediment discharge: Maximum daily, 2,790,000 tons Oct. 14, 1941; minimum daily, 14 tons Aug. 22, 1960.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
07...	1255	5140	14	123	42	120	5.5	210	0	438	96	0.5
JAN.												
12...	1315	4280	10	96	28	143	5.2	185	0	268	170	.4
FEB.												
11...	1310	3600	8.4	80	30	114	5.0	172	0	248	118	.4
MAR.												
19...	1215	4300	9.2	79	30	135	5.6	168	0	256	168	.3
APR.												
08...	1130	4120	6.4	78	28	119	5.4	154	0	268	130	.5
MAY												
11...	1330	15290	4.2	47	13	31	3.0	127	0	100	26	.3
JUNE												
15...	1250	22420	10	49	14	30	2.5	123	0	110	24	.4
JULY												
15...	1220	7100	9.8	64	20	75	3.8	134	0	168	92	.4
AUG.												
17...	1300	3180	9.3	127	47	145	6.2	196	9	392	152	.5
21...	1900	4200	12	113	46	116	6.8	199	0	404	90	.6
23...	1845	5470	13	117	42	106	5.7	212	0	385	50	.6
25...	1830	4610	13	119	41	98	5.2	206	0	320	130	.7
27...	1915	3800	13	123	43	102	5.0	202	0	320	130	.7
SEP.												
15...	1400	10140	--	--	--	--	--	--	--	--	--	--

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
07...	--	90	981	948	1.33	13600	481	309	2.4	1360	7.6
JAN.											
12...	--	50	883	823	1.20	10200	355	203	3.3	1330	7.2
FEB.											
11...	--	60	765	698	1.04	7440	325	184	2.8	1130	7.2
MAR.											
19...	--	80	779	771	1.06	9040	322	184	3.3	1210	8.0
APR.											
08...	--	80	751	715	1.02	8350	312	186	2.9	1130	8.0
MAY											
11...	--	60	331	295	.45	13700	170	66	1.0	463	7.5
JUNE											
15...	--	40	324	303	.44	19600	180	79	1.0	493	7.7
JULY											
15...	.80	50	524	502	--	--	244	134	2.1	820	8.0
AUG.											
17...	2.0	120	1080	993	1.35	9270	508	333	2.8	1520	8.4
21...	--	--	1050	887	1.43	11900	471	308	2.3	1380	7.6
23...	--	--	988	824	1.34	14600	464	290	2.1	1310	7.4
25...	--	--	920	830	1.25	11500	388	219	2.0	1230	8.0
27...	--	--	952	838	1.29	9770	484	318	2.0	1270	8.2
SEP.											
15...	--	--	823	--	--	--	--	--	--	1100	7.7

09180500 COLORADO RIVER NEAR CISCO, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1180	1140	1130	1070	948	918	---	396	488	---	1590
2	1330	---	1180	1220	1070	966	948	688	415	516	1220	1410
3	1350	1130	1170	---	1210	957	960	770	460	562	1240	1400
4	---	1130	1170	1260	1150	1010	---	786	455	657	1310	---
5	1290	1150	1150	1350	1110	1070	915	815	450	522	1290	---
6	1360	1180	---	1290	1110	1030	912	---	---	565	1290	1270
7	1290	1160	1160	1270	---	---	---	599	430	646	1370	1440
8	1250	---	1190	1320	1060	994	980	558	435	706	---	1110
9	1250	1190	1230	1330	1060	978	951	---	---	752	1270	1040
10	1240	1150	---	---	1060	969	950	501	528	640	1210	1090
11	1220	1170	1490	1240	1060	1000	---	490	524	---	1230	1120
12	1370	1140	1220	1270	1050	975	903	540	523	671	1220	---
13	---	1140	---	1210	1070	954	864	525	---	582	1270	1140
14	1230	1140	1120	1140	---	---	866	448	501	584	1300	1150
15	1210	---	---	1080	1050	---	---	---	493	---	---	1060
16	1190	1110	1120	---	1010	939	915	445	477	849	1350	953
17	1180	1170	1110	---	---	960	904	439	526	917	1370	933
18	1150	1160	1130	1090	986	948	---	438	545	---	1370	984
19	---	1150	1100	1090	993	1000	896	422	510	1000	1440	---
20	1150	1190	---	1090	990	942	924	397	---	1010	1380	---
21	1150	1140	1130	1080	---	---	973	391	477	1040	---	1070
22	---	---	1100	1100	973	912	967	376	413	---	---	1110
23	1150	1200	1110	1100	986	942	---	---	410	935	---	1130
24	---	1150	---	---	1010	920	970	369	472	1250	1250	1160
25	1180	1120	---	1090	990	933	951	360	424	1140	---	---
26	1170	1110	---	1100	980	920	986	363	417	1090	1220	1160
27	1180	---	---	1090	970	920	930	---	---	1110	---	1150
28	1200	1110	1110	1100	---	---	890	367	407	---	1320	1120
29	1150	1110	1130	1100	---	912	775	364	397	1060	---	1120
30	1160	1130	1140	---	---	---	661	---	---	1080	1380	1140
31	1180	---	---	---	---	898	---	382	---	1210	1440	---
AVG	1220	1150	---	---	1040	960	913	---	462	830	---	1160

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	9.0	1.0	0.0	1.0	6.0	8.0	---	12.0	17.5	---	22.0
2	14.0	---	1.0	0.0	1.0	5.0	9.0	10.0	12.0	18.0	23.0	22.5
3	14.0	7.0	1.0	---	2.0	6.0	8.0	12.5	12.5	19.0	23.0	22.5
4	---	7.0	2.0	0.0	2.0	6.0	---	14.0	12.0	19.0	23.0	---
5	11.0	7.0	1.0	0.0	3.0	6.0	9.5	12.5	12.5	19.0	22.0	---
6	11.0	7.0	---	0.0	4.0	7.0	11.0	---	---	19.5	22.0	18.0
7	12.0	6.0	3.0	0.0	---	---	---	14.0	14.0	20.0	23.0	17.5
8	12.0	---	1.0	0.0	5.0	8.0	12.0	12.0	14.0	20.0	---	18.0
9	12.0	6.0	2.0	0.0	5.0	8.0	12.5	---	---	20.0	22.0	20.0
10	10.0	7.0	---	---	6.0	7.0	12.5	11.5	11.5	19.5	23.0	21.0
11	11.0	7.0	2.0	0.0	6.0	7.0	---	14.0	11.0	---	24.5	21.5
12	10.0	8.0	1.0	0.0	6.0	7.0	10.5	12.0	12.0	20.0	25.0	---
13	---	8.0	---	0.0	5.0	8.0	10.0	12.5	---	20.5	24.0	20.0
14	9.0	8.0	2.0	0.0	---	---	9.0	12.0	14.0	19.0	23.0	20.0
15	9.0	---	---	0.0	6.0	---	---	---	15.0	---	---	17.5
16	9.0	7.0	1.0	---	6.0	8.0	9.5	12.0	14.0	21.0	23.5	17.0
17	9.0	4.0	1.0	---	---	8.0	9.0	12.5	16.0	20.5	24.0	17.5
18	9.0	4.0	1.0	1.0	6.0	5.0	---	12.5	16.0	---	23.5	17.0
19	---	3.0	1.0	1.0	6.0	6.0	11.0	12.5	16.5	22.0	23.0	---
20	8.0	3.0	---	1.0	5.0	6.0	9.0	12.5	---	22.0	22.5	---
21	8.0	3.0	3.0	2.0	---	---	10.0	12.5	17.0	21.0	22.0	17.0
22	---	---	2.0	3.0	6.0	---	9.0	12.0	17.5	---	23.0	17.0
23	9.0	3.0	2.0	4.0	6.0	9.0	---	---	17.0	22.5	---	15.0
24	---	3.0	---	---	6.0	10.0	11.5	11.0	17.0	20.0	23.0	14.5
25	9.0	3.0	---	4.0	6.0	9.0	10.0	11.5	17.5	22.0	23.0	---
26	10.0	3.0	---	4.0	6.0	8.0	12.5	12.0	17.5	22.0	23.0	14.0
27	10.0	---	---	4.0	7.0	7.0	11.0	---	---	22.0	23.0	14.0
28	10.0	3.0	1.0	2.0	---	---	11.0	12.5	17.0	---	23.0	15.0
29	10.0	1.0	0.0	2.0	---	7.0	10.0	12.0	17.0	22.5	---	15.0
30	9.0	2.0	0.0	---	---	---	10.5	---	---	23.0	23.5	15.0
31	8.0	---	---	---	---	7.0	---	12.0	---	23.0	23.5	---
AVG	10.0	5.0	---	---	5.0	---	10.5	---	14.5	20.5	23.0	18.0

COLORADO RIVER MAIN STEM

09180500 COLORADO RIVER NEAR CISCO, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3720	150	1510	5230	314	4430	4220	32	365
2	3760	136	1380	5340	224	3230	4300	45	522
3	3740	285	2880	5320	135	1940	4380	40	473
4	4200	460	5220	5120	94	1300	4420	52	621
5	5400	720	10500	4920	90	1200	4530	45	550
6	5340	1160	16700	4970	99	1330	4570	40	494
7	5140	680	9440	4970	135	1810	4020	34	369
8	5050	360	4910	5010	104	1410	3230	32	279
9	5140	268	3720	5010	73	987	3010	32	260
10	4460	197	2370	5050	64	873	3090	41	342
11	4480	330	3990	5070	87	1190	4100	60	664
12	4860	820	10800	4990	82	1100	4200	51	578
13	5740	1190	18400	4950	66	882	4220	47	536
14	5650	550	8390	4880	61	804	4240	43	492
15	5580	460	6930	4780	70	903	4240	40	458
16	5620	375	5690	4860	410	5380	4200	36	408
17	5740	362	5650	5140	1120	15500	4120	34	378
18	5920	504	8060	5050	470	6410	4140	31	347
19	6620	2460	44000	4860	320	4150	4140	26	291
20	6290	2020	34300	4420	77	919	4220	28	319
21	5430	980	15400	4320	49	572	4280	31	358
22	5290	500	7140	4590	66	818	4380	38	449
23	5450	302	4440	4780	82	1060	4400	31	368
24	5650	307	4680	4880	84	1110	4420	50	597
25	5340	312	4500	4970	229	3070	4400	45	535
26	5250	313	4440	4690	209	2650	4400	40	475
27	5270	215	3060	4420	280	3340	4260	35	403
28	5620	220	3340	4550	80	983	4220	30	342
29	5690	580	8910	4380	53	627	3900	17	179
30	5830	680	10700	4200	32	363	3500	21	198
31	5710	380	5860	--	--	--	3360	32	290
TOTAL	153420	--	277310	145660	--	70341	127110	--	12940

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3270	28	247	3460	48	448	4180	89	1000
2	3340	71	640	3820	51	526	4380	112	1320
3	3340	104	938	3720	43	432	4920	530	7040
4	3400	136	1250	3760	39	396	4820	454	5910
5	3290	74	657	3860	43	448	4550	684	8400
6	3250	37	325	3860	38	396	4400	295	3500
7	3310	64	572	3800	39	400	4340	300	3520
8	3210	66	572	3820	40	413	4320	304	3550
9	3090	64	534	3820	39	402	4360	263	3100
10	3530	59	562	3760	36	365	4670	307	3870
11	3860	54	563	3690	34	339	4590	340	4210
12	4200	196	2220	3780	39	398	4650	250	3140
13	4530	274	3350	3900	59	621	4260	153	1760
14	4500	230	2790	4200	80	907	4360	141	1660
15	4200	205	2320	4300	102	1180	4400	129	1530
16	4040	208	2270	4180	126	1420	4590	117	1450
17	4040	211	2300	4080	83	914	4650	191	2400
18	3960	214	2290	4040	50	545	4630	336	4200
19	4020	203	2260	4060	47	515	4590	189	2340
20	4090	154	1700	3960	46	492	4570	127	1570
21	3980	137	1470	3860	46	479	4360	102	1200
22	3960	144	1540	3940	46	489	4440	78	935
23	4020	94	1020	4140	73	816	4460	74	891
24	4100	102	1130	4200	50	567	4440	81	971
25	4200	110	1250	4220	58	661	4420	83	991
26	4200	93	1050	4260	67	771	4500	106	1290
27	4120	90	1000	4180	85	959	4550	146	1790
28	4180	90	1020	4120	87	964	4400	112	1330
29	4260	88	1010	--	--	--	4440	78	935
30	3900	69	727	--	--	--	4590	91	1130
31	3460	50	467	--	--	--	4650	104	1310
TOTAL	118340	--	40044	110790	--	17267	139480	--	78243

09180500 COLORADO RIVER NEAR CISCO, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	APRIL MEAN DISCHARGE (CFS)	APRIL MEAN CONCEN-TRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (CFS)	MAY MEAN CONCEN-TRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (CFS)	JUNE MEAN CONCEN-TRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	4440	58	695	8420	1100	25000	28000	809	61200
2	4480	69	835	7120	801	15400	24900	666	44800
3	4440	64	767	6550	612	10800	20800	684	38400
4	4480	72	871	7420	1660	33300	21300	666	38300
5	4530	79	966	10300	3390	94300	20900	648	36600
6	4120	49	545	14000	4200	159000	22100	588	35100
7	4160	49	550	17300	4400	205000	22200	569	34100
8	4300	70	813	19100	3590	185000	23400	494	31200
9	4720	250	3190	18800	2700	137000	23500	977	62000
10	4840	350	4570	16800	1800	81600	24300	1460	95800
11	5070	500	6840	15600	1660	69900	25900	1690	118000
12	5400	1200	19100	17300	2350	110000	26100	957	67400
13	6130	1450	24000	21100	2660	152000	24200	724	47300
14	5270	1550	22100	23000	3350	208000	23100	490	30600
15	4800	966	12400	24100	2640	172000	22200	346	20700
16	4500	453	4410	22300	1920	116000	21000	522	29600
17	4440	424	5080	22400	1620	95900	17200	500	23200
18	4740	424	5430	23900	1980	128000	17200	498	23100
19	5120	423	5960	30200	1960	160000	17500	430	20300
20	5340	423	6100	32400	1800	140000	18200	654	32100
21	5120	347	4800	32500	1330	117000	21900	879	52000
22	4820	295	3840	32400	3500	306000	25300	592	40400
23	4960	243	3190	33200	2400	215000	24300	462	30300
24	4690	250	3170	35000	1110	105000	20200	450	24500
25	4630	298	3700	34600	990	92500	21900	524	31000
26	5250	4610	65300	31700	738	63200	22200	482	28900
27	7550	6000	122000	29400	767	60900	22700	554	34000
28	10400	6680	188000	28900	654	51000	25300	625	42700
29	11600	5130	161000	28400	600	46000	25200	473	32200
30	10300	3160	87900	26700	626	45100	22500	450	27300
31	--	--	--	27100	651	47600	--	--	--
TOTAL	165040	--	764012	648019	--	3438509	675500	--	1233100

DAY	JULY MEAN DISCHARGE (CFS)	JULY MEAN CONCEN-TRATION (MG/L)	JULY SEDIMENT DISCHARGE (TONS/DAY)	AUGUST MEAN DISCHARGE (CFS)	AUGUST MEAN CONCEN-TRATION (MG/L)	AUGUST SEDIMENT DISCHARGE (TONS/DAY)	SEPTEMBER MEAN DISCHARGE (CFS)	SEPTEMBER MEAN CONCEN-TRATION (MG/L)	SEPTEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	15700	409	17000	4200	900	10200	3530	8130	77500
2	13500	390	14200	3980	187	2010	3880	5300	55500
3	11900	591	19000	3780	165	1680	4160	1000	11200
4	13500	609	22200	3690	151	1500	4180	400	4510
5	13400	376	13600	4180	611	6900	4120	1700	18900
6	11600	362	11300	4460	1530	18400	9690	14000	513000
7	11200	777	23500	4400	1160	13800	14900	23600	949000
8	10700	1610	46500	4400	1230	14600	10800	7500	219000
9	11400	2770	48300	4500	2000	24300	8340	2500	56300
10	10300	489	13600	4590	1000	12400	8110	1000	21900
11	10900	770	22700	4260	900	10400	7900	620	13200
12	11500	1050	32600	3740	525	5360	7780	460	9660
13	13300	423	15200	3500	251	2370	8290	2600	67500
14	11400	413	12700	3340	199	1790	9970	6950	187000
15	7280	306	6050	3230	173	1510	10200	5700	157000
16	6430	254	4410	3160	147	1250	8820	2500	59500
17	6960	270	4620	3360	129	1170	7750	830	17400
18	5400	223	3490	3500	134	1270	7030	490	9300
19	5700	176	2710	3400	140	1290	6620	402	7190
20	6000	298	4830	3740	220	2220	6220	314	5270
21	7750	388	8120	3980	550	5910	5780	227	3540
22	6000	694	11200	5100	1340	18500	5360	194	2810
23	5700	1000	15400	5340	1700	24500	5250	168	2380
24	5700	3600	55400	5070	1120	15300	5290	163	2330
25	5700	1900	29200	4630	620	7750	5210	142	2000
26	5400	380	5950	4200	570	6460	5210	122	1720
27	5370	651	10500	3800	443	4550	5270	122	1740
28	5780	562	8770	3570	454	4380	5250	108	1530
29	5290	472	6740	3490	312	2930	5140	92	1280
30	4900	271	3590	3400	171	1570	5030	105	1430
31	4530	1490	18200	3530	5150	49100	--	--	--
TOTAL	271093	--	549380	123550	--	275370	205080	--	2480590

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 2943570
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 9241097

09180500 COLORADO RIVER NEAR CISCO, UTAH--Continued

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 7, 1969	1225	13.0	5230	623	8800	44	56	--	79	--	93	97	100	--	--	--	VPWC
JAN 12, 1970	1315	.0	4140	176	1970	15	20	--	--	--	66	88	99	100	--	--	VPWC
MAR 19.....	1215	5.0	4500	194	2360	40	51	--	--	--	81	86	100	--	--	--	VPWC
MAY 11.....	1330	14.0	15500	1710	71600	16	20	--	--	--	64	85	97	100	--	--	VPWC
JUN 15.....	1250	13.5	18500	256	12800	29	35	--	--	--	90	99	100	--	--	--	VPWC
JUL 15.....	1220	22.0	7120	206	3960	34	47	--	--	--	100	--	--	--	--	--	SPWC
JUL 24.....	1120	20.0	5970	7050	114000	48	67	--	--	--	99	100	--	--	--	--	VPWC
AUG 11.....	1835	24.5	4120	794	8830	56	72	--	--	--	100	--	--	--	--	--	SPWC
SEP 7.....	1830	17.5	14300	20100	776000	39	55	--	--	--	95	97	99	100	--	--	VPWC
SEP 8.....	1935	18.0	9250	4620	115000	36	49	--	--	--	92	96	100	--	--	--	VPWC
SEP 15.....	1315	17.0	10300	5260	146000	41	55	--	--	--	92	96	100	--	--	--	VPWC

GREEN RIVER BASIN

09188500 GREEN RIVER AT WARREN BRIDGE, NEAR DANIEL, WYO.

LOCATION.--Lat 43°01'00", long 110°07'20", in sec.8, T.35 N., R.111 W., Sublette County, at bridge on U.S. Highways 187 and 189, 100 ft downstream from gaging station, 3 miles upstream from Beaver Creek, and 12 miles north of Daniel.

DRAINAGE AREA.--468 sq mi (at gaging station).

PERIOD OF RECORD.--Chemical analyses: May 1962 to September 1964, October 1967 to September 1970.
Water temperatures: May 1962 to September 1964.
Sediment records: October 1968 to September 1969 (miscellaneous).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DISCHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
OCT.												
23...	1410	155	5.6	20	80	19	3.5	1.0	156	0	159	.9
NOV.												
23...	1030	A87	7.2	350	101	25	3.9	1.2	162	0	204	5.7
DEC.												
03...	1020	A80	5.8	10	102	20	4.3	1.5	164	0	210	1.3
JAN.												
09...	1315	A83	7.8	50	98	22	4.0	.6	164	0	209	.9
FEB.												
11...	1535	A99	7.4	0	89	20	3.5	2.0	149	0	189	1.0
MAR.												
10...	1000	A117	8.1	30	95	20	3.7	1.1	149	0	189	1.1
APR.												
12...	1445	A123	19	50	89	19	4.0	1.2	152	0	186	1.7
MAY												
11...	0845	A400	5.8	100	56	12	3.1	1.5	126	0	91	2.0
JUNE												
09...	1720	2420	3.5	70	22	5.5	1.0	.6	72	0	22	.4
JULY												
16...	0920	1020	2.8	90	23	3.8	1.5	.9	61	0	25	1.0
AUG.												
06...	1445	532	2.4	70	29	3.0	2.0	.7	61	0	40	1.5
SEP.												
10...	1945	430	2.0	350	32	4.5	2.0	.5	57	0	47	2.1

A DAILY MEAN DISCHARGE.

09188500 GREEN RIVER AT WARREN BRIDGE, NEAR DANIEL, WYO.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
23...	.2	.0	10	346	.47	144	278	150	.1	510	--	7.5
NOV.												
23...	.5	.0	0	429	.58	100	354	221	.1	625	--	0.0
DEC.												
03...	.3	.1	0	426	.57	91.2	338	203	.1	--	--	0.0
JAN.												
09...	.4	.2	30	424	.60	98.6	335	200	.1	635	--	0.0
FEB.												
11...	.8	.0	20	386	.52	103	304	182	.1	--	--	0.0
MAR.												
10...	.8	.0	10	392	.53	124	319	197	.1	580	--	0.0
APR.												
12...	.8	.1	0	396	.52	127	300	175	.1	--	--	1.0
MAY												
11...	.4	.5	10	234	.35	281	189	86	.1	--	--	1.0
JUNE												
09...	.2	.1	10	90	.14	666	78	19	.0	--	--	8.5
JULY												
16...	.2	.2	0	88	.12	237	74	24	.1	142	7.3	13.0
AUG.												
06...	.1	.1	40	109	.15	158	86	36	.1	195	8.1	--
SEP.												
10...	.0	.1	20	119	.17	142	98	51	.1	216	8.2	13.0

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)
OCT.						
23...	1410	155	10.2	8.5	510	7.5
NOV.						
23...	1030	A87	10.5	8.3	--	0.0
DEC.						
03...	1020	A80	10.2	8.3	610	0.0
JAN.						
09...	1315	A83	7.5	8.4	--	0.0
FEB.						
11...	1535	A99	8.9	8.2	575	0.0
MAR.						
10...	1000	A117	8.1	8.3	--	0.0
APR.						
12...	1450	A123	9.6	8.3	585	1.0
MAY						
11...	0845	A400	10.8	8.3	393	1.0
JUNE						
09...	1720	2420	8.9	8.4	147	8.5

A DAILY MEAN DISCHARGE.

09192600 GREEN RIVER NEAR BIG PINEY, WYO.

LOCATION.--Lat 42°34'14", long 109°56'58", in NE¼NE¼ sec.21, T.30 N., R.110 W., Sublette County, at bridge on State Secondary Highway 1801, 1.9 miles upstream from New Fork River, 8.4 miles northeast of Big Piney, and 16.2 miles southwest of Boulder.

DRAINAGE AREA.--1,260 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
04...	0930	158	4.9	0	62	14	9.3	.9	139	0	110	3.2
NOV.												
20...	1430	178	8.0	100	93	20	8.8	1.4	229	0	132	11
JAN.												
14...	1600	80	6.8	100	76	32	5.4	1.2	189	0	152	16
FEB.												
07...	1410	134	7.0	150	85	18	4.9	1.2	180	0	142	11
MAR.												
03...	1315	153	6.6	330	83	20	5.9	1.4	170	9	142	7.3
APR.												
12...	1350	588	5.1	0	65	16	8.3	1.9	175	0	96	7.3
MAY												
06...	0940	984	9.9	160	60	16	7.5	3.0	194	0	65	2.0
JUNE												
06...	1310	2000	6.8	180	42	9.4	5.5	1.3	143	0	35	1.1
JULY												
12...	1100	1250	7.4	110	43	8.6	11	1.2	153	0	39	5.7
AUG.												
08...	0930	512	3.3	60	39	6.8	7.4	.9	104	6	43	3.6
SEP.												
03...	1255	320	2.8	50	42	8.9	7.8	1.1	113	0	62	1.8

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
04...	.3	.2	10	273	.38	120	211	97	.3	445	7.8	4.0
NOV.												
20...	.4	.3	0	388	.54	191	315	127	.2	611	8.1	0.0
JAN.												
14...	.4	.0	20	383	.52	82.1	320	165	.1	574	8.0	0.0
FEB.												
07...	.4	.2	0	358	.48	128	288	140	.1	542	8.0	0.0
MAR.												
03...	.4	.0	10	359	.49	150	292	138	.2	544	8.4	0.0
APR.												
12...	.4	.0	0	286	.40	470	229	85	.2	480	7.5	3.0
MAY												
06...	.2	.0	30	259	.37	723	216	57	.2	428	7.5	5.5
JUNE												
06...	.3	.1	20	172	.23	929	144	27	.2	295	7.5	15.0
JULY												
12...	.3	.2	0	192	.26	655	143	17	.4	316	7.8	17.0
AUG.												
08...	.3	.2	40	162	.21	213	125	30	.3	279	8.3	18.0
SEP.												
03...	.4	.2	10	183	.26	164	142	49	.3	320	8.2	16.0

09201000 NEW FORK RIVER NEAR BOULDER, WYO.

LOCATION (revised).--Lat 42°45'01", long 109°43'41", in NW¼NE¼NW¼ sec.16, T.32 N., R.108 W., Sublette County, at bridge on old U.S. Highway 187, 70 ft upstream from former gaging station, 770 ft upstream from Boulder Creek, and 0.5 mile northwest of Boulder.

DRAINAGE AREA.--552 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
DEC.												
03...	0840	98	12	120	41	6.0	8.3	1.4	159	0	13	6.1
JAN.												
09...	1640	81	10	100	42	8.8	9.3	1.9	161	0	8.2	18
FEB.												
08...	1110	104	8.3	190	35	6.3	7.4	1.2	134	0	7.4	6.1
MAR.												
02...	1530	122	7.8	90	37	9.4	7.4	1.4	153	0	12	6.1
APR.												
07...	0930	162	4.8	0	34	7.2	5.9	1.4	131	0	8.2	11
MAY												
05...	1400	214	8.8	200	36	8.8	9.8	3.0	152	0	14	3.2
JUNE												
07...	1345	1950	4.0	140	6.0	1.2	2.0	.9	27	0	4.0	.3
JULY												
08...	1250	633	8.0	170	25	.1	4.9	1.2	76	0	2.5	5.1
AUG.												
08...	1315	231	7.6	60	31	3.4	6.9	1.6	104	6	4.1	2.6
SEP.												
03...	1620	134	7.7	120	36	7.8	9.2	2.0	159	0	5.8	2.1

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
DEC.												
03...	.2	.3	0	166	.22	42.9	128	0	.3	315	8.0	0.0
JAN.												
09...	.3	.3	0	178	.22	35.0	140	8	.3	275	7.7	0.0
FEB.												
08...	.5	.3	0	139	.18	37.6	113	3	.3	238	7.8	0.0
MAR.												
02...	.2	.0	10	156	.20	48.8	131	5	.3	253	8.1	0.0
APR.												
07...	.3	.0	0	137	.19	60.9	114	7	.2	246	7.4	4.5
MAY												
05...	.3	.2	200	160	.22	94.8	125	0	.4	265	7.3	11.0
JUNE												
07...	.1	.0	0	32	.06	221	20	0	.2	52	6.7	13.5
JULY												
08...	.2	.2	0	85	.12	147	63	1	.3	141	7.6	17.0
AUG.												
08...	.0	.1	50	114	.15	68.6	90	0	.3	199	8.3	--
SEP.												
03...	.3	.1	40	149	.21	56.4	121	0	.4	271	8.2	17.5

09205000 NEW FORK RIVER NEAR BIG PINEY, WYO.

LOCATION.--Lat 42°34'02", long 109°55'46", in SE¼NE¼NE¼ sec.22, T.30 N., R.110 W., Sublette County, at gaging station at old highway bridge, 2 miles upstream from mouth and 9.5 miles northeast of Big Piney.

DRAINAGE AREA.--1,230 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: October 1965 to September 1969.
Sediment records: October 1968 to September 1969 (miscellaneous).

EXTREMES.--Period of record:
Dissolved solids (1965-69): Maximum, 164 mg/l Nov. 1-30, 1966; minimum, 37 mg/l May 8-31, 1969.
Hardness (1965-69): Maximum, 106 mg/l Feb. 1-10, 1968; minimum, 24 mg/l May 24-31, 1967.
Specific conductance (1965-69): Maximum daily, 389 micromhos Mar. 7, 1967; minimum daily, 52 micromhos May 28, 1967.
Water temperatures (1965-69): Maximum, 23.0°C Aug. 4, 1966; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
23...	1200	372	11	110	48	14	21	1.4	113	0	118	4.4
NOV.												
23...	0900	A298	11	80	35	5.2	8.8	1.4	135	0	3.3	9.7
DEC.												
02...	1600	A243	8.9	70	30	8.5	11	2.0	132	0	24	2.8
JAN.												
18...	1000	A188	11	60	28	6.6	10	2.0	127	0	16	2.2
FEB.												
07...	1625	A196	10	10	28	6.1	9.5	1.4	118	0	15	2.6
MAR.												
10...	1105	A197	8.9	100	27	6.1	10	1.4	119	0	17	2.6
APR.												
12...	1320	341	9.0	190	31	7.5	17	3.7	133	0	31	5.4
MAY												
10...	1700	240	9.3	160	29	6.3	12	1.7	132	0	17	3.1
JUNE												
06...	1330	3640	4.2	120	6.0	1.4	2.5	.8	26	0	6.0	.8
09...	1545	3790	4.4	70	7.0	1.4	2.6	.9	29	0	5.8	.8
JULY												
16...	0800	860	10	140	27	3.5	7.4	1.4	104	0	5.8	4.6
AUG.												
08...	1100	445	7.5	50	33	.9	8.8	1.6	101	6	8.2	4.1
SEP.												
03...	1420	317	7.2	520	29	4.4	10	1.9	119	3	10	2.8

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
23...	.3	.1	30	274	.38	281	177	84	.7	424	--	6.5
NOV.												
23...	.2	.2	40	141	.21	122	110	0	.4	--	--	0.5
DEC.												
02...	.2	.1	10	152	.21	99.7	110	2	.5	--	--	0.5
JAN.												
18...	.2	.6	10	139	.19	72.1	97	0	.4	--	--	0.0
FEB.												
07...	.0	.1	20	131	.19	74.1	95	0	.4	--	--	0.5
MAR.												
10...	.2	.0	10	131	.17	64.9	92	0	.5	--	--	0.0
APR.												
12...	.3	.1	20	170	.23	153	108	0	.7	--	--	4.5
MAY												
10...	.2	.0	0	144	.21	101	98	0	.5	--	--	8.0
JUNE												
06...	.1	.0	110	35	.04	314	21	0	.2	60	6.3	13.0
09...	.1	.1	20	37	.07	532	24	0	.2	--	--	11.0
JULY												
16...	.3	.2	0	111	.15	255	83	0	.4	188	8.0	16.0
AUG.												
08...	.2	.2	70	121	.16	139	85	0	.4	211	8.3	19.5
SEP.												
03...	.4	.1	30	128	.18	113	92	0	.5	234	8.3	17.0

A DAILY MEAN DISCHARGE.

09205000 NEW FORK RIVER NEAR BIG PINEY, WYO.--Continued

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)
OCT.						
23...	1200	372	10.3	8.6	--	6.5
NOV.						
23...	0900	A298	10.4	8.2	204	0.5
DEC.						
02...	1600	A243	10.6	8.3	215	0.5
JAN.						
18...	1000	A188	8.1	8.2	245	0.0
FEB.						
07...	1625	A196	10.5	8.3	223	0.5
MAR.						
10...	1115	A197	10.1	8.0	241	0.0
APR.						
12...	1315	341	10.3	8.5	276	4.5
MAY						
10...	1700	240	9.8	8.6	246	8.0
JUNE						
09...	1545	3790	8.2	8.3	58	11.0

A DAILY MEAN DISCHARGE.

09207700 DRY PINEY CREEK NEAR BIG PINEY, WYO.

LOCATION.--Lat 42°23'25", long 110°15'09", in NW¼NE¼ sec.27, T.28 N., R.113 W., Sublette County, at gaging station 8.3 miles upstream from mouth and 16.3 miles southwest of Big Piney.

DRAINAGE AREA.--67 sq mi, approximately.

PERIOD OF RECORD.--Water temperatures: April 1966 to September 1970.
Sediment records: April 1966 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 26.0°C July 2, 4; minimum, freezing point on several days during October to May.
Sediment concentrations: Maximum daily, 2,780 mg/l Sept. 6; minimum daily, no flow for many days during November to April and August.
Sediment discharge: Maximum daily, 80 tons Sept. 6; minimum daily, 0 ton on many days during November to June, August to September.

Period of record:
Water temperatures: Maximum, 26.0°C July 2, 4, 1970; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 9,310 mg/l July 29, 1969; minimum daily, no flow for many days most years.
Sediment discharge: Maximum daily, 330 tons June 16, 1969; minimum daily, 0 ton on many days most years.

REMARKS.--Flow affected by ice Oct. 14 to Nov. 27, Apr. 4-12, 14-16, 18-20, 22, Apr. 28 to May 2. No flow Nov. 29 to Mar. 13, Apr. 21, 23, 24, Aug. 16-30.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1.0	---	---	---	---	0	1.5	18.0	25.0	20.5	---
2	---	1.0	---	---	---	---	0	0	21.0	26.0	23.0	17.5
3	4.0	3.5	---	---	---	---	2.0	2.0	22.0	---	23.0	11.0
4	---	4.0	---	---	---	---	4.5	4.0	---	26.0	18.0	9.0
5	---	5.0	---	---	---	---	3.0	5.0	---	25.0	21.0	11.5
6	---	4.5	---	---	---	---	4.0	4.5	21.0	18.0	22.0	8.0
7	---	4.0	---	---	---	---	2.5	5.0	18.5	13.0	21.0	9.0
8	---	1.0	---	---	---	---	0	4.0	13.0	15.0	22.0	9.5
9	---	4.0	---	---	---	---	0	5.0	14.0	20.0	20.0	10.5
10	---	1.5	---	---	---	---	1.5	5.0	15.0	20.0	19.0	10.5
11	---	4.0	---	---	---	---	0	1.0	8.0	17.0	20.0	10.0
12	---	4.0	---	---	---	---	1.5	4.0	11.0	14.0	16.0	9.5
13	---	1.0	---	---	---	---	---	3.5	---	20.0	18.0	11.0
14	---	3.0	---	---	---	2.0	3.5	2.0	---	15.0	20.0	9.0
15	---	1.5	---	---	---	1.5	4.0	15.5	---	20.5	22.0	4.0
16	---	3.5	---	---	---	2.0	0	11.0	---	17.0	---	6.0
17	---	3.5	---	---	---	0	6.5	7.0	---	21.0	---	6.0
18	---	1.0	---	---	---	0	4.0	6.5	17.0	22.0	---	6.0
19	---	3.0	---	---	---	2.0	2.0	17.0	21.0	---	---	13.0
20	---	0	---	---	---	1.5	5.0	14.0	18.5	---	---	12.0
21	---	2.0	---	---	---	3.0	---	19.0	21.0	---	---	7.0
22	---	3.0	---	---	---	2.0	4.5	18.0	21.0	---	---	3.0
23	0	4.0	---	---	---	3.0	---	17.0	21.5	---	---	5.5
24	6.5	0.5	---	---	---	2.0	---	21.0	22.0	---	---	3.0
25	9.0	3.5	---	---	---	2.0	7.0	21.5	20.5	---	---	9.0
26	4.0	0	---	---	---	2.0	6.5	17.0	18.0	---	---	2.5
27	5.0	0.5	---	---	---	3.0	5.5	16.0	21.0	---	---	4.0
28	3.0	1.5	---	---	---	3.0	6.0	19.5	14.0	---	---	4.0
29	3.0	---	---	---	---	2.0	0	18.5	15.0	24.0	---	6.0
30	3.5	---	---	---	---	0	0	11.5	13.5	18.0	---	4.5
31	4.0	---	---	---	---	2.0	---	14.0	---	15.0	---	---
AVG	---	2.5	---	---	---	---	3.0	10.0	---	---	---	8.0

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
APR. 08...	1800	1.0	2.3	2510	16	55	84	100
SEP. 06...	1955	8.0	3.5	3100	29	88	96	100

09207700 DRY PINEY CREEK NEAR BIG PINEY, WYO.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.31	12	.01	.75	52	.11			
2	.31	13	.01	.67	44	.08			
3	.35	14	.01	.75	90	.18			
4	.40	16	.02	.86	76	.18			
5	.35	18	.02	.89	48	.12			
6	.40	20	.02	.75	36	.07			
7	.35	20	.02	.59	30	.05			
8	.35	20	.02	.54	29	.04			
9	.35	20	.02	.52	73	.10			
10	.40	30	.03	.57	66	.10			
11	.51	40	.06	.63	30	.05			
12	.58	50	.08	.70	28	.05			
13	.58	60	.09	.63	34	.06			
14	.80	70	.15	.53	32	.05			
15	.71	80	.15	.61	32	.05			
16	.85	90	.21	.51	34	.05			
17	1.0	100	.27	.48	38	.05			
18	1.1	100	.30	.34	17	.02			
19	1.0	100	.27	.25	20	.01			
20	1.0	110	.30	.31	28	.02			
21	1.1	110	.33	.37	17	.02			
22	1.2	110	.36	.20	25	.01			
23	1.1	110	.33	.16	56	.02			
24	.97	107	.28	.21	92	.05			
25	.85	51	.12	.17	109	.05			
26	.76	36	.07	.08	98	.02			
27	.83	39	.09	.05	134	.02			
28	.91	81	.20	.02	139	.01			
29	.84	42	.10	0	0	0			
30	.77	39	.08	0	0	0			
31	.85	78	.18	--	--	--			
TOTAL	21.88	--	4.20	13.14	--	1.64	0	--	0

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1							0	0	0
2							0	0	0
3							0	0	0
4							0	0	0
5							0	0	0
6							0	0	0
7							0	0	0
8							0	0	0
9							0	0	0
10							0	0	0
11							0	0	0
12							0	0	0
13							0	0	0
14							.03	375	.03
15							.05	790	.11
16							.04	100	.01
17							.03	670	.05
18							.04	530	.06
19							.03	760	.06
20							.02	240	.01
21							.11	17	.01
22							.91	42	.10
23							1.6	43	.19
24							1.3	18	.06
25							.82	8	.02
26							.52	19	.03
27							.72	23	.04
28							1.1	48	.14
29							.93	29	.07
30							.51	19	.03
31							.66	17	.03
TOTAL	0	--	0	0	--	0	9.42	--	1.05

09207700 DRY PINEY CREEK NEAR BIG PINEY, WYO.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.0	15	.04	.17	97	.04	.14	51	.02
2	1.6	12	.05	.21	100	.06	.12	46	.01
3	1.2	15	.05	.99	380	1.0	.02	57	0
4	1.6	880	3.8	1.8	560	2.7	.01	44	0
5	2.3	970	6.0	2.0	360	1.9	.04	46	0
6	3.1	1080	9.0	1.9	230	1.2	.66	77	.14
7	2.2	950	5.6	1.7	155	.71	.91	87	.21
8	2.3	1170	7.3	1.2	90	.29	1.5	119	.48
9	4.1	930	10	.91	125	.31	1.9	110	.56
10	4.6	620	7.7	1.4	230	.87	2.0	130	.70
11	3.2	840	7.3	1.8	220	1.1	3.2	630	5.4
12	1.3	225	.79	1.4	170	.64	5.8	780	12
13	1.6	110	.48	1.8	74	.36	6.0	720	12
14	.91	380	.93	.74	105	.21	4.4	280	3.3
15	.20	210	.11	.66	74	.13	3.3	116	1.0
16	.30	150	.12	.51	61	.08	3.0	148	1.2
17	.02	105	.01	.58	48	.08	2.6	153	1.1
18	.14	228	.09	.51	33	.05	2.7	106	.77
19	.04	165	.02	.51	32	.04	2.6	160	1.1
20	.02	140	.01	.74	32	.06	2.3	113	.70
21	0	0	0	.74	28	.06	2.3	90	.56
22	.01	37	0	.66	31	.06	2.4	102	.66
23	0	0	0	.35	17	.02	2.3	83	.52
24	0	0	0	.35	18	.02	2.2	82	.49
25	.05	62	.01	.40	17	.02	2.0	148	.80
26	.51	159	.22	.17	8	0	2.0	146	.79
27	.83	223	.50	.17	17	.01	2.2	138	.82
28	.48	197	.26	.27	11	.01	2.7	99	.72
29	.19	118	.06	.20	32	.02	2.3	76	.47
30	.12	79	.03	.12	17	.01	2.3	103	.64
31	--	--	--	.12	19	.01	--	--	--
TOTAL	33.92	--	60.48	25.08	--	12.07	65.90	--	47.16

09207700 DRY PINEY CREEK NEAR BIG PINEY, WYO.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.2	75	.45	.99	22	.06	.27	740	.54
2	1.7	52	.24	.74	28	.06	.12	135	.04
3	.07	38	.01	.40	32	.03	.04	100	.01
4	.48	64	.08	.35	18	.02	.01	94	0
5	.74	65	.13	.35	32	.03	.64	186	.32
6	.74	71	.14	.35	106	.10	5.7	2780	80
7	.99	95	.25	.35	23	.02	1.4	550	2.1
8	1.6	115	.50	.35	12	.01	.40	62	.07
9	1.9	98	.50	.17	46	.02	.20	43	.02
10	2.0	105	.57	.12	22	.01	.14	26	.01
11	2.2	98	.58	.10	6	0	.10	81	.02
12	2.2	97	.58	.06	7	0	.10	56	.02
13	2.0	98	.53	.02	24	0	.10	34	.01
14	1.6	81	.35	.02	26	0	.06	104	.02
15	1.4	77	.29	.01	17	0	.14	19	.01
16	1.4	97	.37	0	0	0	.06	17	0
17	1.5	84	.34	0	0	0	.06	38	.01
18	1.2	74	.24	0	0	0	.06	17	0
19	1.1	72	.21	0	0	0	.04	25	0
20	1.2	62	.20	0	0	0	.02	31	0
21	1.1	103	.31	0	0	0	.02	45	0
22	.99	63	.17	0	0	0	.02	11	0
23	1.1	75	.22	0	0	0	.02	18	0
24	1.1	49	.15	0	0	0	.02	8	0
25	.74	38	.08	0	0	0	.02	12	0
26	.74	46	.09	0	0	0	.02	10	0
27	.91	42	.10	0	0	0	.02	14	0
28	1.2	39	.13	0	0	0	.02	6	0
29	1.4	37	.14	0	0	0	.02	9	0
30	1.2	103	.33	0	0	0	.01	5	0
31	1.1	53	.16	2.2	1290	33	--	--	--
TOTAL	39.80	--	8.44	6.58	--	33.36	9.85	--	83.20

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 225.57
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 251.60

09209400 GREEN RIVER NEAR LA BARGE, WYO.

LOCATION.--Lat 42°11', long 110°10', in SW¼ sec.33, T.26 N., R.112 W., Lincoln County, at bridge 0.7 mile north of La Barge, 6.5 miles upstream from gaging station, and 9.5 miles upstream from Muddy Creek.
DRAINAGE AREA.--3,910 sq mi, approximately (at gaging station).
PERIOD OF RECORD.--Chemical analyses: October 1963 to September 1970.
Water temperatures: October 1963 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).
EXTREMES.--1969-70:
Dissolved solids: Maximum, 283 mg/l Nov. 18-30; minimum, 115 mg/l June 1-11.
Hardness: Maximum, 215 mg/l Jan. 1-31; minimum, 84 mg/l June 1-11.
Specific conductance: Maximum daily, 512 micromhos Nov. 20:; minimum daily, 173 micrombos June 6.
Water temperatures: Maximum, 24.0°C Aug. 7; minimum, freezing point on many days during November to April.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	MEAN DIS-CHARGE (CFS)	SILICA (SiO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
01-17	--	633	7.0	--	42	11	14	1.4	153	0	45	5.7
18-31	--	730	6.3	--	51	12	16	1.1	174	0	56	7.1
NOV.												
01-17	--	642	8.2	--	59	13	16	1.6	189	0	62	8.2
18-30	--	555	12	--	65	10	17	1.6	195	0	72	8.9
DEC.												
01-31	--	396	9.3	--	61	15	15	1.6	180	0	69	18
JAN.												
01-31	--	378	9.6	--	58	17	15	1.4	182	0	81	3.6
FEB.												
01-28	--	412	8.2	--	60	12	13	1.6	171	0	77	9.9
MAR.												
01-31	--	426	7.9	--	52	15	16	1.9	146	18	62	8.1
APR.												
01-30	--	733	8.8	--	50	16	19	2.2	176	0	73	4.4
MAY												
01-19	--	1200	9.3	--	53	13	13	2.3	159	12	57	2.4
20-25	--	2230	9.6	--	44	7.5	7.8	1.9	125	9	36	6.1
26-31	--	3930	7.3	--	32	3.9	5.4	1.4	96	0	21	2.4
JUNE												
01-11	--	500	6.4	--	23	6.2	9.0	1.6	92	0	22	1.9
12-20	--	4690	8.6	--	38	10	14	1.9	140	3	45	3.6
21-30	--	5410	7.6	--	27	8.8	8.8	1.6	118	0	19	1.5
JULY												
01-07	--	3700	6.5	--	29	8.0	8.6	1.3	121	0	24	1.4
08-31	--	1990	6.5	--	34	9.7	14	1.4	140	3	30	2.5
AUG.												
01-31	--	940	4.5	--	35	9.4	13	1.5	128	0	49	2.1
SEP.												
01-15	--	888	5.7	--	39	12	18	1.7	146	0	55	3.5
16-30	--	684	5.4	--	43	13	16	1.6	160	0	56	3.3
WTD. AVG.	--	--	7.4	--	39	10	12	1.6	137	2	42	3.8
TIME WTD. AVG.	--	1225	7.8	--	48	12	14	1.7	157	3	57	6.0
TONS PER DAY	--	--	25	--	127	33	41	5.4	452	7	137	13
ANALYSES OF ADDITIONAL SAMPLES												
OCT.												
02...	1815	601	8.8	110	42	11	13	1.6	140	0	53	6.5
FEB.												
06...	1520	A400	8.0	60	61	13	13	1.4	174	0	75	14
MAR.												
06...	1310	A410	7.3	130	55	19	14	1.6	177	0	78	8.1
JULY												
15...	1700	2240	8.2	40	34	11	12	.9	146	0	31	.8
AUG.												
09...	1235	1140	4.5	90	35	11	14	1.3	135	5	44	2.6
SEP.												
02...	1520	797	4.8	60	39	9.6	13	1.4	128	3	49	3.2
09...	1820	1050	8.2	50	43	14	18	1.5	158	1	62	3.5

A DAILY MEAN DISCHARGE.

09209400 GREEN RIVER NEAR LA BARGE, WYO.--Continued

Period of record:
Dissolved solids: Maximum, 358 mg/l Mar. 31 to Apr. 3, 1966; minimum, 91 mg/l May 17-31, 1969.
Hardness: Maximum, 278 mg/l Jan. 19-22, 1968; minimum, 75 mg/l May 17-31, 1969.
Specific conductance: Maximum daily, 734 micromhos Jan. 22, 1968; minimum daily, 145 micromhos May 30, 1969.
Water temperatures: Maximum, 24.0°C Aug. 7, 1970; minimum, freezing point on many days during winter periods.
REMARKS.--Daily samples for chemical analysis composited by discharge. Additional samples were collected for more comprehensive definition of water quality.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
01-17	.3	.1	0	202	.29	359	152	26	.5	369	7.7	--
18-31	.3	.2	10	236	.33	477	178	35	.5	419	8.0	--
NOV.												
01-17	.3	.2	70	262	.35	444	200	45	.5	426	8.1	--
18-30	.4	.3	70	283	.38	417	205	45	.5	456	8.1	--
DEC.												
01-31	.4	.2	60	278	.37	289	213	65	.4	435	8.1	--
JAN.												
01-31	.4	.7	0	276	.38	288	215	66	.4	456	8.0	--
FEB.												
01-28	.3	.4	10	266	.36	298	200	60	.4	429	8.0	--
MAR.												
01-31	.3	.3	20	253	.32	274	190	40	.5	435	8.5	--
APR.												
01-30	.3	.2	40	260	.36	526	191	47	.6	465	7.8	--
MAY												
01-19	.3	.4	0	241	.34	816	185	35	.4	398	8.4	--
20-25	.3	.4	0	184	.26	1130	141	23	.3	306	8.4	--
26-31	.2	.3	0	121	.17	1340	95	16	.2	207	8.1	--
JUNE												
01-11	.2	.1	0	115	.16	1570	84	9	.4	195	7.9	--
12-20	.3	.1	10	194	.27	2510	138	18	.5	325	8.3	--
21-30	.2	.1	0	133	.18	1930	104	7	.4	230	8.2	--
JULY												
01-07	.2	.2	20	139	.20	1460	106	7	.4	251	8.1	--
08-31	.3	.2	30	171	.24	946	124	4	.5	299	8.4	--
AUG.												
01-31	.0	.0	0	178	.25	472	125	20	.5	308	8.2	--
SEP.												
01-15	.3	.1	50	207	.27	470	147	27	.6	348	7.7	--
16-30	.6	.0	50	218	.30	406	160	29	.5	370	7.7	--
WTD. AVG.	.3	.2	15	185	.26	--	138	21	.4	315	8.1	--
TIME WTD. AVG.	.3	.2	24	227	.31	--	170	36	.5	383	8.1	--
TONS PER DAY	.9	.6	0	612	--	--	--	--	--	--	--	--
ANALYSES OF ADDITIONAL SAMPLES												
OCT.												
02...	.3	.3	30	206	.29	341	150	35	.5	344	7.8	10.0
FEB., 1970												
06...	.4	.2	0	272	.35	274	206	63	.4	422	7.9	.0
MAR.												
06...	.3	.0	20	270	.36	294	215	70	.4	437	8.1	.0
JULY												
15...	.2	.1	40	170	.24	1060	130	10	.5	--	--	21.5
AUG.												
09...	.7	.1	20	184	.28	628	132	13	.5	--	--	19.5
SEP.												
02...	.3	.3	70	187	.27	422	137	27	.5	327	8.3	18.5
09...	.6	.0	30	230	.29	595	164	33	.6	--	--	1.5

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	TEMPER-ATURE (DEG C)
JULY						
15...	1700	2240	282	9.4	8.6	21.5
AUG.						
09...	1235	1140	291	9.1	8.7	19.5
SEP.						
09...	1820	1050	347	9.7	8.9	15.5

09209400 GREEN RIVER NEAR LA BARGE, WYO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	345	418	434	476	450	438	466	450	192	221	333	337
2	349	419	451	473	434	428	453	450	204	229	314	336
3	350	421	442	464	438	421	450	452	200	246	305	387
4	357	420	439	460	439	430	447	448	186	266	295	329
5	358	419	430	464	425	439	442	412	183	272	297	322
6	363	422	443	470	424	432	432	412	173	271	298	361
7	366	424	438	476	420	428	428	396	175	276	297	412
8	367	427	469	477	414	431	408	387	178	285	302	410
9	374	425	476	481	411	423	427	374	201	285	293	367
10	371	422	451	474	418	419	412	374	202	290	286	350
11	379	421	450	470	419	426	411	378	233	290	283	338
12	378	425	442	457	427	435	419	398	319	293	283	323
13	380	425	377	442	---	435	429	418	342	301	285	328
14	379	427	398	440	418	430	436	421	348	295	287	333
15	383	421	426	436	407	430	466	423	340	289	293	339
16	379	423	428	435	412	421	472	433	330	287	297	347
17	382	432	438	438	---	455	475	428	321	295	299	351
18	403	451	439	426	416	450	478	396	318	309	304	354
19	412	471	435	425	409	446	461	379	320	302	304	362
20	432	512	428	428	422	446	450	359	305	305	307	360
21	434	443	424	422	436	453	463	338	281	308	309	364
22	429	438	419	420	434	439	469	309	260	299	310	368
23	420	441	410	424	428	430	466	287	255	304	359	374
24	420	464	430	427	432	422	460	282	235	308	321	378
25	420	470	437	428	434	427	455	270	221	313	316	387
26	420	467	449	419	430	464	456	255	215	311	317	392
27	416	463	443	416	432	452	447	224	217	314	321	398
28	419	461	441	429	438	459	441	201	229	324	349	396
29	420	470	462	499	---	448	441	182	228	337	329	398
30	427	454	468	---	---	450	450	180	222	346	340	400
31	420	---	476	---	---	448	---	181	---	330	343	---
AVG	392	440	438	448	426	437	447	352	248	294	309	363

09209400 GREEN RIVER NEAR LA BARGE, WYO.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	5.0	0.0	0.0	1.0	1.0	0.0	8.0	14.0	17.0	19.0	17.0
2	10.0	4.0	1.0	0.0	0.0	1.0	0.0	5.0	16.0	19.0	22.0	18.0
3	8.0	4.0	0.0	0.0	0.0	1.0	2.0	13.0	17.0	21.0	22.0	17.0
4	4.0	4.0	0.0	0.0	0.0	1.0	2.0	14.0	18.0	22.0	20.0	16.0
5	6.0	4.0	0.0	0.0	0.0	1.0	2.0	12.0	17.0	20.0	20.0	14.0
6	9.0	4.0	0.0	0.0	0.0	1.0	1.5	12.5	16.0	19.0	22.0	10.0
7	10.0	4.0	0.0	0.0	0.0	1.0	4.0	10.0	14.0	19.0	24.0	15.0
8	9.0	4.0	0.0	0.0	0.0	0.0	3.0	9.5	13.0	20.0	20.0	16.0
9	7.0	3.0	0.0	0.0	1.0	0.0	3.0	10.0	12.0	22.0	21.0	15.0
10	6.0	2.0	0.0	0.0	1.0	0.0	3.5	7.0	12.0	22.0	22.0	16.0
11	3.0	4.0	0.0	0.0	1.0	1.0	3.5	8.0	10.0	20.0	22.0	15.0
12	3.0	4.0	0.0	0.0	1.0	1.0	3.5	10.0	9.5	20.0	21.0	14.0
13	2.0	4.0	0.0	0.0	---	1.5	0.0	10.0	12.0	20.0	21.0	12.0
14	3.0	3.0	0.0	0.0	0.0	1.0	2.0	12.0	14.0	20.0	21.0	12.0
15	4.0	0.0	0.0	0.0	0.0	0.0	3.5	14.0	15.0	21.0	21.0	8.0
16	4.0	1.0	0.0	0.0	1.0	0.0	5.0	16.0	14.0	20.0	21.0	13.0
17	3.0	0.0	0.0	1.0	---	0.0	5.0	15.0	15.0	22.0	20.0	14.0
18	2.0	0.0	0.0	0.0	1.0	0.0	3.5	14.0	15.0	22.0	17.0	15.0
19	4.0	0.0	0.0	1.0	1.0	0.0	3.0	14.0	18.0	21.0	20.0	15.0
20	7.0	1.0	0.0	1.0	1.0	3.0	5.5	15.0	19.0	21.0	19.0	13.0
21	8.0	1.0	0.0	1.0	0.0	2.0	5.5	15.0	20.0	19.5	19.0	11.0
22	8.0	1.0	0.0	1.0	0.0	3.0	7.0	14.0	19.0	21.0	20.0	12.0
23	8.0	0.0	0.0	1.0	1.0	1.0	7.0	13.0	17.0	21.0	20.0	12.0
24	8.0	0.0	0.0	1.0	0.0	0.0	7.0	11.0	19.0	21.0	21.0	11.0
25	6.0	0.0	0.0	1.0	1.0	0.0	5.0	15.0	20.0	20.0	21.0	10.0
26	5.0	0.0	0.0	1.0	1.0	0.0	7.0	16.0	20.0	19.0	21.0	11.0
27	5.0	0.0	0.0	0.0	1.0	2.0	7.0	14.0	20.0	19.0	19.0	12.0
28	4.0	0.0	0.0	0.0	0.0	0.0	5.0	13.0	20.0	21.0	20.0	12.0
29	4.0	0.0	0.0	1.0	---	0.0	4.0	12.0	17.0	20.0	19.0	13.0
30	4.0	0.0	0.0	---	---	0.0	5.0	12.0	15.0	20.0	20.0	13.0
31	4.0	---	0.0	---	---	1.0	---	12.0	---	19.0	19.0	---
AVG	6.0	2.0	0.0	0.5	0.5	1.0	4.0	12.0	16.0	20.5	20.5	13.5

09211200 GREEN RIVER BELOW FONTENELLE RESERVOIR, WYO.

LOCATION.--Lat 42°01'16", long 110°02'51", in NW¼NW¼NE¼ sec. 31, T.24 N., R.111 W., Sweetwater County, at bridge 1 mile east of Fontenelle, 3.6 miles downstream from gaging station, and 4.6 miles downstream from Fontenelle Dam.
DRAINAGE AREA.--4,500 sq mi, approximately (at gaging station).
PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1970.
Water temperatures: October 1967 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).
EXTREMES.--1969-70:
Dissolved solids: Maximum, 336 mg/l Feb. 1-28; minimum, 187 mg/l June 17-30.
Hardness: Maximum, 235 mg/l Feb. 1-28; minimum, 132 mg/l July 1-31.
Specific conductance: Maximum daily, 552 micromhos Jan. 28, 29, 31; minimum daily, 288 micromhos June 18.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	MEAN DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
01-31	--	1260	3.2	--	41	12	15	.8	143	0	56	6.4
NOV.												
01-30	--	827	5.3	--	47	12	20	1.4	153	0	74	11
DEC.												
01-12	--	712	6.2	--	54	13	22	1.4	159	0	83	19
13-31	--	680	7.3	--	61	16	24	1.6	177	0	99	23
JAN.												
01-31	--	606	7.3	--	60	20	26	1.4	189	0	115	6.1
FEB.												
01-28	--	602	8.3	--	65	18	25	1.6	165	9	118	8.9
MAR.												
01-17	--	671	7.6	--	57	12	24	2.1	171	0	95	6.5
18-31	--	1280	6.7	--	48	14	18	1.4	168	0	58	10
APR.												
01-13	--	1410	6.4	--	48	14	21	1.7	166	0	79	4.4
14-30	--	711	6.8	--	51	16	24	1.9	170	0	97	4.7
MAY												
01-31	--	1350	7.1	--	55	14	22	1.6	134	18	92	8.9
JUNE												
01-06	--	3400	7.3	--	55	13	16	2.3	174	0	70	9.8
07-16	--	3860	6.9	--	48	9.5	14	2.1	147	0	61	8.2
17-30	--	3420	6.9	--	42	7.3	12	1.9	122	0	49	7.2
JULY												
01-31	--	2080	6.7	--	36	10	16	1.8	134	0	47	3.5
AUG.												
01-31	--	1460	8.9	--	42	8.5	15	1.8	140	6	43	3.2
SEP.												
01-22	--	1560	7.6	--	41	12	17	1.7	152	0	55	2.9
23-30	--	558	6.8	--	46	14	25	1.6	158	0	83	3.7
WTD. AVG.	--	--	6.8	--	47	12	18	1.7	149	2	67	7.0
TIME WTD. AVG.	--	1310	6.8	--	50	13	20	1.6	155	3	77	7.8
TONS PER DAY	--	--	24	--	165	42	63	5.9	525	9	238	25
ANALYSES OF ADDITIONAL SAMPLES												
OCT.												
02...	0915	930	5.8	0	41	14	17	1.4	134	0	72	5.4
JAN.												
17...	1655	595	7.6	220	63	26	27	1.6	188	0	116	27

09211200 GREEN RIVER BELOW FONTENELLE RESERVOIR, WYO.--Continued

EXTREMES.--1969-70:--Continued
Water temperatures: Maximum, 19.5°C Aug. 16; minimum, 2.0°C on several days during December and January.
Period of record:
Dissolved solids: Maximum, 382 mg/l Nov. 20-25, 1968; minimum, 154 mg/l June 11-19, 1969.
Hardness: Maximum, 240 mg/l Dec. 14-31, 1967; minimum, 115 mg/l June 11-19, 24-30, 1969.
Specific conductance: Maximum daily, 701 micromhos Dec. 23, 1967; minimum daily, 253 micromhos June 13, 1969.
Water temperatures: Maximum, 19.5°C Aug. 16, 1970; minimum, freezing point Nov. 27, Dec. 21, 1967, Feb. 1, 1968.

REMARKS.--Daily samples for chemical analysis composited by discharge. Additional samples were collected for more comprehensive definition of water quality. Maximum observed: Dissolved solids, 361 mg/l Jan. 17; hardness, 265 mg/l Jan. 17.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
01-31	.3	.4	0	205	.29	728	152	35	.5	366	7.6	--
NOV.												
01-30	.4	.7	70	247	.33	540	166	40	.7	413	7.9	--
DEC.												
01-12	.4	.3	60	277	.36	515	187	57	.7	441	8.2	--
13-31	.4	.2	30	320	.43	580	220	75	.7	496	8.2	--
JAN.												
01-31	.4	.7	0	330	.46	550	230	75	.7	524	8.0	--
FEB.												
01-28	.4	.5	30	336	.45	533	235	85	.7	534	8.3	--
MAR.												
01-17	.3	.6	20	289	.40	533	193	53	.8	495	8.2	--
18-31	.3	.4	30	239	.33	850	178	40	.6	432	8.2	--
APR.												
01-13	.3	.0	20	257	.34	952	178	42	.7	435	7.9	--
14-30	.3	.0	30	286	.38	541	193	54	.8	474	8.2	--
MAY												
01-31	.4	.7	50	286	.39	1060	195	55	.7	461	8.4	--
JUNE												
01-06	.5	.1	0	260	.34	2310	190	47	.5	433	8.2	--
07-16	.4	.2	0	222	.29	2230	160	39	.5	366	8.2	--
17-30	.3	.2	20	187	.24	1640	135	35	.4	304	8.1	--
JULY												
01-31	.3	.5	40	188	.25	1030	132	22	.6	323	8.2	--
AUG.												
01-31	.0	.0	110	198	.27	788	140	15	.4	349	8.5	--
SEP.												
01-22	.3	.1	30	213	.28	868	152	27	.6	356	7.7	--
23-30	.3	.0	40	258	.34	380	172	42	.7	424	7.7	--
WTD. AVG.	.3	.3	34	236	.32	--	166	40	.6	394	8.1	--
TIME WTD. AVG.	.3	.4	36	255	.35	--	178	46	.6	424	8.1	--
TONS PER DAY	1.1	1.2	0	833	--	--	--	--	--	--	--	--
ANALYSES OF ADDITIONAL SAMPLES												
OCT.												
02...	.3	.3	10	223	.32	583	161	51	.6	374	7.8	13.0
JAN.												
17...	.4	.0	70	361	.46	543	265	111	.3	527	7.8	3.5

09211200 GREEN RIVER BELOW FONTENELLE RESERVOIR, WYO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	382	378	425	504	547	503	434	498	433	325	336	353
2	375	379	428	507	551	513	430	486	436	327	334	348
3	370	378	429	506	549	507	426	486	424	324	336	348
4	366	379	430	505	537	511	427	496	425	319	337	345
5	366	383	428	505	532	504	432	497	426	319	342	345
6	362	393	432	504	525	493	434	496	421	314	342	348
7	360	396	432	500	537	495	433	495	410	315	338	350
8	357	393	430	500	529	496	431	481	404	315	341	347
9	371	393	431	505	530	497	430	479	411	314	345	344
10	355	400	452	506	531	496	435	482	383	314	340	348
11	356	404	450	505	530	497	440	484	358	305	342	345
12	360	404	460	507	528	496	444	480	357	307	341	348
13	360	406	482	509	528	495	444	475	347	312	345	350
14	355	403	484	515	526	487	449	473	329	317	344	351
15	351	405	482	517	528	487	452	478	329	316	346	352
16	367	402	483	517	527	482	461	475	325	325	345	359
17	366	404	485	520	530	467	468	473	301	326	345	360
18	366	418	492	524	523	434	482	474	288	322	347	363
19	365	418	496	525	520	437	481	472	299	327	383	368
20	359	418	501	537	523	435	478	466	289	325	380	363
21	364	413	501	542	522	424	479	466	294	329	379	360
22	370	413	507	543	510	429	482	465	296	329	356	370
23	375	418	503	542	515	430	480	468	298	325	356	459
24	382	418	502	547	520	427	485	470	303	326	356	454
25	383	419	509	546	521	424	485	468	305	329	349	408
26	379	424	503	548	514	429	491	466	309	326	350	400
27	382	426	508	550	516	426	487	456	310	329	354	404
28	381	426	505	552	515	428	486	450	312	332	352	405
29	378	429	504	552	---	423	486	455	317	331	353	410
30	378	426	503	550	---	429	489	451	320	332	357	468
31	378	---	501	552	---	426	---	441	---	333	351	---
AVG	368	406	473	524	527	465	459	474	349	322	349	372

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	8.0	3.5	3.0	3.0	4.5	4.0	7.0	13.0	15.0	18.5	19.0
2	13.0	8.0	3.5	2.0	3.0	5.0	4.5	7.0	13.0	15.5	18.5	19.0
3	13.0	8.0	3.0	2.0	3.0	4.5	4.5	8.0	13.0	15.5	18.0	19.0
4	12.0	8.0	3.0	2.5	3.0	4.5	4.5	8.0	13.0	17.0	18.0	18.5
5	12.0	7.0	3.0	2.0	3.0	4.5	4.5	9.0	13.0	17.0	18.0	18.0
6	13.0	7.0	3.0	2.0	4.0	5.0	5.5	9.0	13.5	17.0	18.0	17.0
7	12.0	8.0	3.0	2.0	5.0	5.5	5.5	8.0	15.0	17.0	18.5	17.0
8	12.0	7.0	3.0	2.0	5.0	6.0	5.0	8.0	14.0	17.0	18.5	18.0
9	12.0	7.0	2.5	2.0	4.0	4.0	5.0	7.5	12.0	17.0	18.0	18.0
10	12.0	7.0	2.5	3.0	3.0	4.5	5.5	6.0	13.5	17.0	18.0	18.0
11	12.0	7.0	2.5	3.5	3.5	5.0	6.0	6.5	13.5	17.0	18.0	18.0
12	10.0	7.0	3.5	4.0	3.5	5.0	5.5	8.0	13.0	17.0	18.0	16.0
13	10.0	7.0	2.5	4.0	3.5	4.5	5.5	8.0	14.0	17.0	18.5	16.0
14	10.0	6.0	2.5	3.0	3.5	5.0	5.0	8.0	14.0	18.0	18.5	15.5
15	10.0	6.0	2.5	3.0	4.0	5.0	5.0	8.5	14.0	18.0	18.5	15.5
16	10.0	6.0	2.0	3.0	3.5	4.5	5.5	9.0	14.0	18.0	19.5	15.0
17	10.0	6.0	3.0	3.5	3.5	4.0	5.0	9.0	13.5	18.0	19.0	15.0
18	10.0	5.0	3.5	3.5	3.5	4.0	6.0	9.0	12.0	18.0	18.5	15.0
19	10.0	5.0	3.5	3.5	3.0	4.0	4.5	9.0	12.5	18.0	17.0	15.0
20	9.0	4.0	3.5	3.5	2.5	4.0	5.0	10.5	14.5	18.0	15.0	14.0
21	8.0	5.0	2.5	3.5	3.0	4.0	5.0	10.5	14.0	18.0	18.0	14.5
22	8.0	5.0	2.5	3.5	4.0	3.5	5.5	11.0	14.5	18.0	18.0	14.0
23	8.0	5.0	2.5	3.5	4.0	3.5	5.5	12.0	14.0	18.0	18.0	14.0
24	8.0	5.0	2.5	3.5	4.0	4.0	6.0	11.5	14.5	18.0	19.0	11.5
25	7.0	5.0	2.5	3.5	3.5	4.0	6.0	11.0	14.5	18.0	19.0	12.0
26	8.0	5.0	2.0	3.5	4.0	4.5	6.0	11.5	15.0	18.0	19.0	12.0
27	8.0	4.0	2.0	3.5	4.0	5.0	6.0	12.0	15.0	18.0	18.5	13.0
28	8.0	4.0	2.5	3.0	4.5	4.0	5.0	13.0	14.5	18.0	18.5	13.0
29	8.0	3.0	2.5	3.0	---	4.0	5.5	12.0	15.0	17.0	18.5	12.0
30	8.0	4.0	2.0	3.0	---	4.0	6.0	12.0	14.0	17.5	18.5	12.0
31	8.0	---	2.0	3.0	---	4.0	---	13.0	---	18.5	18.5	---
AVG	10.0	6.0	2.5	3.0	3.5	4.5	5.5	9.5	14.0	17.5	18.5	15.5

09216000 BIG SANDY RIVER BELOW EDEN, WYO.

LOCATION.--Lat 42°00', long 109°35', in SE¼ sec.31, T.24 N., R.107 W., Sweetwater County, at gaging station 0.1 mile downstream from Simpson Gulch, 8.0 miles southwest of Eden, and 8.8 miles downstream from Little Sandy Creek.
DRAINAGE AREA.--1,610 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: October 1961 to September 1964, October 1967 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).
REMARKS.--Prior to October 1967, published as Big Sandy Creek below Eden, Wyo.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
20...	1100	44	12	40	273	126	329	3.0	262	0	1580	73
23...	1100	43	9.9	20	270	84	375	3.6	271	0	1450	62
NOV.												
23...	1415	A33	12	110	307	11	339	3.0	275	0	1640	70
DEC.												
02...	1250	A23	12	0	281	107	400	4.6	284	0	1610	68
JAN.												
10...	1440	A13	13	30	306	114	403	3.0	284	0	1770	61
FEB.												
12...	1100	21	11	10	300	103	368	4.8	262	0	1680	59
MAR.												
10...	1645	40	12	50	203	69	318	3.4	224	0	1200	50
APR.												
12...	1720	37	11	110	185	68	361	3.1	234	0	1240	58
MAY												
11...	1125	26	10	0	260	940	459	3.0	265	0	1660	89
JUNE												
10...	0830	56	14	30	170	58	286	3.6	227	0	1000	52
JULY												
16...	1200	27	11	100	182	69	310	3.8	251	0	1090	56
AUG.												
09...	1545	38	13	50	193	67	282	4.2	229	7	1080	51
SEP.												
10...	1220	32	12	70	245	86	356	3.5	260	0	1380	60

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
20...	1.0	3.3	350	2530	3.63	317	1200	985	4.1	3060	7.9	2.5
23...	.6	3.0	0	2390	3.43	293	1020	798	5.1	--	--	5.0
NOV.												
23...	1.0	3.0	330	2620	3.78	248	1230	1000	5.2	--	--	2.5
DEC.												
02...	.6	3.4	0	2630	3.78	173	1140	907	5.2	--	--	1.5
JAN.												
10...	.5	4.3	290	2810	4.01	104	1230	997	5.0	--	--	0.0
FEB.												
12...	2.6	3.3	350	2660	3.77	157	1170	955	4.7	--	--	3.0
MAR.												
10...	2.4	.9	290	1970	2.82	224	790	606	4.9	--	--	4.0
APR.												
12...	3.2	.8	300	2040	2.92	215	741	549	5.8	--	--	7.5
MAY												
11...	3.7	.6	450	2710	4.03	208	1040	823	3.0	--	--	8.0
JUNE												
10...	.7	.5	380	1700	2.48	275	662	476	4.8	2290	--	8.5
JULY												
16...	.8	.8	330	1850	2.80	150	738	532	8.0	2480	8.0	17.5
AUG.												
09...	.7	1.3	400	1810	2.60	196	757	557	4.5	--	--	23.0
SEP.												
10...	.6	2.2	400	2270	3.22	205	964	751	5.0	--	--	13.0

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.						
23...	1100	43	3000	10.2	8.2	5.0
NOV.						
23...	1415	A33	3450	10.3	8.1	2.5
DEC.						
02...	1250	A23	3100	9.3	8.1	1.5
JAN.						
10...	1440	A13	3800	8.8	8.2	0.0
FEB.						
12...	1115	21	2950	11.3	8.1	3.0
MAR.						
10...	1530	40	2280	8.9	8.1	4.0
APR.						
12...	1720	37	2540	8.9	8.2	7.5
MAY						
11...	1125	26	3250	10.4	8.2	8.0
JUNE						
10...	0830	56	2170	8.2	8.3	8.5
JULY						
16...	1200	27	2340	8.5	8.2	17.5
AUG.						
09...	1545	38	2190	8.4	8.2	23.0
SEP.						
10...	1220	32	2640	9.7	8.4	13.0

A DAILY MEAN DISCHARGE.

09216300 GREEN RIVER AT BIG ISLAND, NEAR GREEN RIVER, WYO.

LOCATION.--Lat 41°45'52", long 109°44'05", in SW¼SE¼ sec.26, T.21 N., R.109 W., Sweetwater County, at Big Island bridge, 6.2 miles downstream from Dry Creek, 9.5 miles downstream from Big Sandy River, and 21 miles northwest of town of Green River.

DRAINAGE AREA.--7,300 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: August 1966 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).

REMARKS.--Water discharge computed by adding the discharge of Big Sandy River below Eden (station 09216000) to that of Green River below Fontenelle Reservoir (station 09211200).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
20...	0930	1560	5.2	60	52	17	33	1.2	153	0	142	6.1
NOV.												
20...	1030	795	5.6	90	63	20	47	1.2	164	0	179	13
JAN.												
21...	1400	549	6.4	100	72	27	55	1.9	189	0	240	15
FEB.												
11...	1105	623	7.3	100	78	27	58	1.6	200	0	245	15
MAR.												
08...	1100	708	7.0	240	70	26	58	1.6	189	0	239	13
APR.												
11...	0935	1430	4.2	0	55	19	37	.9	165	0	151	10
MAY												
10...	1420	930	5.5	90	60	22	51	1.9	176	0	191	8.0
JUNE												
09...	1255	3940	7.1	80	49	15	23	2.1	170	0	89	4.6
JULY												
15...	1450	2120	5.6	100	46	11	24	1.6	140	0	91	8.2
AUG.												
09...	1000	1570	9.4	60	46	13	30	1.6	134	6	110	5.7
SEP.												
08...	1530	1650	5.6	40	48	19	33	2.1	123	18	130	4.8

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
20...	.4	.1	0	332	.47	1450	200	74	1.0	536	7.6	6.5
NOV.												
20...	.4	.3	20	411	.56	914	239	104	1.3	650	7.7	0.5
JAN.												
21...	.5	.5	40	511	.66	714	290	135	1.4	743	8.0	0.0
FEB.												
11...	.4	1.0	30	531	.72	888	305	141	1.4	789	8.2	0.0
MAR.												
08...	.5	.0	50	508	.70	983	280	125	1.5	762	8.1	3.0
APR.												
11...	.5	.3	0	359	.50	1430	216	81	1.1	590	7.9	8.0
MAY												
10...	.3	.0	70	426	.59	1090	240	96	1.4	667	7.7	7.5
JUNE												
09...	.3	.1	50	274	.37	2890	184	45	.7	458	7.5	12.5
JULY												
15...	.4	.2	0	257	.36	1520	160	45	.8	424	7.8	18.5
AUG.												
09...	.2	.5	100	289	.40	1240	171	51	1.0	467	8.4	16.5
SEP.												
08...	.4	.1	50	321	.43	1420	199	68	1.0	484	8.4	18.0

09216950 BITTER CREEK NEAR GREEN RIVER, WYO.

LOCATION.--Lat 41°31'25", long 109°25'41", in NE¼SE¼ sec.24, T.18 N., R.107 W., Sweetwater County, 0.3 mile south of Interstate Highway 80 (revised), 1.7 miles east of town of Green River, and 1.9 miles upstream from mouth.

DRAINAGE AREA.--2,200 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: August 1966 to September 1970.
Sediment records: August 1966 to September 1970 (partial records).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
16...	0900	2.5	6.7	460	82	49	428	8.8	214	0	546	416
NOV.												
21...	1010	1.4	18	30	118	102	820	18	531	0	1040	761
JAN.												
10...	1630	.00	--	--	--	--	--	--	--	--	--	--
APR.												
09...	1700	938	7.1	120	94	51	226	6.9	180	0	630	117
JULY												
10...	1700	.90	1.7	40	135	122	1030	21	282	26	1400	961

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
16...	1.0	32	70	1680	2.35	11.7	405	229	9.2	2710	7.3	0.0
NOV.												
21...	2.3	5.1	960	3150	4.42	12.3	713	277	13	--	--	0.0
JAN.												
10...	--	--	--	--	--	--	--	--	--	--	--	--
APR.												
09...	1.7	.5	320	1220	1.70	3170	444	296	4.7	--	--	5.0
JULY												
10...	1.1	.0	1400	3840	5.36	9.57	838	563	16	--	--	26.0

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)
NOV.						
21...	1010	1.4	9.0	7.5	6200	0.0
JAN.						
10...	1630	.00	--	--	--	--
APR.						
09...	1700	938	9.2	8.3	1540	5.0
JULY						
10...	1700	.90	8.8	9.2	5220	26.0

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND PARTICLE-SIZE DISTRIBUTION, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM
OCT.									
16...	0900	0.0	2.4	77	.51	--	--	--	--
APR.									
09...	1700	5.0	938	43600	110000	51	73	95	100

09217000 GREEN RIVER NEAR GREEN RIVER, WYO.

LOCATION.--Lat 41°30'59", long 109°26'54", in NW¼NE¼NE¼ sec.26, T.18 N., R.107 W., Sweetwater County, at bridge on State Highway 530 in town of Green River, 0.8 mile upstream from Bitter Creek, 1 mile upstream from gaging station, and 5 miles upstream from high waterline of Flaming Gorge Reservoir.
DRAINAGE AREA.--10,000 sq mi, approximately (at gaging station), of which 300 sq mi is probably noncontributing.
PERIOD OF RECORD.--Chemical analyses: May 1951 to September 1970.
Water temperatures: May 1951 to October 1969 (daily), October 1969 to September 1970 (monthly).
Sediment records: May 1951 to September 1970.
EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,080 micromhos Sept. 26; minimum daily, 364 micromhos June 22.
Water temperatures: Maximum, 24.0°C Aug. 4; minimum, freezing point on many days during November to March.
Sediment concentrations: Maximum daily, 885 mg/l June 12; minimum daily, 2 mg/l Nov. 8.
Sediment discharge: Maximum daily, 10,300 tons June 12; minimum daily, 3.0 tons Sept. 26.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
01-12	.2	.1	60	377	.52	1170	208	83	1.5	589	7.9	--
13-31	.3	.1	50	356	.47	1340	204	74	1.3	553	7.5	--
NOV.												
01-15	.3	.1	60	428	.61	1140	231	98	1.7	655	7.5	--
16-30	.3	.1	70	455	.61	886	248	104	1.7	698	7.5	--
DEC.												
01-13	.3	.4	50	496	.69	973	263	112	1.7	747	8.1	--
14-25	.2	.0	60	487	.67	955	266	113	1.7	762	7.7	--
26-31	.3	.0	60	541	.74	853	296	125	1.7	808	7.9	--
JAN.												
01-08	.9	.0	60	563	.78	936	314	296	1.7	842	8.0	--
09-17	.8	.0	70	475	.66	854	268	104	1.5	732	7.9	--
18-31	.9	.1	80	553	.78	923	294	130	1.8	836	7.9	--
ANALYSES OF ADDITIONAL SAMPLES												
DCT.												
16...	.4	.2	20	342	.48	1770	210	77	1.1	547	7.8	5.5
23...	.2	.1	50	354	.50	1440	203	72	1.3	559	8.4	10.5
NOV.												
21...	.3	.1	40	440	.63	963	238	95	1.6	671	8.2	1.0
DEC.												
01...	.2	.1	90	470	.65	964	265	115	1.5	735	8.1	0.0
JAN.,												
16...	.3	.3	50	457	.61	814	260	102	1.5	714	7.9	0.0
FEB.												
09...	.8	.0	60	518	.72	859	282	123	1.6	776	7.5	0.5
MAR.												
07...	.8	.3	60	526	.71	961	279	117	1.7	784	8.2	2.5
APR.												
10...	.9	.1	70	507	.69	2890	240	88	2.2	801	8.0	6.5
MAY												
05...	.9	.2	80	564	.84	1120	280	133	2.1	858	8.2	16.0
JUNE												
05...	.3	.1	30	288	.42	2960	196	52	.7	476	8.0	13.5
JULY												
12...	.3	.1	50	248	.35	1590	158	42	.9	413	7.3	19.0
AUG.												
05...	.3	.2	50	289	.42	1240	172	48	1.1	472	8.1	23.0
SEP.												
04...	.2	.0	50	288	.39	1150	173	50	1.2	473	8.5	15.0

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.						
23...	1815	1420	545	10.2	8.8	10.5
NOV.						
21...	1230	A775	650	11.4	8.7	1.0
DEC.						
01...	1700	A750	660	11.8	8.8	0.0
JAN.						
16...	1615	A700	700	9.3	8.8	0.0
FEB.						
09...	1630	A605	760	11.2	8.5	0.5
MAR.						
07...	1715	682	965	10.7	8.7	2.5
APR.						
10...	1130	2110	655	9.6	8.2	6.5
MAY						
05...	1830	668	775	9.6	8.3	16.0
JUNE						
05...	0800	3560	423	8.2	8.2	13.5
JULY						
12...	1245	2260	376	8.9	8.6	19.0
AUG.						
05...	1700	1490	435	7.8	8.4	23.0
SEP.						
04...	0930	1500	428	7.3	8.7	15.0

A DAILY MEAN DISCHARGE.

09217000 GREEN RIVER NEAR GREEN RIVER, WYO.--Continued

Period of record:
Dissolved solids (1951-67, 1969): Maximum, 855 mg/l Nov. 15-20, 1955; minimum, 156 mg/l May 28-31, 1958.
Hardness (1957-69): Maximum, 420 mg/l Nov. 15-20, 1055; minimum, 106 mg/l May 23-31, 1958.
Specific conductance: Maximum daily, 1,270 micromhos Nov. 26, 1968; minimum daily, 219 micromhos May 22, 1954.
Water temperatures: Maximum, 26.0°C July 8, 22, 1961, July 24, 1962; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 15,000 mg/l Aug. 11, 1963; minimum daily, 0 mg/l Sept. 18, 1962.
Sediment discharge: Maximum daily, 110,000 tons Mar. 28, 1962; minimum daily, 0 ton Sept. 18, 1962.
REMARKS.--Daily samples for chemical analysis composited by discharge. Additional samples were collected for more comprehensive definition of water quality. Flow affected by ice Nov. 19-22, Nov. 27 to Feb. 28, Mar.3-6, 31, Apr. 1.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
01-12	--	1120	3.3	--	52	19	50	2.4	152	0	168	7.1
13-31	--	1440	3.7	--	52	18	43	2.3	158	0	152	6.4
NOV.												
01-15	--	943	3.6	--	58	21	58	2.3	162	0	196	8.2
16-30	--	726	4.7	--	63	22	60	2.3	176	0	208	8.5
DEC.												
01-13	--	712	5.7	--	66	24	63	2.1	184	0	235	10
14-25	--	713	5.3	--	67	24	62	1.2	187	0	225	10
26-31	--	581	6.2	--	74	27	68	1.9	209	0	251	10
JAN.												
01-08	--	606	7.3	--	78	29	68	2.6	216	0	261	10
09-17	--	656	6.7	--	68	24	56	1.9	200	0	211	8.3
18-31	--	600	6.0	--	72	28	72	1.8	200	0	263	11
ANALYSES OF AODITIONAL SAMPLES												
OCT.												
16...	1020	1870	6.5	170	49	21	35	1.4	162	0	142	7.3
23...	1815	1420	2.6	40	50	19	43	1.3	153	3	153	6.2
NOV.												
21...	1230	A775	3.2	0	58	23	57	2.3	174	0	203	7.7
DEC.												
01...	1700	A750	3.7	0	66	24	56	2.1	183	0	219	8.5
JAN.,												
16...	1615	A670	6.5	30	65	24	54	1.7	192	0	205	7.7
FEB.												
09...	1625	A605	6.3	10	70	26	62	2.0	194	0	247	9.4
MAR.												
07...	1715	682	8.3	40	69	26	65	1.9	198	0	248	10
APR.												
10...	1130	2110	6.9	20	57	24	77	2.8	185	0	219	28
MAY												
05...	1830	668	4.3	90	66	28	81	2.1	179	0	274	19
JUNE												
05...	0800	3560	7.5	30	52	16	24	2.1	176	0	95	4.8
JULY												
12...	1245	2260	6.1	40	40	14	26	1.6	141	0	87	3.9
AUG.												
05...	1700	1490	6.2	40	44	15	33	1.8	151	0	110	4.4
SEP.												
04...	0930	1500	6.3	120	43	16	35	1.2	142	4	108	4.3

A DAILY MEAN DISCHARGE.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
JUNE								
12...	0730	11.5	4400	1210	14400	77	96	100

09217000 GREEN RIVER NEAR GREEN RIVER, WYO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	675	595	728	858	890	757	527	796	524	399	461	469
2	677	589	735	851	882	814	624	774	503	405	468	477
3	627	592	758	884	910	816	640	783	498	391	464	462
4	630	594	770	881	910	768	577	773	492	390	475	485
5	627	616	757	830	865	764	574	762	474	396	476	478
6	605	614	749	815	865	803	555	787	479	389	479	480
7	600	645	760	828	817	806	564	827	479	394	486	497
8	581	651	736	808	817	804	569	729	474	397	484	490
9	581	669	757	748	791	803	587	704	469	394	483	489
10	563	672	735	740	818	808	571	698	457	411	467	483
11	560	662	761	748	819	805	600	680	451	405	477	484
12	548	670	733	739	819	718	605	676	424	408	477	485
13	477	681	754	741	822	794	605	675	465	406	489	485
14	476	709	694	736	803	797	610	659	491	408	489	475
15	560	688	731	727	832	854	649	631	426	418	476	490
16	591	691	754	712	835	814	677	629	415	452	480	490
17	533	701	732	714	802	774	814	607	408	454	475	522
18	532	716	719	777	800	772	814	623	382	456	513	524
19	548	828	752	779	852	683	753	574	377	444	613	495
20	547	519	759	803	845	667	855	573	370	449	514	495
21	561	509	755	801	774	662	774	576	365	452	615	503
22	564	685	748	801	772	663	822	574	364	460	574	586
23	562	691	793	837	780	636	755	570	365	472	591	553
24	584	764	792	803	785	632	768	559	367	474	507	658
25	586	566	746	842	817	580	762	565	376	476	517	920
26	587	688	831	887	812	582	771	558	372	466	479	1080
27	590	642	830	892	814	579	854	537	388	483	478	832
28	589	711	776	851	817	585	877	530	387	469	489	879
29	604	758	776	849	---	576	844	527	387	498	498	724
30	598	724	851	928	---	574	841	526	410	497	484	791
31	605	---	849	936	---	580	---	512	---	486	490	---
AVG	580	661	762	811	827	718	695	645	428	435	499	576

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	5.0	0.0	0.0	0.0	3.0	3.0	9.0	14.0	18.0	22.0	19.0
2	10.0	5.0	0.0	0.0	0.0	2.0	3.0	10.0	17.0	18.0	23.0	18.0
3	9.0	5.5	0.0	0.0	0.0	1.0	5.0	13.0	17.0	18.0	23.0	18.0
4	8.0	5.5	0.0	0.0	0.0	1.0	5.0	14.0	17.0	18.0	24.0	17.0
5	10.0	6.0	0.0	0.0	1.0	1.0	5.0	15.0	16.5	20.0	22.0	14.0
6	12.0	6.0	0.0	0.0	1.0	3.0	9.0	15.0	16.0	18.0	22.0	12.0
7	10.0	6.0	0.0	0.0	2.0	2.0	9.0	14.0	15.5	19.0	22.0	12.0
8	8.0	5.5	0.0	0.0	2.0	2.0	7.0	14.0	14.0	21.0	21.0	16.0
9	10.0	5.0	0.0	0.0	2.0	3.0	9.0	11.0	13.5	21.0	21.0	16.0
10	8.0	5.0	0.0	0.0	3.0	2.0	7.0	9.0	13.0	21.0	21.0	16.0
11	8.0	5.0	0.0	0.0	2.0	2.5	9.0	11.0	13.0	21.0	21.0	16.0
12	8.0	5.0	0.0	0.0	2.0	3.0	9.0	11.0	11.5	21.0	21.0	10.0
13	8.0	4.0	0.0	0.0	2.0	4.0	7.0	10.0	10.0	21.0	21.0	13.0
14	6.0	5.0	0.0	0.0	2.0	4.0	7.0	11.0	12.0	21.0	21.0	12.0
15	6.0	4.0	0.0	0.0	2.0	4.0	7.0	12.0	12.0	21.0	21.0	12.0
16	8.0	4.0	0.0	0.0	2.0	4.5	6.0	12.0	12.0	21.0	21.0	11.0
17	7.0	4.0	0.0	0.0	2.0	2.5	7.0	15.0	12.5	21.0	22.0	16.0
18	6.0	0.0	0.0	0.0	2.0	3.0	7.0	16.0	17.0	21.0	21.0	17.0
19	6.0	1.5	0.0	1.0	1.0	3.0	5.0	15.0	17.0	21.0	21.0	16.0
20	8.0	4.0	0.0	0.0	1.0	4.0	5.0	15.0	18.0	21.0	21.0	13.0
21	9.0	4.0	0.0	0.0	2.0	4.0	5.0	15.0	19.0	21.0	19.0	13.0
22	9.5	2.0	0.0	2.0	3.0	5.0	7.0	15.0	18.0	21.0	20.0	13.0
23	9.0	0.0	0.0	2.0	2.0	5.0	7.0	16.0	18.0	19.0	20.0	12.0
24	9.0	1.0	0.0	3.0	2.0	5.0	9.0	17.0	18.0	18.0	22.0	9.0
25	9.0	1.0	0.0	1.0	3.0	4.0	9.0	17.0	18.0	17.0	23.0	13.0
26	8.0	1.0	0.0	2.0	3.0	4.0	11.0	17.0	18.0	18.0	23.0	12.0
27	7.5	1.0	0.0	1.0	3.0	0.0	9.0	16.0	18.0	19.0	21.0	13.0
28	6.0	0.0	0.0	0.0	3.0	1.5	9.0	16.0	17.0	19.0	21.0	12.0
29	6.0	0.0	0.0	0.0	---	3.0	7.0	15.0	17.0	19.0	18.0	14.0
30	5.5	0.0	0.0	0.0	---	0.0	7.0	15.0	17.0	19.0	16.0	16.0
31	5.5	---	0.0	0.0	---	0.0	---	14.0	---	---	17.0	---
AVG	8.0	3.5	0.0	0.5	2.0	3.0	7.0	13.5	15.5	19.5	21.0	14.0

09217000 GREEN RIVER NEAR GREEN RIVER, WYO.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	814	5	11	1160	5	16	750	47	95
2	846	4	9.1	1150	22	68	720	357	694
3	946	3	7.7	1150	14	43	687	158	293
4	1060	4	11	1110	20	60	660	218	388
5	1050	24	68	1070	12	35	740	223	446
6	1070	12	35	1010	12	33	700	20	38
7	1130	8	24	933	6	15	680	4	7.3
8	1200	14	45	879	2	4.7	700	5	9.5
9	1260	13	44	862	5	12	703	4	7.6
10	1300	20	70	846	4	9.1	700	6	11
11	1380	14	52	822	12	27	695	4	7.5
12	1430	8	31	798	14	30	745	6	12
13	1480	24	96	782	17	36	775	4	8.4
14	1530	26	107	782	24	51	767	6	12
15	1660	20	90	790	7	15	750	5	10
16	1740	27	127	790	8	17	730	4	7.9
17	1680	16	73	790	20	43	705	4	7.6
18	1610	15	65	726	23	45	725	6	12
19	1600	10	43	660	16	29	675	4	7.3
20	1590	9	39	740	12	24	715	4	7.7
21	1540	8	33	775	14	29	740	4	8.0
22	1480	7	28	720	7	14	760	4	8.2
23	1410	23	88	703	8	15	680	3	5.5
24	1370	10	37	696	8	15	680	3	5.5
25	1300	4	14	710	10	19	625	5	8.4
26	1260	21	71	734	5	9.9	615	5	8.3
27	1270	16	55	740	3	6.0	600	3	4.9
28	1260	20	68	698	133	251	580	4	6.3
29	1210	9	29	695	28	53	535	4	5.8
30	1170	35	111	720	18	35	575	7	11
31	1160	12	38	--	--	--	580	7	11
TOTAL	40806	--	1619.8	25041	--	1059.7	21292	--	2164.7

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	605	5	8.2	500	7	9.5	654	7	12
2	575	6	9.3	507	8	11	703	16	30
3	645	11	19	520	5	7.0	680	11	20
4	640	12	21	545	6	8.8	665	9	16
5	585	8	13	550	9	13	660	14	25
6	570	13	20	570	7	11	660	30	53
7	600	8	13	580	6	9.4	668	50	90
8	625	14	24	590	6	9.6	689	10	19
9	635	10	17	605	6	9.8	675	9	16
10	630	5	8.5	615	6	10	654	6	11
11	650	8	14	625	8	14	640	5	8.6
12	660	7	12	640	8	14	633	8	14
13	660	7	12	640	8	14	647	15	26
14	660	8	14	635	7	12	577	25	39
15	670	12	22	585	24	38	612	27	45
16	670	12	22	595	16	26	605	22	36
17	665	17	31	635	10	17	633	14	24
18	670	11	20	620	6	10	798	11	24
19	665	8	14	592	7	11	897	28	68
20	670	14	25	580	6	9.4	1010	23	63
21	645	11	19	595	6	9.6	1130	17	52
22	635	8	14	600	6	9.7	1180	37	118
23	625	11	19	605	8	13	1180	34	108
24	620	6	10	600	11	18	1270	29	99
25	607	6	9.8	600	6	9.7	1380	31	116
26	575	11	17	600	7	11	1480	31	124
27	570	31	48	600	9	15	1540	34	141
28	565	14	21	600	11	18	1560	24	101
29	545	10	15	--	--	--	1590	19	82
30	515	7	9.7	--	--	--	1560	21	88
31	490	12	16	--	--	--	1490	10	40
TOTAL	19142	--	537.5	16529	--	368.5	29120	--	1708.6

09217000 GREEN RIVER NEAR GREEN RIVER, WYO.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1470	15	60	726	9	18	2580	32	223
2	1560	39	164	718	8	16	2800	71	537
3	1620	41	179	696	23	43	3020	100	815
4	1640	20	89	682	32	59	3250	116	1020
5	1640	16	71	675	11	20	3550	135	1290
6	1740	35	164	655	10	18	3590	163	1580
7	1920	45	233	665	7	13	3620	51	498
8	1920	37	192	728	16	31	3640	72	708
9	2130	31	178	861	23	53	3670	109	1080
10	2080	39	219	946	21	54	3680	88	874
11	1960	23	122	942	17	43	4110	380	4220
12	1820	16	79	956	14	36	4320	885	10300
13	1700	15	69	1040	9	25	4030	440	4790
14	1510	14	57	1150	10	31	3910	248	2620
15	1290	10	35	1230	12	40	3890	99	1040
16	1130	9	27	1260	10	34	3620	51	498
17	996	9	24	1260	18	61	3550	40	383
18	879	7	17	1250	71	240	3540	51	487
19	766	8	17	1390	44	165	3490	45	424
20	734	7	14	1700	34	156	3460	50	467
21	718	6	12	1760	62	295	3470	24	225
22	726	7	14	1770	31	148	3460	29	271
23	718	8	16	1760	27	128	3450	42	391
24	703	8	15	1770	40	191	3310	33	295
25	689	9	17	1770	34	162	3140	35	297
26	682	8	15	1960	37	196	3000	37	300
27	689	10	19	2100	88	499	2940	28	222
28	734	24	48	2350	96	609	2980	20	161
29	750	10	20	2510	67	454	2990	16	129
30	734	5	9.9	2560	65	449	2700	14	102
31	--	--	--	2560	55	380	--	--	--
TOTAL	37648	--	2195.9	42400	--	4667	102760	--	36247

09217000 GREEN RIVER NEAR GREEN RIVER, WYO.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2950	13	104	1500	25	101	1510	11	45
2	2990	11	89	1480	27	108	1510	51	208
3	3000	7	57	1460	28	110	1510	27	110
4	3020	9	73	1460	37	146	1500	11	45
5	3010	10	81	1480	77	308	1530	27	112
6	3030	37	303	1480	56	224	1620	139	608
7	2940	22	175	1470	33	131	1580	105	448
8	2700	8	58	1450	15	59	1540	25	104
9	2470	7	47	1440	18	70	1510	21	86
10	2280	6	37	1460	35	138	1510	15	61
11	2260	9	55	1460	17	67	1510	14	57
12	2250	6	36	1460	11	43	1490	20	80
13	2240	7	42	1450	13	51	1520	22	90
14	2110	10	57	1460	10	39	1540	18	75
15	1860	9	45	1450	8	31	1540	10	42
16	1660	8	36	1470	8	32	1540	8	33
17	1580	6	26	1460	9	35	1520	35	144
18	1540	5	21	1450	6	23	1530	17	70
19	1530	6	25	1300	5	18	1510	12	49
20	1540	7	29	1020	6	17	1490	80	322
21	1530	6	25	819	5	11	1500	30	122
22	1530	19	78	935	4	10	1270	6	21
23	1600	207	894	1170	6	19	886	7	17
24	1540	105	437	1160	5	16	544	10	15
25	1560	33	139	1320	12	43	377	5	5.1
26	1540	44	183	1510	11	45	370	3	3.0
27	1530	25	103	1500	12	49	559	5	7.5
28	1540	35	146	1530	12	50	567	8	12
29	1530	28	116	1530	30	124	568	6	9.2
30	1520	26	107	1530	20	83	553	4	6.0
31	1510	27	110	1520	8	33	--	--	--
TOTAL	63890	--	3734	43184	--	2234	37704	--	3006.8

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 479516
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 59543.5

09218500 BLACKS FORK NEAR MILLBURNE, WYO.

LOCATION.--Lat 41°03'26", long 110°34'27", in NE¼SE¼SW¼ sec.35, T.13 N., R.117 W., Uinta County, at gaging station 2.3 miles downstream from Meeks Cabin Dam, 4.0 miles north of Utah-Wyoming State line, and 15 miles southwest of Millburne.

DRAINAGE AREA.--156 sq mi.

PERIOD OF RECORD.--Chemical analyses: August 1969 to May 1970 (discontinued).

CHEMICAL ANALYSES, AUGUST 1969 TO MAY 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG 1969												
27...	1645	62	4.3	--	17	3.8	1.7	8.0	67	0	7.4	.8
NOV.												
23...	1145	A27	6.0	40	25	8.1	2.4	.6	106	0	11	1.0
MAY 1970												
08...	1715	156	5.8	100	23	5.3	1.7	.8	96	0	10	2.2

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG 1969												
27...	.0	.0	0	69	.09	11.4	58	3	.1	--	--	19.0
NOV.												
23...	.1	.4	0	107	.15	8.02	96	9	.1	--	--	0.5
MAY 1970												
08...	.1	.3	0	96	.17	53.1	80	1	.1	168	--	0.5

A DAILY MEAN DISCHARGE.

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)
AUG 1969						
27...	1645	62	7.3	8.5	125	19.0
NOV.						
23...	1145	A27	10.5	8.2	182	0.5
MAY 1970						
08...	1715	156	10.6	8.6	168	0.5

A DAILY MEAN DISCHARGE.

09221000 SMITH FORK NEAR ROBERTSON, WYO.

LOCATION.--Lat 41°08'12", long 110°25'48", in SW¼NW¼ sec.6, T.13 N., R.115 W., Uinta County, upstream from canal headgate, about 1 mile upstream from former gaging station, 2.3 miles downstream from confluence of East and West Forks, and 3.4 miles southwest of Robertson.

DRAINAGE AREA.--144 sq mi (at gaging station).

PERIOD OF RECORD.--Chemical analyses: August 1969 to June 1970 (discontinued).

CHEMICAL ANALYSES, AUGUST 1969 TO JUNE 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG 1969												
28...	1430	22	7.3	--	16	2.7	3.0	1.0	64	0	2.6	1.7
NOV.												
22...	1400	20	10	70	27	4.7	4.7	1.0	107	0	7.6	3.0
JUN 1970												
08...	1200	162	7.5	140	10	2.1	1.9	.8	42	0	1.0	1.1

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG 1969												
28...	.6	.1	20	66	.10	4.16	51	0	.2	--	--	20.5
NOV.												
22...	.2	.1	10	111	.16	6.37	87	0	.2	--	--	1.0
JUN 1970												
08...	.3	.4	40	46	.07	22.7	34	0	.1	--	--	10.0

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)
AUG 1969						
28...	1430	22	7.0	8.4	120	20.5
NOV.						
22...	1400	20	10.6	8.0	174	1.0
JUN 1970						
08...	1200	162	8.3	8.6	74	10.0

09222000 BLACKS FORK NEAR LYMAN, WYO.

LOCATION.--Lat 41°27'08", long 110°10'20", in SW¼NW¼SW¼ sec.15, T.17 N., R.113 W., Uinta County, at gaging station 200 ft downstream from bridge on old U.S. Highway 30S, 8.5 miles downstream from Smiths Fork, and 11 miles northeast of Lyman.
DRAINAGE AREA.--821 sq mi.
PERIOD OF RECORD.--Chemical analyses: March 1962 to September 1970.
Water temperatures: May 1962 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).
EXTREMES.--1969-70:
Dissolved solids: Maximum, 2,880 mg/l Aug. 27-31; minimum, 330 mg/l May 18-31.
Hardness: Maximum, 1,230 mg/l Aug. 27-31; minimum, 180 mg/l May 18-31.
Specific conductance: Maximum daily, 3,790 micromhos Aug. 29; minimum daily, 406 micromhos May 21, 22.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	MEAN DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
01-06	--	20	12	--	206	140	428	3.2	196	0	1640	137
07-15	--	37	16	--	165	111	301	3.2	232	0	1140	109
16-31	--	50	18	--	108	56	188	3.2	218	0	610	69
NOV.												
01-15	--	32	12	--	151	66	210	2.5	218	0	825	80
16-30	--	27	11	--	158	84	233	2.3	220	0	941	89
DEC.												
01-14	--	26	--	--	154	89	233	2.5	226	0	904	87
15-28	--	24	11	--	130	61	188	2.5	238	0	690	73
29-31	--	41	11	--	105	58	151	2.1	192	0	559	54
JAN.												
01-31	--	41	11	--	105	58	151	2.1	192	0	559	54
FEB.												
01-28	--	83	11	--	108	40	124	2.1	229	0	431	50
MAR.												
01-31	--	88	10	--	107	44	157	2.5	195	0	510	68
APR.												
01-05	--	88	14	--	91	32	178	2.8	205	0	445	67
06-17	--	155	19	--	61	18	106	3.4	211	0	212	42
18-26	--	89	13	--	83	33	166	3.0	192	0	423	65
27-30	--	134	16	--	63	27	108	3.2	146	18	286	48
MAY												
01-04	--	134	16	--	63	27	108	3.2	146	18	286	48
05-10	--	198	14	--	59	26	68	2.8	140	24	194	33
11-17	--	155	12	--	72	30	108	3.0	153	18	323	46
18-31	--	730	14	--	46	16	42	2.5	134	6	114	22
JUNE												
01-08	--	759	13	--	66	16	55	2.3	146	6	190	23
09-17	--	972	18	--	81	27	111	3.7	207	6	296	47
18-30	--	338	16	--	121	42	126	3.0	250	0	457	46
JULY												
01-15	--	125	17	--	170	55	233	3.7	270	0	838	75
16-31	--	47	12	--	203	77	320	3.2	144	0	1230	103
AUG.												
01-17	--	33	12	--	188	72	301	3.0	148	12	1160	87
18-26	--	17	10	--	261	121	349	3.5	146	6	1640	80
27-31	--	16	11	--	276	131	428	3.9	149	6	1860	94
SEP.												
01-15	--	63	12	--	168	61	307	4.6	201	0	1020	66
16-30	--	25	7.1	--	209	74	315	3.5	224	0	1150	72
WTD. AVG.	--	--	14	--	90	34	119	2.9	186	5	386	45
TIME WTD. AVG. TONS	--	137	13	--	132	57	197	2.9	199	2	713	67
PER DAY	--	--	5.5	--	33	12	44	1.1	68	2	142	17

ANALYSES OF ADDITIONAL SAMPLES

OCT.												
18...	1740	102	22	30	75	24	176	3.7	229	0	416	51
FEB.												
10...	1035	A75	9.9	190	100	46	121	1.9	223	0	433	54
AUG.												
07...	1045	41	12	50	186	70	340	4.0	226	2	1080	88

A DAILY MEAN DISCHARGE.

09222000 BLACKS FORK NEAR LYMAN, WYO.--Continued

EXTREMES.--1969-70:--Continued
Water temperatures: Maximum, 28.0°C July 20; minimum, freezing point on many days during October to April.
Period of record:
Dissolved solids: Maximum, 4,000 mg/l Jan. 13-30, 1963; minimum, 248 mg/l May 9-13, 1969.
Hardness: Maximum, 1,580 mg/l Jan. 13-30, 1963; minimum, 139 mg/l May 9-13, 1969.
Specific conductance: Maximum daily, 5,140 micromhos Jan. 26, 1963; minimum daily, 392 micromhos May 11, 1969.
Water temperatures: Maximum, 28.0°C July 18, 19, 1969, July 20, 1970; minimum, freezing point on many days during winter periods.
REMARKS.--Daily samples for chemical analysis composited by discharge. Additional samples were collected for more comprehensive definition of water quality.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
01-06	1.3	.5	460	2660	3.90	155	1090	929	5.6	3360	8.2	--
07-15	1.1	3.1	330	1960	2.84	209	871	681	4.4	2600	8.1	--
16-31	.9	1.9	180	1160	1.66	165	500	321	3.7	1650	8.2	--
NOV.												
01-15	.9	.4	270	1460	2.04	130	651	472	3.6	1950	8.1	--
16-30	1.0	.2	320	1630	2.31	124	741	561	3.7	2160	8.0	--
DEC.												
01-14	.9	.3	310	1580	2.20	114	751	566	3.7	2120	8.0	--
15-28	.8	.3	270	1270	1.82	86.8	576	381	3.4	1800	8.2	--
29-31	.7	.9	180	1040	1.43	116	501	343	2.9	1460	8.2	--
JAN.												
01-31	.7	.9	180	1040	1.43	116	501	343	2.9	1460	8.2	--
FEB.												
01-28	.6	.2	120	879	1.24	204	435	247	2.6	1280	8.2	--
MAR.												
01-31	.7	.2	170	996	1.35	236	450	290	3.2	1400	8.2	--
APR.												
01-05	.5	.8	210	932	1.32	231	358	190	4.1	1380	8.1	--
06-17	.5	.8	150	567	.80	247	226	53	3.1	882	8.2	--
18-26	.4	.4	190	881	1.25	222	342	184	3.9	1320	8.0	--
27-30	.6	.7	130	642	.89	237	270	120	2.9	963	8.6	--
MAY												
01-04	.6	.7	130	642	.89	237	270	120	2.9	963	8.6	--
05-10	.5	.4	100	490	.69	272	252	97	1.9	775	8.6	--
11-17	.6	.4	140	688	.95	292	300	144	2.7	1020	8.5	--
18-31	.5	.8	100	330	.46	666	180	60	1.4	512	8.3	--
JUNE												
01-08	.6	.4	60	444	.61	914	230	100	1.6	676	8.3	--
09-17	.8	.6	100	693	.97	1870	310	130	2.7	1030	8.4	--
18-30	.9	.4	200	936	1.31	876	475	270	2.5	1330	8.2	--
JULY												
01-15	1.0	.6	350	1530	2.16	537	652	431	4.0	2070	8.2	--
16-31	1.1	.4	410	2020	2.88	269	826	708	4.9	2700	8.2	--
AUG.												
01-17	1.1	.2	430	1910	2.58	169	766	625	4.7	2470	8.3	--
18-26	1.2	.2	470	2540	3.56	120	1150	1020	4.5	3130	8.3	--
27-31	1.2	.2	560	2880	4.00	127	1230	1100	5.3	3470	8.3	--
SEP.												
01-15	.9	.6	410	1740	2.56	320	670	505	6.3	2330	7.9	--
16-30	1.0	.0	420	1940	2.72	135	826	642	4.8	2510	8.0	--
WTD. AVG.	.7	.6	154	789	1.10	--	363	203	2.6	1130	8.3	--
TIME WTD. AVG.	.8	.6	251	1280	1.80	--	566	399	3.6	1750	8.2	--
TONS PER DAY	.3	.2	0	291	--	--	--	--	--	--	--	--
ANALYSES OF ADDITIONAL SAMPLES												
OCT.												
18...	.7	2.5	0	883	1.25	252	285	97	4.5	1320	7.7	3.5
FEB.												
10...	.6	.5	140	876	1.22	182	438	255	2.5	1270	8.2	0.0
AUG.												
07...	1.0	.3	550	1890	2.75	224	752	563	5.4	2530	8.3	20.5

09222000 BLACKS FORK NEAR LYMAN, WYO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3720	2190	2200	1530	1320	1310	1520	1180	574	1710	2340	3320
2	3630	2170	2230	1510	1270	1270	1570	1050	638	1900	2290	3470
3	3620	1990	2040	1400	1230	1380	1550	1080	671	2060	2340	3540
4	3610	1870	2320	1460	1180	1500	1400	1080	644	2160	2420	3600
5	3350	1880	2150	1440	1290	1450	1240	906	632	2300	2570	1130
6	3190	1700	2110	1500	1150	1340	1000	790	661	2340	2400	1250
7	2670	1830	2040	1590	1160	1290	918	724	752	2250	2490	2080
8	2400	1970	2140	1640	1220	1420	793	728	835	2190	2550	1900
9	2420	2070	2260	1740	1260	1300	772	819	911	2190	2470	1840
10	2580	2040	2280	1840	1290	1330	872	831	928	2220	2570	1910
11	2450	2050	2270	1810	1310	1380	801	1190	855	1970	2650	2060
12	2680	2010	2170	1770	1230	1600	790	1130	1180	2070	2580	2230
13	2630	2020	2090	1730	1340	1530	918	1060	1120	2040	2610	2280
14	2570	2120	2020	1690	1280	1320	1020	1000	991	2150	2750	2330
15	2570	2110	1850	1680	1380	1270	1100	978	960	2340	2550	2110
16	2180	2290	1880	1300	1260	1300	1200	934	985	2480	2770	2260
17	1180	2270	1720	1230	1240	1480	1200	920	1120	2620	2940	2290
18	1290	2360	1780	1260	1380	1440	1310	678	1220	2610	3040	2170
19	1460	2130	1850	1270	1480	1700	1350	512	1260	2720	3070	2270
20	1870	2120	1800	1420	1360	1720	1390	456	1320	2830	3130	2460
21	1870	2270	1770	1500	1350	1670	1350	406	1310	3010	3130	2680
22	1900	2370	1650	1580	1260	1780	1310	406	1300	3140	3100	2720
23	1730	2100	1840	1700	1190	1750	1600	444	1290	3170	3130	2790
24	1630	2230	1890	1640	1210	1350	1420	567	1340	3350	3150	2700
25	1940	2190	1830	1510	1250	942	1360	572	1270	3080	3210	2790
26	1960	2240	1770	1380	1330	1150	1250	485	1300	2830	3250	2560
27	1910	2250	1830	1290	1370	1320	982	482	1360	2720	3410	2560
28	1990	2200	1760	1390	1420	1490	911	508	1440	2620	3530	2490
29	2070	2230	1540	1360	---	1430	976	531	1480	2370	3790	2540
30	2210	2270	1380	1460	---	1470	1090	605	1550	2290	3590	2510
31	2100	---	1470	1420	---	1570	---	526	---	2290	3060	---
AVG	2370	2120	1930	1520	1290	1430	1170	761	1060	2450	2870	2430

09222000 BLACKS FORK NEAR LYMAN, WYO.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	3.0	0.0	0.0	0.0	0.5	0.0	2.0	10.5	13.0	26.0	14.0
2	8.0	0.0	0.0	0.0	0.0	1.0	0.0	3.5	12.0	15.0	18.0	21.0
3	2.0	0.0	0.0	0.0	0.0	0.5	0.0	6.0	15.0	16.0	14.0	21.5
4	1.0	2.0	0.0	0.0	0.0	0.5	0.0	7.5	15.0	17.0	17.0	10.0
5	0.0	0.0	0.0	0.0	0.0	1.0	1.0	8.0	14.5	17.0	16.0	10.0
6	2.0	1.0	0.0	0.0	0.0	0.5	1.5	11.0	15.0	16.0	15.0	7.0
7	4.0	2.0	0.0	0.0	0.0	0.5	4.5	9.5	15.0	25.0	16.0	15.0
8	10.0	0.0	0.0	0.0	0.0	0.5	2.5	5.0	14.0	25.0	17.0	9.5
9	8.0	0.0	0.0	0.0	0.0	0.0	2.0	6.0	13.0	23.0	16.0	9.0
10	8.0	0.0	0.0	0.0	0.0	0.0	5.0	7.0	11.5	25.0	13.5	19.0
11	0.0	1.0	0.0	0.0	0.0	0.0	4.5	3.0	8.0	18.0	14.0	9.0
12	0.0	2.0	0.0	0.0	1.0	0.0	0.5	5.5	7.0	17.0	20.5	8.0
13	0.0	2.0	0.0	0.0	0.5	0.0	1.0	6.0	10.0	18.0	15.0	7.0
14	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.0	13.0	25.0	14.5	7.0
15	0.0	0.0	0.0	0.0	0.0	0.5	1.0	7.0	14.0	26.0	17.0	13.0
16	3.0	2.0	0.0	0.0	0.0	1.0	0.5	9.5	13.0	22.0	16.5	13.5
17	6.0	0.0	0.0	0.0	0.0	0.5	1.5	12.0	13.5	21.0	17.0	7.0
18	4.0	0.0	0.0	0.0	0.0	0.0	2.5	12.0	14.0	19.0	16.0	9.0
19	6.0	0.0	0.0	0.0	0.0	0.0	2.5	12.5	15.0	18.0	15.5	16.5
20	8.0	0.0	0.0	0.0	0.0	0.0	0.5	11.0	16.5	28.0	16.0	14.0
21	2.0	0.0	0.0	0.5	0.0	0.0	0.0	9.5	18.0	25.0	15.5	6.0
22	3.0	0.0	0.0	1.0	0.0	0.0	1.0	10.5	18.5	22.0	19.0	4.5
23	10.0	0.0	0.0	2.0	0.0	0.5	2.0	10.0	17.0	24.0	16.5	6.0
24	12.0	0.0	0.0	1.5	0.0	1.0	1.5	11.0	19.5	21.0	21.0	6.0
25	11.0	0.0	0.0	0.0	0.0	0.0	5.0	12.0	18.5	15.0	18.5	10.0
26	3.0	0.0	0.0	0.0	0.0	0.5	6.0	13.5	20.0	16.0	17.0	11.0
27	4.0	0.0	0.0	0.5	0.0	0.0	5.0	13.0	20.0	21.0	16.5	7.0
28	4.0	0.0	0.0	0.0	0.5	0.0	3.5	12.0	19.0	18.0	16.0	9.0
29	0.0	0.0	0.0	0.0	---	0.0	2.0	12.5	18.0	23.0	16.5	6.0
30	0.0	0.0	0.0	0.0	---	0.0	3.0	11.5	17.0	20.0	25.0	6.5
31	0.0	---	0.0	0.0	---	0.0	---	10.5	---	26.0	21.0	---
AVG	4.5	0.5	0.0	0.0	0.0	0.5	2.0	9.0	15.0	20.5	17.0	10.5

09224450 HAMS FORK NEAR GRANGER, WYO.

LOCATION.--Lat 41°35'56", long 109°59'28", in center of sec.30, T.19 N., R.111 W., Sweetwater County, at railroad bridge 1.2 miles northwest of Granger and 1.8 miles upstream from mouth.

DRAINAGE AREA.--670 sq mi, approximately.

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
19...	1310	18	2.0	130	64	27	41	1.4	180	0	186	20
NOV.												
18...	1530	16	3.3	40	88	29	50	1.9	226	0	208	32
JAN.												
17...	1500	4.0	4.7	100	83	83	84	2.1	342	0	366	40
FEB.												
10...	1520	15	2.4	90	103	30	53	1.6	248	0	235	30
MAR.												
08...	1430	20	1.5	290	69	24	35	1.6	156	12	170	21
APR.												
08...	1145	46	1.8	0	82	26	38	1.4	213	0	176	24
MAY												
08...	0900	645	12	170	62	15	10	1.8	216	0	45	4.0
JUNE												
06...	1320	398	6.7	100	64	15	16	1.8	224	0	61	5.1
JULY												
12...	1745	80	5.4	90	74	18	41	1.6	256	0	125	13
AUG.												
04...	1415	24	5.1	30	59	26	47	1.9	198	12	148	16
SEP.												
02...	1415	4.7	5.1	50	52	32	65	2.0	181	0	230	19

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
19...	.5	.1	0	430	.60	21.5	268	120	1.1	683	8.0	4.0
NOV.												
18...	.5	.2	60	524	.78	24.6	340	155	1.2	852	8.1	0.0
JAN.												
17...	.7	.0	130	832	1.21	9.59	551	270	1.6	1220	8.0	0.0
FEB.												
10...	.5	.2	60	578	.81	24.1	380	177	1.2	891	8.2	0.5
MAR.												
08...	.5	.2	50	411	.58	22.9	270	122	.9	640	8.4	1.5
APR.												
08...	.4	.0	0	455	.65	59.1	310	135	.9	728	7.8	9.5
MAY												
08...	.3	2.1	60	258	.35	446	216	39	.3	431	7.6	9.5
JUNE												
06...	.2	.2	50	280	.40	314	221	37	.5	476	8.2	18.5
JULY												
12...	.5	.2	20	405	.52	82.9	60	0	1.1	647	8.1	23.5
AUG.												
04...	.4	.4	140	413	.58	27.9	254	72	1.3	669	8.4	22.5
SEP.												
02...	.6	.1	130	495	.69	6.47	260	112	.7	770	8.2	25.0

09224700 BLACKS FORK NEAR LITTLE AMERICA, WYO.

LOCATION.--Lat 41°32'46", long 109°41'34", in NE¼NE¼NE¼ sec.15, T.18 N., R.109 W., Sweetwater County, at gaging station 200 ft upstream from bridge on U.S. Highway 30, 4.5 miles upstream from Spider Creek, and 12 miles east of Little America.
DRAINAGE AREA.--3,100 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: March 1951 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: March 1951 to September 1963, December 1964 to September 1970.
Sediment records: October 1967 to September 1970.
EXTREMES.--1969-70:
Specific conductance: Maximum daily, 5,880 micromhos Dec. 25; minimum daily, 430 micromhos May 24.
Water temperatures: Maximum, 25.0°C July 3, 5, 17, Aug. 1, 5; minimum, freezing point Dec. 28-30, Mar. 30.
Sediment concentrations: Maximum daily, 15,100 mg/l Sept. 8; minimum daily, 4 mg/l Aug. 25.
Sediment discharge: Maximum daily, 58,200 tons June 13; minimum daily, 0.13 ton Aug. 29.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
01-14	--	31	4.6	--	44	64	505	4.6	353	0	980	115
15-31	--	59	9.2	--	34	36	359	4.4	348	0	578	75
NOV.												
01-14	--	44	8.2	--	130	76	409	5.6	338	0	1010	127
15-30	--	38	7.8	--	95	68	364	5.5	347	0	855	117
DEC.												
01-15	--	35	8.8	--	167	72	290	4.4	388	0	840	110
16-31	--	29	8.4	--	55	58	365	4.0	369	0	695	100
JAN.												
01-13	--	19	12	--	138	64	342	6.0	434	7	780	94
14-20	--	17	11	--	60	58	421	6.0	450	40	730	92
21-31	--	49	9.8	--	98	44	215	4.5	281	0	545	76
ANALYSES OF ADDITIONAL SAMPLES												
OCT.												
23...	1710	57	9.7	30	87	34	219	3.3	236	8	499	61
NOV.												
22...	1615	A48	8.1	0	160	80	320	7.0	326	3	945	110
DEC.												
02...	1100	A38	8.1	0	161	80	310	6.3	385	8	870	117
JAN., 1970												
17...	1230	A18	12	60	50	58	467	4.3	422	81	785	87
FEB.												
10...	1720	A96	8.5	10	100	38	216	4.9	267	0	570	56
MAR.												
08...	1230	A140	7.8	50	89	37	124	4.0	237	0	356	66
APR.												
08...	1515	510	14	50	89	35	191	4.7	277	0	409	100
MAY												
07...	1830	604	5.1	100	65	24	80	3.5	256	0	172	45
JUNE												
06...	1215	1210	11	60	57	17	47	3.0	182	0	144	16
JULY												
15...	1230	176	11	90	123	49	223	4.4	277	0	644	80
AUG.												
06...	1700	48	7.5	140	76	54	278	4.8	200	12	706	72
SEP.												
04...	1510	7.6	4.9	20	97	54	337	3.2	119	0	970	67

A DAILY MEAN DISCHARGE.

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.						
23...	1710	57	1490	9.6	8.6	10.0
NOV.						
22...	1615	A 48	2250	11.7	8.4	1.5
DEC.						
02...	1100	A 38	2280	10.9	8.6	0.0
JAN.						
17...	1230	A 18	2600	10.3	9.4	0.5
FEB.						
10...	1730	A 96	1230	11.4	8.5	0.5
MAR.						
08...	1230	A 140	1180	10.1	8.6	1.0
APR.						
08...	1515	510	1350	8.3	8.6	7.5
MAY						
07...	1830	604	795	7.8	8.5	13.5
JUNE						
06...	1215	1210	---	7.5	8.4	17.5
JULY						
15...	1230	176	1680	8.4	8.5	20.5
AUG.						
06...	1700	48	1760	8.6	8.6	25.5
SEP.						
04...	1510	7.6	2030	9.7	8.7	15.5

A DAILY MEAN DISCHARGE.

09224700 BLACKS FORK NEAR LITTLE AMERICA, WYO.--Continued

Period of record:
Dissolved solids (1951-67, 1969): Maximum, 4,480 mg/l Oct. 1-3, 1953; minimum, 278 mg/l Feb. 12, 13, 1954.
Hardness (1951-69): Maximum, 1,980 mg/l Feb. 1-14, 1955; minimum, 48 mg/l Oct. 1-3, 1953.
Specific conductance: Maximum daily (1951-64, 1965-70), 6,010 micromhos Oct. 1, 1953; minimum daily, 411 micromhos May 13, 1969.
Water temperatures (1951-62, 1966-70): Maximum, 29.0°C July 15, 16, 1955; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 15,100 mg/l Sept. 8, 1970; minimum daily, 4 mg/l Aug. 25, 1970.
Sediment discharge: Maximum daily, 58,200 tons June 13, 1970; minimum daily, 0.13 ton Aug. 29, 1970.
REMARKS.--Daily samples for chemical analysis composited by discharge. Additional samples were collected for more comprehensive definition of water quality. Flow affected by ice Oct. 12, Nov. 21 to Mar. 23, Mar. 26 to Apr. 3.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)
OCT.												
01-14	.6	.1	390	1890	2.52	155	373	83	11	2600	8.1	--
15-31	.5	.1	310	1270	1.70	199	233	0	10	1870	7.9	--
NOV.												
01-14	.7	.2	480	1930	2.71	236	638	361	7.0	2660	7.9	--
15-30	.6	.1	400	1680	2.38	180	517	232	7.0	2420	7.9	--
DEC.												
01-15	.6	.1	370	1680	2.39	166	712	396	4.7	2300	8.1	--
16-31	.5	.0	310	1470	2.01	116	376	73	8.2	2120	8.0	--
JAN.												
01-13	1.9	2.3	370	1660	2.26	85.2	608	240	6.0	2250	8.4	--
14-20	1.8	.3	330	1640	2.31	78.0	388	0	9.3	2380	8.8	--
21-31	1.5	.8	260	1120	1.59	155	426	195	4.5	1650	8.1	--
ANALYSES OF ADDITIONAL SAMPLES												
OCT.												
23...	.6	1.7	0	1040	1.36	154	357	150	5.0	1490	--	10.0
NOV.												
22...	.6	.2	340	1790	2.50	238	727	455	5.2	--	--	1.5
DEC.												
02...	.6	.1	420	1750	2.43	184	732	403	5.0	--	8.4	0.0
JAN., 1970												
17...	1.0	.2	320	1750	2.39	85.5	364	0	11	--	--	0.5
FEB.												
10...	1.2	.0	190	112	1.19	228	406	187	4.7	--	--	0.5
MAR.												
08...	.9	.0	190	802	1.12	310	374	180	2.8	--	--	1.0
APR.												
08...	1.3	.6	230	981	1.33	1340	366	139	4.3	--	--	7.5
MAY												
07...	.8	.3	90	522	.76	910	260	50	2.2	--	--	13.5
JUNE												
06...	.4	.2	120	386	.54	1300	212	63	1.4	608	--	17.5
JULY												
15...	.8	.4	530	1270	1.82	637	508	281	4.3	--	--	20.5
AUG.												
06...	.6	.2	390	1310	1.86	178	412	228	6.0	--	8.6	25.5
SEP.												
04...	.7	.0	400	1590	2.18	32.8	464	366	6.8	--	--	15.5

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM
MAR.										
28...	1530	3.0	127	5200	1780	85	99	100	--	--
APR.										
09...	0600	5.0	406	16000	17500	76	99	100	--	--
MAY										
08...	0800	--	686	3310	6130	58	87	100	--	--
20...	1450	17.5	1220	6650	21900	49	81	100	--	--
JUNE										
06...	1215	17.5	1210	1190	3890	27	39	70	92	100
12...	1530	10.0	2890	8520	66500	65	84	98	100	--
SEP.										
07...	1120	10.0	789	12200	26000	80	99	100	--	--
08...	1010	7.0	330	16200	14400	83	98	100	--	--

09224700 BLACKS FORK NEAR LITTLE AMERICA, WYO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3050	1820	2340	2230	1820	1210	1220	1030	499	1350	2010	1860
2	3140	2640	2320	2330	1910	1170	1350	1080	504	1330	1970	949
3	3460	2770	2290	2220	1900	1260	1490	1050	541	1320	2010	980
4	3040	1920	2300	2160	1520	1290	1420	1260	585	1390	2160	1380
5	2640	2030	2230	2270	1580	1200	1470	1200	616	1390	2140	1760
6	2810	3790	2310	2420	1510	1160	1720	834	596	1520	2020	1860
7	2650	2990	2170	2760	1360	1230	1450	648	597	1490	I900	1200
8	2110	3730	2330	2210	1610	1180	1460	573	638	1640	1480	1170
9	2530	2990	2440	2280	1340	1180	1230	572	706	1720	1950	1100
10	2110	2980	2350	2200	1300	1240	906	572	773	1650	2120	1380
11	2530	2570	2340	2420	1250	1300	1000	635	814	1660	2060	1840
12	2550	2410	2200	2170	1320	1370	1080	726	892	1890	2390	1780
13	2540	2300	2250	2090	1330	1290	936	768	990	1810	2450	1730
14	2530	2160	2160	3050	1340	1180	867	730	930	1870	2450	1790
15	1830	3490	2120	2300	1330	1250	963	723	799	1860	2430	1890
16	1520	2020	---	2140	1280	1290	948	740	764	1790	2610	1840
17	1820	2160	2230	2200	1270	1240	1100	764	798	1660	2550	1880
18	---	1980	2410	2420	1280	1260	1160	723	831	1680	2470	1970
19	2460	2250	2120	---	1470	1270	1260	749	948	1760	2610	2070
20	2020	2280	2020	2190	1400	1390	1270	695	959	1760	2330	2100
21	1970	2460	1940	1320	1320	1430	1370	538	1000	1830	2380	2230
22	1470	2520	1870	1560	1280	1550	1320	503	1020	1370	2410	2100
23	2470	2440	1840	2390	1270	1490	1400	474	1040	1840	---	2090
24	1610	2560	1850	1400	1340	1580	1400	430	1090	2000	2140	2020
25	1770	2360	5880	1380	1180	1520	1370	526	1100	2010	2330	2200
26	1820	2400	1860	1560	3690	1660	1530	496	1180	1830	2380	2030
27	1740	2510	2200	1610	1250	1510	1550	542	1160	---	2390	2170
28	1880	2760	2090	1440	1180	1170	1370	490	1180	2290	2290	2140
29	2590	2500	1910	1770	---	1240	1310	490	1200	2320	1820	2210
30	2050	2480	2000	1640	---	1230	1120	508	1310	2440	2120	2210
31	1860	---	2290	1840	---	1230	---	548	---	2190	2140	---
AVG	2290	2540	2290	2070	1480	1310	1270	697	869	1760	2220	1800

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.5	5.0	1.0	0.5	1.0	1.5	2.5	12.0	15.0	21.5	25.0	21.0
2	17.0	5.0	1.0	0.5	1.0	1.0	3.0	12.5	17.0	22.0	24.5	19.5
3	15.0	4.5	0.5	1.0	1.0	1.0	2.0	12.5	17.5	25.0	24.5	19.5
4	14.5	4.5	0.5	0.5	0.5	1.0	3.0	14.5	17.0	23.5	23.0	14.0
5	14.5	4.5	0.5	0.5	1.0	1.0	3.0	15.0	19.0	25.0	25.0	11.0
6	15.0	4.0	1.0	0.5	1.0	1.5	10.0	14.0	16.5	24.0	24.0	9.0
7	14.5	4.0	0.5	1.0	0.5	2.0	10.0	10.0	15.0	24.5	22.5	11.0
8	13.5	3.5	0.5	1.0	0.5	2.0	5.0	8.5	16.0	24.5	22.5	9.5
9	12.0	3.0	1.0	1.0	0.5	3.0	8.0	8.0	14.5	23.5	23.0	14.0
10	9.5	3.0	1.0	1.5	1.0	3.0	9.0	8.0	14.0	24.0	23.5	15.0
11	5.0	3.0	1.0	1.5	1.5	4.0	8.0	9.5	14.0	23.5	24.0	14.5
12	4.5	4.5	1.0	1.5	1.0	4.0	8.0	9.5	10.0	23.0	24.0	13.0
13	5.0	5.0	1.0	1.0	0.5	2.0	5.5	10.0	11.5	24.5	23.0	11.5
14	3.5	5.0	1.5	1.5	0.5	4.0	4.0	12.0	15.0	24.0	23.5	11.0
15	3.0	4.5	1.0	2.0	1.5	2.0	6.0	14.0	15.5	23.5	24.0	14.0
16	3.5	3.5	---	2.0	1.5	3.5	7.0	15.0	15.0	24.5	24.0	15.0
17	3.5	2.0	1.5	1.0	1.0	4.0	5.0	17.0	16.0	25.0	24.0	16.0
18	---	2.5	1.0	1.0	0.5	3.5	8.0	16.0	17.0	24.5	23.5	15.5
19	6.5	2.0	1.0	2.0	0.5	4.0	5.5	17.0	18.5	24.0	24.0	14.0
20	5.0	3.0	1.5	2.0	1.5	2.5	6.0	17.5	22.0	23.5	23.0	14.0
21	9.0	2.0	2.0	2.5	0.5	3.5	5.0	16.0	23.0	24.0	22.5	13.0
22	7.0	1.5	1.0	3.0	1.5	4.0	7.0	16.5	22.0	24.0	23.5	14.0
23	6.5	1.5	1.5	3.0	1.0	4.0	8.5	15.0	21.5	23.0	---	12.0
24	7.5	1.0	1.5	2.5	1.0	4.0	9.0	16.0	23.0	23.0	24.0	12.0
25	7.5	1.0	1.5	2.0	0.5	3.5	9.0	15.5	22.0	23.0	24.0	12.5
26	7.0	1.0	0.5	1.0	1.0	2.0	10.0	15.5	23.0	23.5	24.0	14.0
27	7.0	1.0	0.5	1.0	1.0	1.5	9.0	16.0	21.0	---	24.0	13.5
28	5.0	1.0	0.0	1.5	1.0	3.0	9.0	17.0	20.5	23.5	23.5	13.0
29	4.5	1.0	0.0	1.0	---	4.0	8.5	15.0	19.0	24.0	23.0	13.5
30	4.0	1.0	0.0	1.0	---	0.0	8.5	16.5	20.0	24.0	23.5	13.5
31	4.0	---	0.5	1.0	---	0.5	---	14.0	---	24.5	23.0	---
AVG	8.5	3.0	1.0	1.5	1.0	2.5	6.5	13.5	17.5	24.0	23.5	14.0

09224700 *BLACKS FORK NEAR LITTLE AMERICA, WYO.--Continued*

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	14	26	.98	39	282	30	40	124	13
2	17	18	.83	47	370	47	38	115	12
3	16	33	1.4	58	501	78	37	87	8.7
4	22	25	1.5	52	282	40	38	115	12
5	22	19	1.1	47	221	28	35	145	14
6	26	22	1.5	44	310	37	31	123	10
7	41	21	2.3	42	209	24	32	85	7.3
8	53	19	2.7	42	240	27	31	90	7.5
9	48	19	2.5	41	183	20	31	75	6.3
10	48	27	3.5	40	228	25	30	81	6.6
11	38	56	5.7	41	280	31	32	31	2.7
12	31	98	8.2	44	252	30	36	21	2.0
13	24	87	5.6	41	375	42	38	22	2.3
14	31	77	6.4	34	400	37	36	18	1.7
15	28	97	7.3	30	257	21	36	20	1.9
16	31	132	11	28	146	11	34	25	2.3
17	59	102	16	25	118	8.0	36	27	2.6
18	96	94	24	24	152	9.8	35	23	2.2
19	130	3280	1150	31	99	8.3	35	22	2.1
20	109	4140	1220	42	68	7.7	35	46	4.3
21	79	5510	1180	48	80	10	31	36	3.0
22	59	4620	736	48	89	12	33	23	2.0
23	57	2380	366	44	90	11	33	20	1.8
24	57	798	123	44	109	13	31	40	3.3
25	53	418	60	42	119	13	28	50	3.8
26	46	278	35	40	108	12	29	47	3.7
27	43	210	24	38	93	9.5	26	38	2.7
28	40	420	45	39	109	11	23	42	2.6
29	38	832	85	40	106	11	19	43	2.2
30	37	538	54	39	102	11	20	51	2.8
31	37	317	32	--	--	--	21	88	5.0
TOTAL	1430	--	5212.51	1214	--	675.3	990	--	154.4

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	20	122	6.6	56	223	34	151	159	65
2	19	83	4.3	55	175	26	143	167	64
3	20	119	6.4	64	135	23	133	227	82
4	20	72	3.9	71	112	21	128	252	87
5	18	55	2.7	72	127	25	136	272	100
6	19	72	3.7	83	87	19	120	262	85
7	20	61	3.3	84	91	21	133	282	101
8	18	35	1.7	87	119	28	140	476	180
9	16	53	2.3	93	108	27	146	596	235
10	17	65	3.0	96	102	26	129	498	173
11	20	32	1.7	100	108	29	120	475	154
12	20	75	4.1	106	135	39	126	479	163
13	21	37	2.1	104	157	44	136	721	265
14	17	49	2.2	96	107	28	143	750	290
15	18	59	2.9	102	117	32	138	656	244
16	15	28	1.1	120	175	57	140	440	166
17	18	38	1.8	114	247	76	132	306	109
18	14	26	.98	107	303	88	122	388	128
19	17	20	.92	100	214	58	110	417	124
20	18	21	1.0	110	132	39	91	483	119
21	25	198	13	117	131	41	100	451	122
22	37	302	30	126	98	33	106	440	126
23	45	190	23	137	100	37	113	398	121
24	50	160	22	134	101	37	130	332	117
25	49	193	26	134	141	51	148	1840	735
26	60	292	47	132	271	97	130	1310	460
27	65	488	86	141	171	65	118	3580	1140
28	59	314	50	148	150	60	127	6090	2090
29	52	167	23	--	--	--	121	2200	719
30	49	226	30	--	--	--	115	820	255
31	53	481	69	--	--	--	105	680	193
TOTAL	909	--	475.70	2889	--	1161	3930	--	9012

09224700 BLACKS FORK NEAR LITTLE AMERICA, WYO.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	120	880	285	204	990	545	1790	1370	6620
2	140	1010	382	193	790	412	1690	1200	5480
3	140	720	272	212	860	492	1470	830	3290
4	154	530	220	200	2010	1090	1320	790	2820
5	154	580	241	200	3060	1650	1260	840	2860
6	151	620	253	343	2550	2360	1220	1340	4410
7	190	1600	821	604	3430	5590	1310	2420	8560
8	435	6600	7750	674	3060	5570	1410	1560	5940
9	450	12800	15600	698	2480	4670	1390	1190	4470
10	361	6500	6340	644	1260	2190	1320	820	2920
11	320	3450	2980	620	920	1540	1600	2410	10400
12	348	1880	1770	674	1380	2510	2780	7490	56200
13	392	2860	3030	582	640	1010	2870	7510	58200
14	298	1910	1540	520	730	1020	1990	2810	15100
15	248	1110	743	430	580	673	1700	1400	6430
16	212	575	329	392	330	349	1480	852	3400
17	190	530	272	366	400	395	1160	710	2220
18	172	580	269	397	510	547	978	639	1690
19	158	370	158	632	1690	2880	824	363	808
20	151	400	163	1110	6460	19400	710	325	623
21	130	410	144	1420	5000	19200	620	285	477
22	137	330	122	1520	3920	16100	555	270	405
23	148	290	116	1510	3710	15100	510	243	335
24	168	320	145	1500	2850	11500	555	278	417
25	179	910	440	1490	2080	8370	614	345	572
26	158	1890	806	1420	2090	8010	576	319	496
27	154	1420	590	1360	1920	7050	515	310	431
28	186	1240	623	1380	1560	5810	470	242	307
29	256	1510	1040	1750	1960	9260	435	201	236
30	240	1350	875	2030	2230	12200	410	158	175
31	--	--	--	1970	1710	9100	--	--	--
TOTAL	6540	--	48319	27045	--	176593	35532	--	206292

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	370	140	140	86	35	8.1	12	6	.19
2	302	141	115	66	30	5.3	11	14	.42
3	272	145	106	66	32	5.7	9.4	22	.56
4	232	120	75	66	32	5.7	10	11	.30
5	204	528	291	66	31	5.5	11	9	.27
6	196	270	143	51	12	1.7	40	19	2.1
7	216	135	79	63	9	1.5	485	11500	17400
8	200	181	98	61	10	1.6	321	15100	13100
9	212	183	105	56	5	.76	155	9910	4150
10	196	163	86	40	5	.54	92	4150	1030
11	212	141	81	36	12	1.2	77	2800	582
12	244	293	193	29	9	.70	58	930	146
13	236	515	328	25	8	.54	46	132	16
14	208	279	157	19	13	.67	36	155	15
15	176	232	110	16	14	.60	38	94	9.6
16	144	215	84	14	7	.26	36	57	5.5
17	124	120	40	17	7	.32	38	42	4.3
18	108	117	34	14	6	.23	36	39	3.8
19	98	128	34	12	6	.19	36	48	4.7
20	101	105	29	12	8	.26	36	73	7.1
21	86	92	21	12	8	.26	35	55	5.2
22	74	156	31	11	10	.30	31	49	4.1
23	68	85	16	14	10	.38	31	60	5.0
24	66	54	9.6	14	7	.26	29	74	5.8
25	66	35	6.2	14	4	.15	29	33	2.6
26	68	50	9.2	12	5	.16	29	19	1.5
27	68	68	12	11	6	.18	29	20	1.6
28	77	53	11	8.7	6	.14	28	18	1.4
29	80	49	11	8.0	6	.13	25	16	1.1
30	77	49	10	53	7	1.0	28	17	1.3
31	98	40	11	19	8	.41	--	--	--
TOTAL	4879	--	2476.0	991.7	--	44.74	1877.4	--	36507.44

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 88227.1
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 486923.09

09226000 HENRYS FORK NEAR LONETREE, WYO.

LOCATION.--Lat 41°00'23", long 110°16'13", in NE¼SE¼NW¼ sec.21, T.12 N., R.114 W., Uinta County, at gaging station 0.6 mile downstream from Wasatch National Forest boundary, 1 mile downstream from West Fork, 1.5 miles downstream from Utah-Wyoming State line, and 7 miles southwest of Lonetree.

DRAINAGE AREA.--56 sq mi, approximately.

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

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG 1969												
27...	1145	18	5.0	--	12	1.7	2.1	.8	46	0	4.2	.9
NOV.												
22...	0915	9.8	7.1	80	21	4.7	3.4	.6	87	0	12	2.2
JUN 1970												
07...	1500	180	4.4	160	7.0	1.6	1.0	.4	28	0	.6	.5
JULY												
13...	1500	A66	3.6	150	5.5	1.5	1.3	.6	26	0	.4	.5

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO
AUG 1969									
27...	.1	.1	10	50	.07	2.43	37	0	.2
NOV.									
22...	.1	.1	10	94	.13	2.54	72	1	.2
JUN 1970									
07...	.1	.3	30	30	.05	18.5	24	1	.1
JULY									
13...	.1	.0	10	27	.06	8.20	20	0	.1

A DAILY MEAN DISCHARGE

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)
AUG 1969						
27...	1145	18	7.6	8.3	85	14.5
NOV.						
22...	0915	9.8	10.2	8.3	45	1.0
JUN 1970						
07...	1500	180	9.4	8.7	36	7.5
JULY						
13...	1500	A66	8.0	8.6	41	17.5

A DAILY MEAN DISCHARGE.

09228500 BURNT FORK NEAR BURNTFORK, WYO.

LOCATION.--Lat 40°56'50", long 110°04'20", in SE¼ sec.36, T.3 N., R.16 E., Summit County, Utah, Ashley National Forest, at gaging station 0.8 mile west of forest boundary and 7 miles southwest of Burntfork.

DRAINAGE AREA.--52.8 sq mi.

PERIOD OF RECORD.--Chemical analyses: August 1969 to May 1970 (discontinued).

CHEMICAL ANALYSES, AUGUST 1969 TO MAY 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
AUG 1969												
27...	0915	14	3.4	--	3.2	1.0	1.0	.4	14	0	4.4	.4
NOV.												
21...	1615	5.0	3.9	10	3.9	2.6	1.3	.5	19	0	4.2	.6
MAY 1970												
09...	1100	12	4.3	120	5.5	1.1	1.4	.4	22	0	3.0	1.2

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG 1969												
27...	.0	.0	10	21	.03	.83	12	1	.1	--	--	10.0
NOV.												
21...	.1	.4	0	26	.04	.38	20	4	.1	--	--	0.5
MAY 1970												
09...	.1	.2	0	28	.05	1.23	18	0	.1	--	--	1.0

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG 1969						
27...	0915	14	25	8.9	8.0	10.0
NOV.						
21...	1615	5.0	56	9.9	8.3	0.5
MAY 1970						
09...	1100	12	45	10.9	8.5	1.0

09229500 HENRYS FORK AT LINWOOD, UTAH

LOCATION(revised).--Lat 41°00'45", long 109°40'20", in NW¼NW¼ sec.23, T.12 N., R.109 W., Sweetwater County, Wyo., at gaging station 0.8 mile north of Wyoming-Utah State line, 1.3 miles upstream from normal high waterline of Flaming Gorge Reservoir, 1.5 miles northwest of Linwood, and 3 miles northeast of Manila, Utah.

DRAINAGE AREA.--520 sq mi.

PERIOD OF RECORD.--Chemical analyses: March 1951 to September 1969 (monthly), October 1969 to September 1970 (monthly).
Water temperatures: March 1951 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,750 micromhos Aug. 24, 25, 29; minimum daily, 430 micromhos June 3.
Water temperatures: Maximum, 25.0°C Aug. 16; minimum, freezing point Jan. 6.

Period of record:
Dissolved solids (1951-69): Maximum, 3,700 mg/l Oct. 14, 15, 1961; minimum, 29 mg/l June 9-21, 1968.
Hardness (1951-69): Maximum, 2,100 mg/l Oct. 14, 15, 1961; minimum, 200 mg/l June 9-21, 1968.
Specific conductance: Maximum daily, 3,750 micromhos Oct. 15, 1961; minimum daily, 385 micromhos June 16, 1968.
Water temperatures: Maximum, 29.0°C July 29, 1968; minimum, freezing point on many days during winter periods.

REMARKS.--Maximum observed: Specific conductance, 1,810 micromhos Nov. 21 (field measurement). Prior to October 1969 samples collected 1 mile downstream from gaging station.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
24...	0800	85	18	300	120	62	60	9.1	280	0	403	18
NOV.												
21...	1415	46	39	20	205	53	55	11	300	0	552	22
DEC.												
02...	0830	48	18	--	160	72	47	9.6	311	0	532	22
03...	0815	46	21	--	156	80	58	8.8	298	0	574	24
JAN.												
07...	0810	33	18	--	170	84	59	9.3	331	0	548	26
11...	1200	32	20	30	180	91	66	8.3	328	0	636	26
FEB.												
04...	0830	45	15	--	148	77	51	8.1	299	0	498	25
09...	1215	54	17	10	132	64	48	9.1	275	0	428	19
MAR.												
03...	0815	102	14	--	132	67	46	7.5	280	0	435	22
07...	1500	59	18	100	128	62	48	7.4	263	0	443	20
APR.												
08...	0815	193	13	--	104	27	32	11	197	0	250	12
09...	1130	82	15	20	85	36	32	5.2	234	0	227	15
09...	1330	107	16	140	82	33	28	8.4	228	0	203	15
MAY												
06...	0730	90	14	--	95	44	35	6.8	294	0	242	16
07...	1130	82	15	20	85	36	32	5.2	234	0	227	15
JUNE												
05...	0730	310	13	--	51	16	14	4.4	155	0	90	8.0
05...	1500	325	16	50	54	19	14	4.5	164	0	103	4.8
JULY												
11...	1130	204	22	260	120	52	42	8.7	295	0	325	23
AUG.												
06...	1200	54	24	70	156	84	62	9.6	256	0	620	22
SEP.												
03...	1430	35	26	60	165	87	68	11	243	0	664	23

09229500 HENRYS FORK AT LINWOOD, UTAH--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
24...	.5	.2	160	829	1.09	184	558	328	1.1	--	--	3.5
NOV.												
21...	.5	.1	200	1090	1.54	140	729	483	.9	--	--	0.5
DEC.												
02...	.4	.1	230	1020	1.47	111	716	461	.8	--	--	0.0
03...	.5	.1	0	1070	1.46	133	720	476	.9	1380	7.9	0.0
JAN.												
07...	.6	.1	0	1080	1.47	96	770	499	.9	1400	7.6	0.0
11...	.5	.1	250	1190	1.71	105	823	554	1.0	--	--	0.0
FEB.												
04...	.7	.4	0	970	1.32	118	685	440	.8	1330	7.6	0.0
09...	.4	.0	170	853	1.18	126	592	366	.9	1180	8.2	1.0
MAR.												
03...	.6	.2	0	863	1.30	263	605	375	.8	1200	7.6	0.0
07...	1.5	.1	140	857	1.19	139	574	358	.9	--	--	3.0
APR.												
08...	.4	6.8	0	554	.81	312	369	208	.7	827	7.8	4.0
09...	.8	.9	90	532	.79	128	360	168	.7	725	8.3	12.0
09...	.8	.6	100	499	.68	145	340	153	.7	724	7.9	9.0
MAY												
06...	.5	.7	0	599	.84	151	417	176	.7	862	8.1	--
07...	.8	.9	90	532	.79	128	360	168	.7	--	--	12.0
JUNE												
05...	.4	.2	0	273	.40	248	192	65	.4	428	8.0	12.0
05...	.4	.3	90	297	.42	274	212	77	.4	462	7.8	18.5
JULY												
11...	.4	.0	210	739	1.06	427	514	272	.8	--	--	21.5
AUG.												
06...	.6	.2	290	1100	1.62	174	734	524	1.0	1470	8.1	21.0
SEP.												
03...	.6	.0	280	1160	1.66	115	769	570	1.1	--	--	20.5

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	TEMPER-ATURE (DEG C)
OCT.						
24...	0800	85	1110	8.5	10.2	3.5
NOV.						
21...	1415	46	1810	8.6	10.9	0.5
DEC.						
02...	0830	48	1320	8.3	10.3	0.0
JAN.						
11...	1200	32	1640	8.3	10.4	0.0
FEB.						
09...	1215	54	1140	8.3	10.8	1.0
MAR.						
07...	1500	59	1480	8.4	10.3	3.0
APR.						
09...	1330	107	748	8.3	9.2	9.0
MAY						
07...	1130	82	725	8.3	8.9	12.0
JULY						
11...	1130	204	940	8.3	8.3	21.5
AUG.						
06...	1200	54	1470	8.1	7.4	21.0
SEP.						
03...	1430	35	1430	8.3	8.6	20.0

09229500 HENRYS FORK AT LINWOOD, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1660	1110	1440	1380	1260	1240	1090	1110	461	891	1270	1440
2	1710	1200	1440	1390	1240	1120	1230	1010	431	934	1340	1660
3	1590	1200	1370	1370	1220	1070	1160	933	430	985	1410	1540
4	1560	---	1400	1440	1200	1150	1160	947	432	1020	1460	1630
5	1580	1190	1370	1370	1170	1230	952	876	434	1070	1480	868
6	1540	1190	1400	1430	1210	1380	955	938	488	942	1740	860
7	1520	1180	1530	1470	1090	1200	938	786	586	1100	1610	1100
8	1410	1180	1530	1520	1080	1080	800	764	600	1010	1470	1220
9	1400	1450	1540	1530	1080	1080	932	838	---	1140	1530	1300
10	---	1450	1380	1550	1090	1070	757	---	803	1100	1540	1350
11	1420	1220	1530	1260	1020	1170	752	871	770	991	1560	1480
12	---	1200	1530	1460	1000	1140	1020	921	736	936	1610	1420
13	1410	1180	---	1440	1000	1380	1030	921	778	1030	1610	1480
14	1440	1220	1380	1320	1010	1210	1110	899	798	1200	1610	1460
15	1480	1270	1360	1350	1050	1200	---	845	786	1210	1600	1450
16	1400	1250	1360	1220	1080	1150	1060	866	807	1240	1620	1480
17	1250	1290	1370	1220	1170	1100	1170	840	832	1260	1610	1490
18	1220	1350	1310	1230	1100	1090	1140	779	832	1230	1670	1490
19	---	---	1370	1220	1190	1110	946	712	---	1300	1690	1500
20	1200	---	1310	1220	1170	1280	1180	544	830	1290	1670	1470
21	1130	1350	1530	1250	1160	1300	1210	537	738	1230	1700	1560
22	1490	---	1300	1170	1180	1150	1190	537	668	1630	1720	1620
23	1110	1440	1320	1240	1110	1210	1140	578	662	961	1710	1610
24	1140	1440	1250	1250	1160	1210	1260	584	665	1050	1750	1580
25	1140	1410	1520	1170	1130	1000	1180	580	688	1140	1750	1580
26	1480	1430	---	1390	1210	1020	1060	535	706	1160	1740	1570
27	1230	1370	---	1120	1120	1070	952	497	722	1160	1720	1580
28	1230	1330	---	1100	1120	1130	898	---	729	1190	1560	1560
29	1210	1390	1430	1200	---	1270	1000	436	744	1140	1750	1560
30	1500	1430	1400	1310	---	1030	1100	440	810	1270	1620	1560
31	1240	---	1420	1240	---	1120	---	439	---	1240	1610	---
AVG	1380	1300	1410	1320	1130	1160	1050	744	677	1130	1600	1450

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	---	1.5	0.5	1.0	2.0	4.5	10.5	17.0	20.0	22.5	17.5
2	11.0	---	1.5	1.5	1.5	3.0	7.0	13.0	17.5	22.0	23.5	17.5
3	11.0	---	1.5	---	1.5	1.0	6.5	---	15.0	23.5	24.0	18.0
4	8.5	---	2.0	---	2.0	2.0	8.0	16.0	---	20.0	23.0	16.0
5	5.5	---	2.0	1.0	2.0	3.0	8.0	15.0	16.0	19.5	22.5	16.0
6	6.0	---	1.5	0	2.0	2.5	8.0	14.5	15.5	17.0	17.0	8.0
7	11.0	6.0	---	1.0	2.0	2.5	8.5	12.0	15.0	20.0	22.5	14.0
8	10.0	6.0	---	1.0	2.0	2.5	7.5	14.0	15.0	22.5	23.0	17.0
9	10.0	6.5	1.0	1.0	2.0	4.0	---	11.5	---	22.0	22.0	16.0
10	---	6.5	2.0	1.0	2.0	2.0	7.0	---	7.5	21.5	22.5	17.0
11	9.0	6.5	2.0	1.0	2.0	2.5	7.0	12.5	7.0	18.0	22.0	15.0
12	---	5.0	3.0	1.5	2.0	3.0	7.0	---	7.0	19.5	20.0	15.0
13	3.5	5.0	2.5	1.0	0.5	3.0	6.5	13.5	7.5	22.0	18.0	16.0
14	4.0	6.0	3.0	---	0.5	3.5	6.0	17.0	15.5	23.0	20.0	10.0
15	5.0	6.0	2.0	1.0	0.5	6.0	---	16.0	---	23.5	21.5	12.5
16	8.0	4.5	---	1.0	2.0	6.5	7.5	15.5	14.0	18.0	25.0	14.0
17	6.5	1.5	2.0	1.0	1.5	6.0	7.0	18.0	13.0	20.0	20.0	14.5
18	---	4.0	2.0	1.0	1.0	6.0	8.0	21.5	15.0	18.0	19.0	15.0
19	---	---	3.0	1.0	1.5	3.5	---	19.0	---	17.5	17.0	15.0
20	9.5	---	2.5	1.0	1.5	4.5	8.5	16.0	18.5	22.5	17.0	12.0
21	8.5	2.0	2.5	1.0	1.0	5.5	8.0	14.5	21.5	18.0	18.5	10.0
22	8.5	---	2.5	1.0	2.0	8.0	6.0	15.0	21.0	16.0	18.0	12.0
23	8.5	2.0	3.0	1.0	2.5	7.0	8.0	13.0	22.0	17.0	21.0	12.0
24	8.5	1.5	2.0	1.0	2.0	8.0	10.0	12.5	---	18.0	20.0	12.0
25	9.0	1.0	2.0	1.0	2.0	5.5	11.0	17.5	23.0	16.5	20.0	11.0
26	9.0	1.0	---	1.0	2.0	4.0	10.0	18.0	23.0	15.0	18.0	11.0
27	9.0	1.0	---	2.0	2.5	4.0	---	15.0	21.0	20.0	17.0	12.5
28	---	1.0	---	2.0	3.0	2.5	5.5	---	22.5	18.0	17.0	12.5
29	---	1.5	2.0	1.5	---	4.0	8.0	15.5	20.0	19.0	17.0	12.5
30	---	2.0	2.0	1.5	---	4.0	8.5	16.0	19.0	20.0	17.5	12.5
31	---	---	2.0	1.0	---	5.0	---	14.0	---	21.0	18.0	---
AVG	---	---	2.0	1.0	1.5	4.0	7.5	15.0	16.5	19.5	20.0	14.0

09234500 GREEN RIVER NEAR GREENDALE, UTAH
(Irrigation network station)

LOCATION.--Lat 40°54'30", long 109°25'20", in NW¼SE¼ sec.15, T.2 N., R.22 E., Daggett County, Ashley National Forest, at gaging station 0.5 mile downstream from Flaming Gorge Dam, 2 miles south of Dutch John, 4 miles northeast of Greendale, 13 miles southeast of Linwood, and 407.0 miles from mouth.

DRAINAGE AREA.--15,100 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1956 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: October 1956 to September 1959, October 1963 to September 1970.
Sediment records: October 1956 to September 1959.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 773 micromhos Sept. 16; minimum daily, 669 micromhos Feb. 20.
Water temperatures: Maximum, 11.0°C Nov. 1-3; minimum, 4.0°C on many days during February and March.

Period of record (See REMARKS below):
Dissolved solids (1956-58, 1959-69): Maximum, 866 mg/l Mar. 18-23, 1961; minimum, 236 mg/l June 1-30, 1961.
Hardness (1956-58, 1959-69): Maximum, 424 mg/l Dec. 1-9, 1960; minimum, 145 mg/l June 1-30, 1961.
Specific conductance (1956-58, 1959-62): Maximum daily, 1,340 micromhos Aug. 30, 1961; minimum daily, 325 micromhos June 2, 1961.
Specific conductance (1964-70): Maximum daily, 962 micromhos Aug. 30, 1965; minimum daily, 606 micromhos Nov. 14, 22, 1963, Feb. 10-19, 1964.
Water temperatures (1956-59): Maximum, 24.0°C July 24, 25, 1959; minimum, freezing point on many days during winter periods.
Water temperatures (1964-70): Maximum, 14.0°C Nov. 11, 1963; minimum, 2.0°C on several days in 1964.

REMARKS.--Storage in Flaming Gorge Reservoir began on Nov. 1, 1962. Extremes are given above for two separate periods--1956-62, and 1964-70. Extremes for the 1963 water year (October 1962 to September 1963) are not included.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
NOV 1969												
24...	0930	3500	--	55	26	51	2.3	166	0	190	19	--
DEC.												
03...	1330	4230	4.0	58	22	56	2.6	168	0	187	18	.2
JAN 1970												
07...	1100	4120	3.9	59	25	52	2.5	188	0	188	20	.5
FEB.												
04...	1200	804	4.0	60	23	53	2.6	177	0	192	18	.3
MAR.												
03...	1130	857	4.0	61	23	53	2.6	179	0	200	18	.3
APR.												
08...	1200	4230	4.3	64	24	59	2.7	181	0	204	18	.3
MAY												
06...	1530	2180	4.3	62	24	61	2.6	180	0	198	19	.4
JUNE												
05...	1030	440	3.4	60	25	58	2.5	176	2	200	18	.4
JULY												
31...	1000	2730	4.2	61	24	61	2.5	185	0	167	19	.3
AUG.												
04...	1000	2070	4.2	62	24	58	2.8	182	2	196	18	.7

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
NOV 1969											
24...	--	--	465	425	.63	4390	242	106	1.4	694	7.5
DEC.											
03...	--	110	457	437	.62	5220	238	100	1.6	687	7.5
JAN 1970											
07...	--	80	468	446	.64	5210	252	98	1.4	697	7.6
FEB.											
04...	--	130	455	442	.62	988	242	97	1.5	686	7.8
MAR.											
03...	--	100	464	453	.63	1070	248	101	1.5	702	8.0
APR.											
08...	--	90	498	468	.68	5690	258	109	1.6	727	8.0
MAY											
06...	--	70	491	464	.67	2890	254	107	1.7	729	8.0
JUNE											
05...	--	70	513	459	.70	509	252	104	1.6	730	8.5
JULY											
31...	.70	111	484	433	.66	3570	250	99	1.7	715	8.2
AUG.											
04...	.72	90	480	460	.65	2680	253	101	1.6	712	8.4

09234500 GREEN RIVER NEAR GREENDALE, UTAH.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	758	700	685	---	---	---	692	728	732	716	---	765
2	752	714	682	696	690	727	692	---	735	719	---	750
3	750	712	681	---	689	698	707	---	736	---	715	765
4	746	723	686	---	689	698	---	742	737	---	710	749
5	764	714	680	696	686	688	---	735	736	---	716	---
6	754	719	680	688	694	700	732	730	---	717	720	---
7	755	714	680	695	---	---	728	717	---	715	726	---
8	752	711	683	693	---	---	736	720	729	711	---	771
9	752	702	685	695	691	700	734	---	731	715	---	745
10	752	704	688	---	685	712	739	---	729	711	722	745
11	748	694	690	---	691	715	---	736	733	---	733	749
12	746	708	689	695	689	715	---	741	726	---	733	---
13	750	693	686	693	683	711	734	739	---	710	732	---
14	747	688	681	693	---	---	732	740	---	708	738	749
15	745	688	679	693	---	---	732	732	730	712	---	768
16	750	678	686	691	692	694	714	723	732	714	---	773
17	755	691	689	---	689	693	739	---	735	707	734	749
18	---	680	688	---	689	703	---	739	725	---	738	770
19	---	680	688	689	688	679	---	736	730	---	738	---
20	744	693	---	689	688	721	710	732	---	715	732	---
21	743	687	---	689	---	---	719	---	---	713	736	755
22	755	680	689	691	---	---	699	736	735	709	---	770
23	737	680	690	689	693	710	705	---	733	713	---	744
24	743	688	687	---	669	695	732	---	728	720	738	743
25	734	694	---	---	---	686	---	735	725	---	751	748
26	731	691	---	686	695	702	---	731	722	---	747	---
27	731	683	---	684	705	719	726	739	---	713	756	---
28	734	687	---	687	---	---	726	732	---	713	741	755
29	702	688	692	684	---	---	728	---	723	714	---	762
30	716	688	683	687	---	727	703	---	720	714	---	754
31	726	---	690	---	---	692	---	---	---	714	747	---
AVG	744	696	685	---	---	---	---	---	---	---	---	---

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	11.0	9.0	---	---	---	4.5	4.5	4.5	5.5	---	8.0
2	9.0	11.0	9.0	6.5	4.0	4.0	4.5	---	4.5	5.5	---	8.0
3	9.0	11.0	9.0	---	4.0	4.0	4.5	---	4.5	---	6.0	8.0
4	9.5	10.0	9.0	---	4.0	4.0	---	4.5	4.5	---	6.0	8.0
5	9.0	10.0	9.0	5.5	4.0	4.0	---	4.5	4.5	---	6.0	---
6	9.0	10.0	8.0	5.5	4.0	4.0	4.5	4.5	---	5.5	6.5	---
7	9.0	10.0	8.0	5.5	---	---	4.5	4.5	---	5.5	6.5	---
8	9.5	10.0	8.0	5.5	---	---	4.5	4.5	4.5	5.5	---	8.0
9	9.5	10.5	8.0	5.5	4.0	4.0	4.5	---	5.0	6.0	---	8.0
10	9.5	10.5	8.0	---	4.0	4.0	4.5	---	5.0	6.0	6.5	8.0
11	9.0	10.5	8.0	---	4.0	4.5	---	4.5	5.0	---	7.0	8.0
12	9.5	10.5	8.0	5.5	4.0	4.5	---	4.5	5.0	---	7.0	---
13	9.5	10.5	8.0	5.0	4.0	4.5	4.5	4.5	---	6.0	7.0	---
14	9.5	10.5	8.0	5.0	---	---	4.5	4.5	---	6.0	7.0	8.0
15	9.5	10.5	8.0	5.0	---	---	4.5	4.5	4.5	6.0	---	8.0
16	9.5	10.5	8.0	5.0	4.0	4.5	4.5	4.5	4.5	6.0	---	8.0
17	9.5	10.5	8.0	---	4.0	4.5	4.5	---	4.5	6.0	7.0	8.0
18	---	10.5	8.0	---	4.0	4.5	---	4.5	4.5	---	7.0	8.0
19	---	10.0	8.0	5.0	4.0	4.5	---	4.5	4.5	---	7.0	---
20	9.5	10.0	---	5.0	4.0	4.5	4.5	4.5	---	6.0	7.5	---
21	9.5	10.0	---	5.0	---	---	4.5	---	---	6.0	8.0	8.5
22	9.5	10.0	7.5	5.0	---	---	4.5	4.5	5.0	6.0	---	8.5
23	10.0	10.0	7.5	5.0	4.0	4.5	4.5	---	5.0	6.0	---	8.5
24	10.0	10.0	7.5	---	4.0	4.5	4.5	---	5.0	6.0	8.0	9.0
25	10.0	9.5	---	---	---	4.5	---	4.5	5.0	---	8.0	8.5
26	10.0	9.5	---	5.0	4.0	4.5	---	4.5	5.5	---	8.0	---
27	10.0	9.5	---	5.0	4.0	4.5	4.5	4.5	---	6.0	8.0	---
28	10.0	9.5	---	5.0	---	---	4.5	4.5	---	6.0	8.0	8.5
29	10.5	9.5	6.5	5.0	---	---	4.5	---	5.5	6.0	---	8.5
30	10.5	9.5	6.5	5.0	---	4.5	4.5	---	5.5	6.0	---	9.0
31	10.5	---	6.5	---	---	4.5	---	---	---	6.0	8.0	---
AVG	9.5	10.0	8.0	---	---	---	---	---	---	---	---	---

09251000 YAMPA RIVER NEAR MAYBELL, COLO.

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

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

PERIOD OF RECORD.--Chemical analyses: November 1950 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: November 1950 to September 1970.
Sediment records: December 1950 to May 1958.

EXTREMES.--1969-70:
Specific codnductance: Maximum daily, 926 micromhos Mar. 31; minimum daily, 110 micromhos June 3.
Water temperatures: Maximum, 25.5°C Sept. 22, 25, 27, 30; minimum, 0.5°C on many days during December and January.

Period of record:
Dissolved solids (1950-69): Maximum, 656 mg/l Aug. 11, 1968; minimum, 64 mg/l June 13, 1964.
Hardness (1950-69): Maximum, 384 mg/l Aug. 11, 1968; minimum, 43 mg/l June 1-21, 1959.
Specific conductance: Maximum daily, 947 micromhos Sept. 24, 1955; minimum daily, 94 micromhos June 14, 1959.
Water temperatures: Maximum, 29.5°C Aug. 5, 1963; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
NOV.											
04...	405	4.0	7.9	36	19	36	2.5	170	81	14	.3
DEC.											
02...	341	2.0	9.3	45	21	45	2.1	209	93	20	.3
JAN.											
06...	325	0.0	11	43	22	45	2.4	210	104	18	.2
FEB.											
03...	411	0.5	9.4	50	23	50	2.9	210	132	18	.4
MAR.											
03...	552	2.5	7.9	46	26	51	4.5	194	152	18	.3
31...	546	2.0	4.0	48	31	59	2.4	133	172	18	.3
APR.											
28...	4420	8.0	18	45	16	26	3.0	152	98	10	.3
MAY											
12...	6630	10.0	9.3	29	8.4	9.8	2.1	110	32	4.2	.2
JUNE											
09...	8240	11.5	7.6	14	4.4	5.5	1.2	59	14	2.2	.2
JULY											
07...	3040	18.5	7.0	17	4.3	7.9	1.4	64	18	3.8	.2
AUG.											
04...	582	22.0	8.2	31	12	23	2.0	142	49	11	.3
24...	370	23.0	15	30	17	29	2.4	149	61	14	.5
SEPT.											
22...	261	15.5	2.0	33	13	32	2.3	153	69	16	.3

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

09251000 YAMPA RIVER NEAR MAYBELL, COLO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	441	559	530	509	654	765	751	352	121	268	392	411
2	442	560	550	509	636	769	749	355	122	250	436	413
3	391	560	550	503	647	707	607	263	110	350	437	410
4	482	561	547	506	636	705	699	265	141	235	416	412
5	462	562	550	505	650	708	556	231	116	337	418	410
6	438	562	547	505	648	708	706	289	130	352	395	412
7	436	562	542	505	650	708	707	266	136	344	411	468
8	543	563	548	509	651	708	707	183	146	349	416	472
9	440	561	546	513	651	707	708	214	147	324	447	469
10	439	559	549	511	649	710	712	157	140	323	447	472
11	543	559	550	512	649	710	706	152	225	382	446	470
12	390	561	568	509	649	710	711	196	226	380	449	470
13	558	550	562	509	648	713	710	204	228	308	448	483
14	563	549	565	511	651	708	710	209	225	316	448	472
15	562	551	563	513	653	708	734	193	227	321	448	471
16	560	551	562	513	646	689	736	178	226	370	448	472
17	563	549	568	509	760	704	736	168	226	329	448	470
18	562	551	567	511	764	724	736	166	228	328	448	470
19	564	551	566	514	765	720	735	163	226	430	448	471
20	559	550	565	511	768	718	735	147	124	433	448	484
21	567	551	565	521	766	718	735	146	225	432	448	484
22	563	552	564	594	762	721	730	147	127	430	403	484
23	563	551	562	593	765	722	733	138	159	432	445	483
24	562	550	504	586	764	715	735	140	140	430	371	483
25	564	550	500	591	768	720	737	146	124	432	396	485
26	556	553	502	627	766	721	708	135	124	432	403	483
27	454	550	502	621	761	752	705	138	115	432	403	367
28	479	556	499	620	765	739	440	151	223	432	403	451
29	536	556	498	660	--	746	335	145	227	432	402	413
30	560	555	501	657	--	709	334	137	128	432	402	387
31	559	--	504	659	--	926	--	135	--	435	403	--
AVG	513	554	541	545	697	725	678	190	168	370	424	453

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	9.5	0.5	0.5	1.5	3.0	5.0	6.0	12.0	17.0	--	24.0
2	15.5	10.0	0.5	0.5	1.0	1.5	6.0	12.0	14.0	15.5	21.0	21.0
3	13.0	6.5	0.5	1.0	1.5	3.0	6.0	10.0	11.5	18.0	25.0	22.0
4	10.0	10.0	0.5	0.5	1.0	0.5	5.0	15.0	12.0	18.5	22.0	24.0
5	12.0	9.5	0.5	0.5	1.5	1.5	6.0	10.0	14.0	15.5	21.0	21.0
6	13.0	9.5	0.5	1.0	1.0	3.0	6.5	11.0	13.0	16.5	25.0	24.0
7	13.0	9.0	0.5	0.5	1.0	3.0	5.5	11.5	13.0	18.5	22.0	23.5
8	11.0	6.5	0.5	0.5	1.0	3.0	6.5	12.0	14.0	16.5	25.0	21.5
9	12.0	9.5	0.5	0.5	1.5	2.0	5.5	11.0	13.5	19.5	22.0	24.5
10	12.0	9.5	0.5	0.5	1.0	2.0	5.5	10.5	13.5	18.0	22.0	23.5
11	13.0	6.5	0.5	0.5	1.0	2.0	6.5	10.0	14.0	19.5	22.0	22.0
12	11.5	9.0	0.5	0.5	1.0	3.5	6.0	10.5	13.5	19.5	25.0	24.5
13	12.0	9.0	0.5	0.5	1.0	3.5	5.5	11.0	14.0	17.0	21.0	23.5
14	11.0	9.0	0.5	0.5	1.5	2.0	6.5	10.5	14.0	20.5	24.5	22.0
15	11.0	6.5	0.5	0.5	1.5	2.0	6.5	11.0	14.0	20.5	22.0	23.5
16	11.0	5.5	0.5	0.5	1.5	3.5	5.5	11.5	15.0	16.5	24.5	24.5
17	11.5	4.5	0.5	0.5	2.0	3.5	6.5	13.0	14.0	21.0	22.0	23.5
18	10.0	3.5	0.5	0.5	1.5	3.5	5.5	10.5	15.0	21.0	24.5	23.0
19	11.0	3.0	0.5	1.0	2.0	4.5	6.5	13.0	14.0	18.0	22.0	25.0
20	10.0	3.0	0.5	1.0	2.0	4.5	6.0	13.0	14.0	21.0	24.5	23.5
21	10.0	3.5	0.5	1.0	1.5	3.5	6.0	13.0	14.0	18.0	24.0	24.0
22	9.5	3.0	0.5	1.5	3.0	4.5	5.5	12.0	14.5	21.0	24.0	25.5
23	10.0	3.0	0.5	2.0	1.5	3.5	8.5	12.0	15.0	21.0	24.5	23.5
24	10.0	2.0	0.5	2.0	3.0	4.5	6.5	11.5	15.0	18.5	21.0	23.5
25	9.5	2.0	0.5	1.5	1.5	5.0	6.0	14.5	14.0	18.5	25.0	25.5
26	8.0	3.0	0.5	1.5	2.0	4.5	6.0	13.0	15.5	21.0	24.5	24.0
27	9.5	2.0	0.5	1.0	3.0	5.5	6.5	13.5	13.5	19.0	21.0	25.5
28	10.0	3.0	0.5	1.0	1.5	5.0	6.0	12.0	15.0	21.0	25.0	23.5
29	6.5	2.0	0.5	1.0	--	6.0	7.0	14.5	14.5	22.0	21.5	24.0
30	10.0	3.0	0.5	0.5	--	5.0	7.0	12.0	15.5	19.5	24.5	25.5
31	6.5	--	0.5	0.5	--	5.5	--	14.5	--	20.0	24.5	--
AVG	11.0	5.8	0.5	0.8	1.5	3.4	6.1	11.7	13.9	18.9	23.2	23.6

09259700 LITTLE SNAKE RIVER NEAR BAGGS, WYO.

LOCATION.--Lat 41°00'17", long 107°54'59", in SW¼ sec.18, T.12 N., R.94 W., Carbon County, at former gaging station 600 ft upstream from Wyoming-Colorado State line, 0.5 mile upstream from Scandinavian Wash, and 15 miles west of Baggs.

DRAINAGE AREA.--3,020 sq mi, approximately.

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

REMARKS.--Water discharge obtained from rating table for outside gage at sampling site defined by discharge measurements made at Little Snake River near Dixon (station 09257000), 9.2 miles upstream.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
24...	1325	150	15	150	44	11	55	1.8	203	0	75	14
NOV.												
20...	1530	165	20	10	53	15	38	2.1	218	0	76	11
DEC.												
01...	1300	85	19	0	56	17	40	2.3	240	0	78	12
JAN.												
12...	1600	119	20	90	45	11	25	1.0	194	0	45	7.5
FEB.												
09...	1645	140	17	--	44	12	33	2.6	188	0	54	12
25...	1715	150	13	90	40	11	34	2.6	165	0	63	9.7
MAR.												
24...	1545	125	2.6	--	42	12	69	2.4	201	0	108	27
APR.												
22...	0845	160	15	40	55	18	37	3.2	201	0	118	10
MAY												
27...	1815	4800	12	120	18	4.1	6.2	2.1	68	0	14	2.8
JUNE												
24...	1630	2750	11	140	15	3.3	5.8	1.0	64	0	14	1.3
JULY												
14...	0830	300	13	110	33	8.6	23	2.0	141	0	38	15
AUG.												
26...	1340	11	2.1	30	49	27	189	4.5	247	6	288	98
SEP.												
23...	1100	55	8.4	30	49	15	58	2.4	193	19	90	18

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (ND3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
24...	.3	.4	40	317	.43	128	154	0	1.9	--	--	7.0
NOV.												
20...	.3	.2	50	323	.47	155	193	14	1.2	--	--	0.5
DEC.												
01...	.2	.1	60	343	.48	80.3	208	11	1.2	--	--	1.0
JAN.												
12...	.2	.3	40	250	.36	86.1	157	0	.9	--	--	1.0
FEB.												
09...	.0	.0	40	267	.39	108	160	6	1.1	--	--	0.5
25...	.3	.0	50	255	.36	109	145	10	1.2	--	--	0.5
MAR.												
24...	.5	.3	40	363	.51	126	154	0	2.4	--	--	6.5
APR.												
22...	.6	.0	40	356	.47	150	211	46	1.1	--	--	2.5
MAY												
27...	.2	.4	10	93	.15	1400	62	6	.3	--	--	12.0
JUNE												
24...	.1	.2	20	83	.12	653	51	0	.4	--	--	16.5
JULY												
14...	.3	.0	40	202	.27	162	118	2	.9	--	--	18.0
AUG.												
26...	.5	.1	130	786	1.17	25.5	233	20	5.4	1270	8.4	20.5
SEP.												
23...	.4	.1	50	355	.49	53.8	185	0	1.9	607	8.5	10.5

09259700 LITTLE SNAKE RIVER NEAR BAGGS, WYO.--Continued

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.						
24...	1325	150	495	9.8	8.5	7.0
NOV.						
20...	1530	165	490	11.9	8.4	.5
DEC.						
01...	1300	85	525	11.4	8.5	1.0
JAN.						
12...	1600	119	408	9.1	8.0	1.0
FEB.						
09...	1645	140	460	9.7	8.6	0.5
25...	1715	150	390	10.6	7.7	0.5
MAR.						
24...	1545	125	585	9.4	8.4	6.5
APR.						
22...	0845	160	550	9.7	8.6	2.5
MAY						
27...	1815	4800	130	7.3	7.6	12.0
JUNE						
24...	1630	2750	120	7.5	7.8	16.5
JULY						
14...	0830	300	310	7.3	8.2	18.0

09260000 LITTLE SNAKE RIVER NEAR LILY, COLO.

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

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

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

CHEMICAL ANALYSES, NOVEMBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
NOV.											
04...	179	0.0	14	45	12	66	1.8	203	90	26	.3
DEC.											
02...	79	0.0	18	63	17	72	1.9	269	122	24	.3
JAN.											
06...	90	0.0	18	56	16	60	1.9	253	104	14	.2
FEB.											
03...	130	0.0	15	51	14	54	2.3	222	96	20	.4
MAR.											
03...	338	0.5	10	47	12	49	1.7	213	86	16	.4
APR.											
28...	1580	4.5	27	57	16	61	2.5	222	135	18	.4
MAY											
12...	2460	10.0	11	32	7.8	18	1.5	122	43	7.0	.3
JUNE											
09...	3210	14.0	10	16	4.4	7.9	1.0	74	12	2.7	.2
JULY											
07...	756	17.0	11	25	5.4	19	1.6	114	31	6.3	.3
AUG.											
04...	94	18.0	13	53	14	72	4.0	220	129	24	.4
24...	17	23.5	12	64	18	105	4.7	226	207	40	.6
SEPT.											
22...	68	12.5	12	52	15	84	3.0	216	146	26	.4

DATE	NITRATE (NO3) (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
NOV.											
04...	1.4	.16	0	379	.52	183	161	0	2.3	579	7.9
DEC.											
02...	.1	.13	9	482	.66	103	228	7	2.1	698	7.9
JAN.											
06...	1.1	.05	8	415	.56	102	208	0	1.8	626	7.8
FEB.											
03...	.5	.01	6	385	.52	135	184	2	1.7	587	7.0
MAR.											
03...	1.7	.14	7	331	.45	302	164	0	1.7	517	8.0
APR.											
28...	1.4	.02	0	416	.58	1780	208	26	1.8	617	7.6
MAY											
12...	1.7	.17	0	186	.25	1240	112	12	.7	282	7.9
JUNE											
09...	.3	.06	0	103	.14	893	58	0	.4	142	7.6
JULY											
07...	.0	.10	0	162	.22	331	86	0	.9	251	7.7
AUG.											
04...	.1	.10	0	437	.59	111	188	0	2.3	662	8.4
24...	.1	.01	0	588	.80	27	235	50	3.0	882	8.2
SEPT.											
22...	.3	.10	80	476	.65	88	191	2	2.6	724	8.3

09261000 GREEN RIVER NEAR JENSEN, UTAH

LOCATION.--Lat 40°24'34", long 109°14'05" in SW¼SE¼ sec.5, T.5 S., R.24 E., Uintah County, at gaging station 300 ft upstream from highway bridge, 1 mile downstream from Cub Creek and Chew Ranch, 4 miles southeast of Dinosaur National Monument headquarters, 6.5 miles northeast of Jensen, 12 miles upstream from Brush Creek, and 313.9 miles from mouth.

DRAINAGE AREA.--25,400 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: June 1947 to September 1952, April 1962 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: March 1949 to September 1959, October 1961 to September 1970.
Sediment records: May 1948 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 857 micromhos Apr. 8; minimum daily, 196 micromhos May 28.
Water temperatures: Maximum, 23.5°C Aug. 4; minimum, freezing point on several days during December and January.
Sediment concentrations: Maximum daily, 5,910 mg/l Apr. 8; minimum daily, 15 mg/l Aug. 24.
Sediment discharge: Maximum daily, 144,000 tons June 13; minimum daily, 101 tons Aug. 24.

Period of record:
Dissolved solids (1947-52, 1962-69): Maximum, 2,150 mg/l Sept. 10, 1963; minimum, 131 mg/l May 15-31, 1963.
Hardness (1947-52, 1962-69): Maximum, 1,250 mg/l Aug. 12, 1963; minimum, 84 mg/l June 1-16, 1963.
Specific conductance: Maximum daily, 2,330 micromhos Sept. 10, 1963; minimum daily, 176 micromhos May 24, 1963.
Water temperatures: Maximum, 30.0°C July 11, 1958; minimum (1949-59, 1961-64, 1965-70), freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 40,600 mg/l Aug. 23, 1960; minimum daily, 9 mg/l Oct. 7-11, 1953, Nov. 22, 1962.
Sediment discharge: Maximum daily, 2,500,000 tons Mar. 29, 1962; minimum daily, 10 tons on many days during 1962-63.

REMARKS.--Chemical-quality samples and temperature data collected at site 8 miles downstream from gaging station.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
14...	1230	2580	5.2	61	23	60	2.5	186	0	194	21	.4
28...	1225	2540	2.9	57	22	62	2.7	180	0	170	23	--
NOV.												
25...	1350	2520	--	57	23	51	1.8	182	0	163	23	--
DEC.												
12...	1300	3760	--	53	29	53	2.5	183	0	180	23	--
JAN.												
13...	0950	2060	5.4	59	23	57	3.0	185	0	181	22	.3
FEB.												
10...	1410	1620	6.6	56	23	52	2.6	196	0	158	26	.3
MAR.												
12...	1020	2340	5.4	59	23	65	2.5	192	4	192	28	.3
APR.												
17...	0930	3330	7.5	57	23	52	2.4	193	0	162	19	.3
MAY												
13...	1050	10100	9.6	39	12	20	1.9	152	0	59	7.5	.2
JUNE												
15...	0835	13000	9.7	25	8.3	27	2.1	110	0	55	7.4	.3
JULY												
15...	0945	3970	6.3	41	16	36	2.4	141	0	100	16	.3
AUG.												
14...	1130	2230	4.3	62	22	58	2.7	178	2	174	21	.3
SEP.												
16...	1700	1710	3.6	59	25	63	2.8	151	20	196	25	.4

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
14...	--	110	472	458	.64	3290	245	92	1.7	713	7.7
28...	--	--	451	429	.61	3090	231	83	1.8	677	8.1
NOV.											
25...	--	--	455	408	.62	3100	236	87	1.5	677	8.0
DEC.											
12...	--	--	450	430	.61	4570	252	102	1.5	694	2.3
JAN.											
13...	--	110	450	444	.61	2500	242	90	1.6	691	7.9
FEB.											
10...	--	140	435	422	.59	1900	234	74	1.5	659	8.1
MAR.											
12...	--	120	502	476	.68	3170	242	78	1.8	695	8.3
APR.											
17...	--	60	412	429	.56	3700	235	77	1.5	640	8.1
MAY											
13...	--	40	220	227	.30	6000	147	22	.7	340	7.9
JUNE											
15...	--	60	208	190	.28	7300	96	6	1.2	309	7.7
JULY											
15...	--	50	309	288	.42	3310	166	50	1.2	475	7.6
AUG.											
14...	.62	80	448	436	.61	2700	246	97	1.6	676	8.3
SEP.											
16...	.70	70	481	472	.65	2220	250	93	1.7	724	8.8

09261000 GREEN RIVER NEAR JENSEN, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	715	673	680	706	---	---	720	449	241	237	620	717
2	733	---	685	704	673	676	744	498	242	248	---	728
3	722	670	678	699	677	664	725	---	219	---	634	735
4	735	674	687	---	698	667	721	496	225	---	625	732
5	---	665	687	706	676	673	---	498	220	---	637	---
6	721	687	685	726	685	---	732	403	227	299	652	---
7	705	695	---	726	686	---	640	402	---	357	671	781
8	707	701	678	715	---	---	857	363	237	362	---	---
9	728	---	690	---	---	691	735	359	218	385	---	748
10	---	680	688	---	670	686	743	---	216	375	676	760
11	---	690	685	---	677	691	760	326	222	382	668	740
12	---	676	689	---	667	707	---	327	259	---	655	---
13	712	685	687	685	660	695	621	332	---	421	659	---
14	715	679	---	698	667	707	606	309	---	434	674	727
15	706	682	684	663	---	---	598	---	286	414	---	702
16	708	---	684	---	653	711	644	---	283	477	---	729
17	---	661	684	661	653	697	632	---	268	485	669	728
18	---	664	681	---	672	695	---	---	268	493	653	712
19	---	676	679	---	679	695	---	282	262	---	705	718
20	664	671	679	665	---	688	634	294	243	---	706	719
21	661	---	---	---	---	686	649	253	---	554	712	707
22	731	677	---	649	---	---	652	240	243	594	712	---
23	725	---	673	---	677	714	670	248	245	599	---	724
24	703	688	655	657	677	716	---	---	236	573	701	729
25	705	675	670	---	661	666	---	207	229	---	706	---
26	---	674	670	636	680	738	---	226	226	---	705	---
27	697	680	664	636	---	720	727	201	228	565	718	---
28	689	683	---	---	---	743	724	196	---	581	708	725
29	675	690	681	---	---	---	641	---	226	591	724	729
30	698	---	681	669	---	706	463	---	222	643	---	724
31	657	---	695	669	---	710	---	---	---	598	710	---
AVG	---	679	681	---	---	---	---	---	240	---	---	---

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	8.0	4.5	0.0	---	---	5.0	9.0	14.0	20.0	22.0	18.5
2	13.0	---	4.5	0.0	2.0	5.0	6.5	9.5	15.5	20.0	---	18.0
3	11.0	7.0	4.5	0.0	2.5	4.5	6.0	---	13.5	---	21.5	18.5
4	11.0	7.0	4.5	---	2.0	4.5	6.5	14.0	15.5	---	23.5	16.5
5	---	8.0	4.5	0.0	2.5	5.0	---	15.5	14.5	---	23.0	---
6	10.0	8.0	5.0	0.0	3.5	---	10.0	12.5	14.5	21.0	23.0	---
7	11.0	8.0	---	0.0	4.0	---	10.0	13.5	---	21.0	19.0	15.0
8	12.0	8.0	3.5	1.0	---	---	8.5	11.5	16.5	21.5	---	---
9	11.0	---	3.0	---	---	5.5	9.0	12.0	16.0	21.0	---	15.5
10	---	8.0	4.0	---	4.5	6.0	7.5	---	14.0	21.0	19.0	18.0
11	---	9.0	4.0	---	3.5	5.5	9.5	11.0	12.5	21.5	20.0	14.0
12	---	9.0	4.0	---	5.0	5.0	---	12.0	13.0	---	18.5	---
13	7.0	8.5	4.5	2.5	5.0	6.0	7.0	13.5	---	21.0	19.0	---
14	7.0	7.0	---	2.0	5.0	6.0	7.0	13.0	---	23.0	18.0	13.5
15	8.0	7.5	5.0	2.5	---	---	7.0	---	16.5	23.0	---	15.0
16	8.0	---	4.5	---	3.5	6.0	9.0	---	16.5	22.0	---	13.5
17	---	5.5	4.5	3.0	4.5	6.5	8.5	---	17.0	22.0	19.0	15.5
18	---	6.0	5.0	---	2.0	5.0	---	---	18.0	22.5	18.5	14.0
19	---	5.5	3.5	---	3.0	5.5	---	15.0	19.0	---	18.5	15.5
20	8.0	3.5	4.5	2.5	---	4.5	8.0	14.5	19.5	---	19.0	12.5
21	8.0	---	---	---	---	5.5	7.5	15.0	---	22.5	14.5	14.5
22	9.0	5.5	---	4.0	---	---	7.0	15.0	19.5	20.5	16.5	---
23	9.0	---	4.5	---	5.0	6.0	8.5	15.5	19.5	21.0	---	13.0
24	9.0	5.5	4.5	4.0	6.0	7.0	---	---	19.5	21.0	18.0	14.5
25	10.0	4.5	5.0	3.5	5.5	7.0	---	15.5	21.0	---	19.0	---
26	---	5.0	4.5	3.5	4.5	7.0	---	14.5	20.5	---	17.5	---
27	10.0	4.5	4.0	---	---	5.0	10.0	16.0	21.5	20.0	17.0	---
28	8.0	4.0	---	---	---	5.0	8.5	16.5	---	21.5	18.5	12.0
29	8.0	4.5	1.0	1.5	---	---	8.5	---	18.0	21.0	18.5	13.5
30	8.0	---	1.0	2.0	---	5.0	8.5	---	19.0	20.0	---	12.5
31	8.0	---	0.0	---	---	5.5	---	---	---	22.0	18.5	---
AVG	---	6.5	4.0	---	---	---	---	---	---	17.0	---	---

09261000 GREEN RIVER NEAR JENSEN, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3470	7	656	2880	271	2110	304	35	287
2	3090	66	551	2600	141	990	3020	91	742
3	2850	62	477	2510	73	495	3370	234	2130
4	2380	60	386	3370	120	995	3580	113	1090
5	2190	58	343	3120	197	1660	3590	52	504
6	1970	56	298	2990	145	1170	3670	52	515
7	2690	127	922	3040	107	878	3420	53	489
8	3180	287	2460	3060	91	752	2760	53	395
9	2520	246	1670	2980	78	628	3270	142	1250
10	2760	212	1580	2450	66	437	4060	380	4170
11	2660	182	1310	2760	62	462	3950	3 3	3230
12	3760	156	1580	2880	58	451	3820	242	2520
13	3760	134	1360	3290	89	782	3720	225	2270
14	3680	199	1980	3390	137	1210	3820	212	2190
15	3170	142	1390	3250	126	1110	3630	198	1940
16	2510	217	1470	2790	121	911	3460	89	913
17	2500	292	1970	2640	115	820	4100	4	443
18	2360	392	2590	2930	110	870	4220	132	1160
19	2670	526	3690	3150	105	893	4080	259	2850
20	2370	726	4650	3180	101	867	4080	172	1960
21	3300	2330	18400	3150	96	816	3990	123	1330
22	3120	1920	16200	2810	92	698	404	84	916
23	2940	1320	11500	2290	88	544	4300	58	673
24	3040	902	7470	2200	84	499	3760	4	406
25	3090	586	4890	2620	81	617	4320	90	1050
26	3230	380	3310	3150	77	655	4280	204	2360
27	3330	247	2220	2990	51	412	4260	121	1370
28	3020	274	2230	2380	34	219	3850	72	748
29	3090	374	2960	2840	34	261	3450	43	447
30	3350	335	3030	2840	34	261	3540	48	459
31	3510	37	3510	--	--	--	2340	54	370
TOTAL	91460	--	115333	86430	--	23472	115670	--	41127

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3250	59	519	1760	59	280	2550	32	224
2	2870	63	488	1650	47	165	2640	358	2540
3	3040	40	328	1540	39	133	2340	327	2070
4	2840	25	192	1620	28	122	2340	293	1840
5	2440	16	105	1470	31	123	2500	274	1850
6	2540	20	137	1500	34	138	2400	157	1070
7	3350	26	235	1570	36	153	2600	241	1690
8	2930	29	229	1710	38	175	2330	226	1420
9	3350	33	298	1610	40	174	1990	212	1140
10	3580	37	358	1620	42	206	2310	234	1460
11	2660	41	294	2340	132	834	2690	258	1870
12	2610	46	324	2260	80	488	2660	15	1090
13	3140	52	441	2370	49	337	2750	161	1190
14	2940	58	460	2260	67	409	2381	153	983
15	2940	54	429	2190	93	550	1860	146	733
16	2730	51	379	1800	137	632	2090	141	756
17	2580	47	327	2061	129	717	2130	112	644
18	1910	44	227	2440	128	843	2490	89	598
19	1760	42	200	2647	122	870	2690	107	781
20	1820	39	192	2630	116	824	1990	128	688
21	2100	36	204	2400	111	719	2230	141	849
22	1860	34	171	2190	106	627	1880	156	792
23	1680	33	150	2230	101	608	2060	172	957
24	1530	32	132	2690	157	1090	1800	217	1050
25	1660	32	143	2810	204	1550	2080	275	1540
26	1670	31	140	2990	235	1900	190	247	1270
27	1830	42	208	2790	266	2000	2510	221	1500
28	1973	57	303	2780	296	2220	2500	202	1350
29	1700	77	353	--	--	--	2630	259	1780
30	1940	104	545	--	--	--	1930	419	2230
31	2320	81	508	--	--	--	2510	430	2930
TOTAL	75540	--	9004	60120	--	18857	71040	--	42131

09261000 GREEN RIVER NEAR JENSEN, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	APRIL MEAN DISCHARGE (CFS)	APRIL MEAN CONCENTRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (CFS)	JUNE MEAN CONCENTRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	2040	197	1080	6770	1640	30000	1550	111	456
2	2660	171	1230	9470	1110	16400	1470	83	330
3	2310	156	973	4230	747	8530	1230	634	2110
4	2940	133	1060	4950	574	5510	1060	593	1700
5	2480	114	763	5230	1070	15100	1090	565	1630
6	2160	97	566	7790	2290	48200	1140	566	1740
7	3120	4500	37900	9950	2370	63700	1260	577	1960
8	3870	5910	61800	11500	2460	76400	1280	589	2040
9	4920	5530	73500	13300	1880	66900	1200	597	1930
10	4850	5170	67700	11300	1440	43900	1290	605	2110
11	5190	4040	56500	9510	1100	28200	1420	702	3010
12	4560	3160	38900	9280	1260	31600	1390	1710	7360
13	5210	2470	34700	10400	1440	40400	1840	2960	14400
14	5460	1790	26400	12400	1560	52200	1550	2100	8790
15	4680	1301	16400	13000	1690	59300	1250	1500	5060
16	4420	799	9540	12400	1830	61300	1150	991	2790
17	3870	491	5130	10600	1980	56700	1130	537	1640
18	4020	385	4180	11800	2150	68500	1080	655	1910
19	3510	302	2860	15600	2330	98100	1110	799	2390
20	3410	237	2180	17700	2520	120000	1170	641	2030
21	4100	332	3680	16600	2130	105000	1180	514	1640
22	3720	464	4660	19200	1760	91200	1180	412	1310
23	3790	381	3900	19800	1470	78600	1210	441	1440
24	2540	313	2150	13700	1220	64900	1240	473	1580
25	3310	257	2300	18600	1020	51200	1180	496	1580
26	2420	211	1380	17300	1070	50000	1190	524	1680
27	2510	173	1170	17200	1130	52500	1180	416	1330
28	4140	2700	30200	17200	1130	52500	1180	33	1050
29	7200	3170	61600	17600	1130	53700	1180	262	7640
30	8520	2400	55200	17800	1120	53800	1180	37	1080
31	--	--	--	16000	1120	48400	--	--	--
TOTAL	117920	--	609552	403980	--	1691840	37430	--	86634

DAY	JULY MEAN DISCHARGE (CFS)	JULY MEAN CONCENTRATION (MG/L)	JULY SEDIMENT DISCHARGE (TONS/DAY)	AUGUST MEAN DISCHARGE (CFS)	AUGUST MEAN CONCENTRATION (MG/L)	AUGUST SEDIMENT DISCHARGE (TONS/DAY)	SEPTEMBER MEAN DISCHARGE (CFS)	SEPTEMBER MEAN CONCENTRATION (MG/L)	SEPTEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	9910	475	12700	2940	135	1070	2330	6	329
2	9330	405	9870	2670	96	692	2560	74	511
3	8300	345	7730	2400	57	369	2680	84	608
4	7750	294	6150	2530	39	263	2490	96	645
5	6710	250	4530	2530	26	176	2210	245	1460
6	6280	213	3610	2960	43	344	2180	624	3670
7	6240	302	5090	2930	72	570	1940	1590	8330
8	5930	424	6850	2880	93	723	2280	1220	6850
9	5790	381	5965	2970	121	970	2210	938	5600
10	5390	339	4930	3390	157	1440	2490	271	1820
11	5130	459	6360	3260	116	1020	2610	78	550
12	5060	622	8530	3130	86	727	3190	159	1370
13	4700	843	10700	2810	132	1000	3030	323	2640
14	4470	465	5550	2830	204	1560	2370	657	4210
15	4250	256	2940	3260	108	951	2240	24	145
16	4050	157	1720	2740	57	422	2510	88	596
17	4330	96	1040	2130	30	173	2550	62	448
18	4170	121	1360	2450	38	251	2610	48	338
19	3950	152	1620	2950	48	382	2210	44	263
20	3650	191	1880	2820	46	350	2520	40	272
21	3220	240	2090	3480	44	413	2110	37	211
22	3510	301	2850	3020	31	253	2180	33	194
23	3720	148	1490	2570	21	146	2140	29	168
24	3580	73	706	2490	15	101	2610	26	183
25	4050	74	809	2740	25	185	2800	24	181
26	4090	74	817	3250	40	351	2690	22	160
27	3130	75	634	3550	49	363	2480	20	134
28	3040	105	862	3160	40	341	2190	18	106
29	3350	147	1330	2930	42	342	2550	31	213
30	3270	160	1410	2350	43	273	2990	53	428
31	3130	174	1470	1980	45	241	--	--	--
TOTAL	152830	--	123558	88040	--	16472	73450	--	43978

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 1727780
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 3591694

09261000 GREEN RIVER NEAR JENSEN, UTAH--Continued

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT 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
OCT 14, 1969	1225	5.0	4470	199	1860	21	25	--	--	--	46	66	100	--	--	--	VPWC
OCT 22.....	1900	9.	2520	192	1310	67	79	--	99	--	100	--	--	--	--	--	SPWC
NOV 14.....	1225	6.5	2440	122	804	32	48	--	--	--	67	78	97	100	--	--	VPWC
DEC 12.....	1125	3.0	3590	242	2350	--	--	--	--	--	--	--	--	--	--	--	
JAN 22, 1970	1245	2.0	1760	34	162	--	--	--	--	--	--	--	--	--	--	--	
FEB 19.....	1330	6.0	2100	42	238	--	--	--	--	--	--	--	--	--	--	--	
MAR 12.....	1145	4.0	2260	150	915	40	50	--	--	--	73	92	99	100	--	--	VPWC
APR 17.....	1350	6.5	3300	641	5710	39	47	--	62	--	74	88	99	100	--	--	VPWC
MAY 13.....	1200	12.0	11400	1660	51100	27	28	--	--	--	60	76	93	100	--	--	VPWC
JUN 15.....	1125	14.0	12300	1500	49800	42	45	--	--	--	75	88	98	100	--	--	VPWC
JUL 13.....	1340	19.0	4400	843	10000	56	63	--	--	--	100	--	--	--	--	--	SPWC
JUL 15.....	1015	19.0	3990	258	2780	32	35	--	--	--	85	95	99	100	--	--	VPWC
AUG 14.....	1150	18.0	2170	204	1200	73	80	--	--	--	100	--	--	--	--	--	SPWC
SEP 16.....	1625	13.	1680	86	390	65	78	--	--	--	100	--	--	--	--	--	SPWC

09302000 DUCHESNE RIVER NEAR RANDLETT, UTAH

LOCATION.--Lat 40°12'57", long 109°47'05", in SE¼SE¼ sec.17, T.3 S., R.2 E., Uintah meridian, Uintah County, at gaging station 0.2 mile downstream from Uinta River, 1.2 miles southeast of Randlett, and 6.5 miles southeast of Fort Duchesne.

DRAINAGE AREA.--3,920 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: December 1950 to September 1951, November 1956 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: December 1950 to September 1951, November 1956 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 3,190 micromhos Apr. 15; minimum daily, 711 micromhos May 30.
Water temperatures: Maximum, 22.0°C on several days during June to August; minimum, freezing point on many days during winter months.

Period of record:
Dissolved solids (1950-51, 1956-69): Maximum, 3,330 mg/l Aug. 1-6, 9-26, 29, 30, 1961; minimum, 209 mg/l June 22-24, 1965.
Hardness (1956-69): Maximum, 1,020 mg/l May 1-15, 1959; minimum, 133 mg/l June 22-24, 1965.
Specific conductance (1950-51, 1956-60, 1961-70): Maximum daily, 4,490 micromhos Aug. 24, 1960; minimum daily, 291 micromhos May 29, 1951.
Water temperatures: Maximum, 27.0°C July 15, 1968; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
09...	1050	137	12	144	97	231	3.7	376	0	755	138	1.0
27...	1515	443	10	102	63	154	3.0	325	0	498	71	--
NOV.												
24...	1430	356	--	99	64	142	2.5	329	0	412	74	--
DEC.												
11...	1445	365	--	96	61	124	2.0	310	0	390	82	--
JAN.												
12...	1420	1240	10	77	41	81	2.1	249	0	267	42	.4
FEB.												
09...	1445	698	12	95	61	178	2.5	297	0	435	139	.6
MAR.												
11...	1355	219	7.4	88	56	133	1.9	271	0	432	62	.5
APR.												
16...	1300	68	16	185	118	429	3.6	394	0	1150	232	1.0
MAY												
11...	1340	103	11	137	75	285	4.1	368	0	760	126	.8
JULY												
14...	1510	145	11	104	68	213	4.2	300	0	582	111	.8
AUG.												
17...	1410	53	11	135	83	341	4.1	329	4	845	164	.9
SEP.												
16...	1130	69	9.2	132	102	320	4.3	290	24	930	155	1.1

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
09...	--	930	1720	1570	2.34	636	760	452	3.6	2180	7.9
27...	--	--	--	1090	1.48	1300	513	246	3.0	1470	8.0
NOV.											
24...	--	--	1070	956	1.46	1030	512	242	2.2	1480	7.8
DEC.											
11...	--	--	995	907	1.35	981	492	238	2.4	1390	7.4
JAN.											
12...	--	260	655	644	.89	2190	361	157	1.9	977	8.0
FEB.											
09...	--	270	1120	1070	1.52	2110	489	245	3.5	1610	8.1
MAR.											
11...	--	140	972	914	1.32	575	450	228	2.7	1340	8.2
APR.											
16...	--	100	2480	2330	3.37	455	948	625	6.1	3160	8.1
MAY											
11...	--	1100	1680	1580	2.15	467	650	348	4.9	2200	8.2
JULY											
14...	.10	920	1300	1240	1.77	509	540	294	4.0	1740	8.2
AUG.											
17...	.60	1100	1830	1750	2.49	262	678	402	5.7	2400	8.3
SEP.											
16...	2.4	1100	1910	1820	2.60	356	750	471	5.1	2450	8.7

09302000 DUCHESNE RIVER NEAR RANDLETT, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2190	1320	1140	1250	1250	1230	2580	2570	821	1810	2380	2760
2	2120	1340	1100	1240	1150	1250	2690	2520	929	1860	2340	2570
3	2290	1470	1150	1290	1150	1310	2680	2590	883	1950	2360	2630
4	2260	1430	1070	1390	1110	1270	2610	2810	907	1560	2370	2810
5	2300	1490	1070	1410	1060	1320	2630	2780	965	---	2530	2860
6	2190	1520	1090	---	1060	1270	2880	2840	864	1540	2240	---
7	2170	1550	1190	1250	1100	1310	2800	2650	---	1570	2330	1920
8	2180	1500	1140	1210	1090	1300	2700	2570	---	1480	2100	1640
9	2110	1520	1180	1100	1170	1350	2730	2150	1690	1540	2200	1940
10	2050	1550	1150	1050	1240	1320	2630	2130	1710	1580	2460	2270
11	2130	1540	1200	1030	1240	1310	2820	2290	1890	1340	---	2230
12	2100	1650	1220	978	1280	1390	2910	2400	1830	1440	2560	2210
13	1940	1530	1130	972	1280	1620	3060	2800	1650	1570	2410	2380
14	1850	1550	994	954	1340	1770	3030	2710	1260	1720	2340	2400
15	1800	1610	1010	975	1370	1870	3190	2630	976	1860	2360	2500
16	1530	1700	1050	978	1290	2010	3170	2810	1220	1890	2190	2490
17	1533	1810	1073	1020	1290	1990	3140	2770	1270	1940	2480	2390
18	---	1810	1090	1020	1280	2170	3080	2750	1220	1990	2500	2230
19	---	1860	1083	1030	1300	2140	3040	2280	1340	2100	2370	2140
20	1640	1750	1080	1070	1270	2290	2790	1770	1270	2090	2290	2240
21	1490	1610	1140	1110	1250	---	2750	1830	1250	2050	2500	2310
22	1500	1450	1150	1080	1260	2230	2730	1750	1120	2140	2530	2280
23	1450	1390	1170	1080	1220	2300	2730	2290	973	2260	2670	2290
24	1470	1290	1190	1110	1180	2440	2830	2430	929	2360	2870	2230
25	1440	1270	1250	1120	1170	2560	2940	2300	929	2310	2670	2300
26	1440	1100	1250	1160	1220	2540	2910	1720	1100	2330	2520	2220
27	1430	1180	1300	1150	1250	2560	2990	1190	1270	2240	2550	2290
28	1410	1260	1310	1180	1250	2650	3020	715	1520	2200	2460	2340
29	1450	1220	1430	1230	---	2730	2920	714	1630	2330	2500	2320
30	1390	1180	1410	1280	---	2590	2530	711	1690	2410	2540	2340
31	1470	---	1370	1300	---	2610	---	785	---	2210	2640	---
AVG	1900	1490	1160	1130	1220	1890	2850	2170	1250	1920	2440	2330

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	5.0	0.0	0.0	0.0	5.0	1.0	7.5	12.0	17.0	20.0	20.0
2	13.5	5.0	0.0	0.0	0.0	4.5	4.0	8.0	12.5	19.0	22.0	18.5
3	10.5	3.5	0.0	0.0	0.0	2.0	4.0	10.0	15.0	20.0	22.0	17.0
4	8.5	3.0	0.0	0.0	0.0	2.0	3.5	10.0	15.0	20.5	22.0	16.0
5	7.0	3.0	0.0	0.0	0.0	4.0	5.5	12.0	15.0	20.5	22.0	16.0
6	7.0	4.0	0.0	0.0	0.0	5.0	5.0	14.0	15.0	19.5	22.0	---
7	7.0	5.0	0.0	0.0	0.0	3.5	8.5	13.0	---	20.5	22.0	13.0
8	9.0	4.0	0.0	0.0	0.0	4.0	7.0	9.0	---	21.0	21.0	14.0
9	9.0	4.0	0.0	0.0	0.0	4.5	5.5	10.0	15.5	21.5	20.0	15.5
10	9.0	3.5	0.0	0.0	0.0	3.5	8.0	11.0	15.0	20.0	19.0	15.5
11	6.5	5.0	0.0	0.0	0.0	2.0	9.0	10.0	15.5	20.0	---	15.0
12	4.0	4.0	0.0	0.0	0.0	2.0	9.0	11.0	12.5	20.5	20.0	16.0
13	4.0	4.0	0.0	0.0	0.0	3.0	6.5	15.0	15.0	21.0	20.0	15.0
14	4.5	3.0	0.0	0.0	0.0	4.0	6.0	12.0	15.0	21.0	19.5	15.0
15	5.5	3.0	0.0	0.0	0.0	6.0	5.0	12.0	15.0	20.5	20.0	12.0
16	6.0	5.0	0.0	0.0	0.0	5.0	5.0	11.0	15.5	20.0	20.0	14.0
17	6.0	3.0	0.0	0.0	0.0	4.5	8.0	15.0	16.0	20.5	20.0	12.5
18	---	0.0	0.0	0.0	0.0	3.5	8.0	15.0	17.5	21.0	19.0	13.0
19	---	0.0	0.0	0.0	0.0	0.0	6.0	14.0	18.0	20.0	20.0	13.5
20	4.0	0.0	0.0	0.0	0.0	1.0	6.0	13.0	19.0	20.0	15.0	14.0
21	5.5	0.0	0.0	0.0	0.0	---	5.0	13.5	20.0	22.0	19.0	12.0
22	6.0	0.0	0.0	0.0	0.0	1.5	5.0	13.5	20.0	21.0	19.5	12.0
23	5.5	0.0	0.0	0.0	0.0	4.0	5.5	16.5	19.5	20.0	18.0	11.0
24	7.5	0.0	0.0	0.0	2.5	5.0	5.0	13.0	20.0	20.0	20.0	12.0
25	8.0	0.0	0.0	0.0	1.0	3.5	8.0	16.0	20.0	20.5	19.0	9.0
26	4.0	0.0	0.0	0.0	1.0	5.0	9.0	16.0	21.0	20.0	21.0	8.0
27	6.0	0.0	0.0	0.0	2.0	2.0	10.5	15.5	22.0	20.0	20.0	8.5
28	7.5	0.0	0.0	0.0	2.0	2.5	9.0	15.0	19.0	20.5	20.0	8.0
29	6.0	0.0	0.0	0.0	---	4.0	6.0	15.0	20.0	20.5	20.0	10.0
30	5.0	0.0	0.0	0.0	---	6.0	6.5	13.0	15.0	21.0	20.0	13.0
31	4.0	---	0.0	0.0	---	2.0	---	12.0	---	20.5	20.0	---
AVG	7.0	2.0	0.0	0.0	0.5	3.5	6.5	12.5	17.0	20.5	20.0	13.5

09306500 WHITE RIVER NEAR WATSON, UTAH

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

DRAINAGE AREA.--4,020 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: December 1950 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: December 1950 to September 1970:

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,440 micromhos Oct. 19; minimum daily, 318 micromhos May 29.
Water temperatures: Maximum, 20.0°C Aug. 17; minimum, freezing point on many days during February and March.

Period of record:
Dissolved solids (1950-54, 1955-69): Maximum, 2,380 mg/l July 21, 1966; minimum, 209 mg/l May 23, 1964.
Hardness (1954-69): Maximum, 1,410 mg/l Aug. 4, 1955; minimum, 125 mg/l Mar. 4, 1969.
Specific conductance: Maximum daily, 4,450 micromhos Aug. 4, 1955; minimum daily, 318 micromhos May 29, 1970.
Water temperatures: Maximum, 31.0°C Aug. 8, 1954; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
13...	1100	511	15	68	23	73	1.7	225	0	154	56	.4
28...	1100	497	9.1	68	24	70	1.8	219	0	150	55	--
NOV.												
25...	1020	405	--	72	24	52	1.7	237	0	144	30	--
DEC.												
11...	1030	490	--	71	30	60	1.7	265	0	169	36	--
JAN.												
12...	0955	1470	16	89	31	72	2.1	300	0	185	34	.3
FEB.												
09...	0905	410	13	68	25	61	2.2	231	0	171	35	.3
MAR.												
11...	1050	384	11	79	31	74	2.0	320	0	197	34	.3
APR.												
16...	1055	419	16	72	28	64	1.9	253	5	185	27	.4
MAY												
12...	1040	1520	12	56	20	31	1.8	293	0	90	14	.3
JUNE												
11...	1330	3940	9.3	45	20	46	2.6	159	0	103	35	.3
JULY												
14...	0855	848	13	59	18	29	1.9	201	0	100	16	.3
AUG.												
17...	0910	451	14	63	24	47	1.8	226	4	138	24	.3
SEP.												
15...	1040	518	11	67	22	52	2.2	208	12	148	22	.4

DATE	NITRATE NO3 (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
13...	3.2	90	517	505	.70	713	266	82	2.0	812	7.6
28...	--	--	509	486	.69	683	267	87	1.9	784	8.2
NOV.											
25...	--	--	487	441	.66	533	277	83	1.4	739	8.1
DEC.											
11...	--	--	537	504	.73	710	300	83	1.5	812	7.7
JAN.											
12...	.7	80	592	578	.81	2350	351	105	1.7	862	7.9
FEB.											
09...	1.0	130	496	491	.67	549	272	83	1.6	752	8.1
MAR.											
11...	.4	80	568	586	.77	589	324	62	1.8	837	8.2
APR.											
16...	.2	60	519	524	.71	587	294	80	1.6	785	8.4
MAY											
12...	5.3	40	325	375	.44	1330	223	0	.9	551	8.1
JUNE											
11...	1.8	60	352	341	.48	3750	194	64	1.4	575	7.8
JULY											
14...	.0	40	360	336	.49	824	222	57	.8	540	7.8
AUG.											
17...	.2	50	434	427	.59	528	254	62	1.3	660	8.4
SEP.											
15...	1.0	40	457	440	.62	639	258	68	1.4	681	8.6

09306500 WHITE RIVER NEAR WATSON, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	689	699	858	832	---	773	713	608	339	378	---	737
2	673	711	833	871	910	797	851	650	338	388	---	743
3	675	709	830	---	919	783	822	690	360	422	669	746
4	651	732	746	---	868	799	825	698	359	436	698	810
5	710	724	719	873	831	797	827	693	372	452	722	737
6	672	761	---	839	836	819	806	656	341	466	696	727
7	652	835	---	787	---	857	838	598	332	505	672	889
8	651	776	665	826	781	837	900	548	323	515	741	744
9	658	767	736	847	773	847	861	494	350	494	687	676
10	655	701	785	852	736	866	831	470	352	532	681	651
11	766	667	813	796	775	846	822	490	689	673	658	659
12	767	719	811	858	782	823	807	528	505	640	667	664
13	817	744	869	782	780	817	768	514	487	535	665	666
14	797	737	705	733	719	835	765	468	---	543	675	697
15	771	733	702	687	---	974	785	432	420	532	720	708
16	856	733	702	683	---	846	770	436	390	536	681	664
17	832	749	682	---	746	878	790	432	366	588	675	644
18	927	668	769	---	832	878	779	443	374	591	723	642
19	1440	690	748	703	884	854	948	417	353	594	811	646
20	970	681	717	703	780	871	795	379	336	604	703	651
21	857	624	705	714	724	857	795	375	334	611	707	640
22	812	719	693	660	777	837	819	366	344	601	704	640
23	817	759	719	680	811	826	817	342	340	666	692	645
24	811	636	938	735	745	821	826	325	356	735	674	640
25	798	710	751	758	704	816	828	326	374	660	674	655
26	793	---	779	718	741	856	867	333	374	649	683	657
27	802	734	---	671	730	868	884	331	372	657	772	647
28	771	743	---	756	782	846	856	322	355	680	714	638
29	744	745	957	791	---	856	704	318	363	688	750	636
30	699	798	935	762	---	819	629	---	377	641	939	638
31	676	---	926	---	---	832	---	327	---	725	732	---
AVG	781	725	781	766	790	839	811	467	378	572	710	685

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	5.0	3.0	3.0	---	0.0	3.0	7.0	7.0	12.5	---	13.5
2	11.0	2.0	2.5	4.5	0.0	1.0	3.5	9.0	7.5	12.5	---	13.5
3	10.0	2.0	2.0	---	0.0	0.0	3.5	9.0	8.5	13.5	13.5	13.5
4	9.0	2.0	3.0	---	0.0	4.0	3.0	10.0	9.0	---	13.5	13.5
5	8.0	2.0	2.5	4.0	0.0	4.0	2.0	12.5	10.0	---	13.5	13.5
6	6.0	2.0	---	4.0	0.0	0.5	4.5	9.0	11.0	13.5	13.5	12.5
7	6.0	2.0	---	3.0	---	1.0	4.5	10.0	9.0	13.5	13.5	13.5
8	6.0	2.0	4.0	3.0	0.0	0.0	4.5	10.0	10.0	13.5	13.5	13.0
9	7.0	1.0	4.0	3.0	0.0	1.0	9.0	9.5	9.5	13.5	12.0	12.0
10	7.0	1.0	3.0	3.0	0.0	0.0	7.0	9.0	---	13.5	13.5	15.0
11	5.0	1.0	2.5	3.0	0.0	1.0	7.0	9.0	7.0	13.0	13.5	15.5
12	3.0	2.0	3.0	3.0	---	0.0	4.5	10.5	9.0	13.0	13.5	14.5
13	2.0	2.0	3.0	3.0	---	0.0	7.0	10.0	12.0	13.5	13.5	13.5
14	2.0	1.0	3.0	3.0	0.0	2.5	5.5	10.0	---	13.5	13.5	15.5
15	4.0	1.0	3.0	3.0	---	3.0	9.5	9.0	10.0	13.5	14.0	14.5
16	5.0	1.0	3.0	3.0	---	3.5	7.5	10.0	10.0	13.5	14.5	13.5
17	---	1.0	3.0	---	1.0	2.5	3.5	10.0	10.0	13.5	20.0	13.5
18	5.0	2.0	3.0	---	1.0	0.5	4.0	10.5	12.5	14.5	18.5	13.5
19	4.0	2.0	---	3.0	---	2.5	4.5	11.0	10.5	---	13.5	13.5
20	3.0	2.0	5.0	3.0	0.0	1.0	4.5	11.0	11.0	13.5	13.5	13.5
21	3.0	2.0	4.0	3.0	0.0	1.0	5.5	11.0	---	13.5	13.5	13.5
22	4.0	2.0	2.0	3.0	0.0	1.0	5.5	12.0	10.5	13.5	13.5	13.5
23	4.0	2.0	4.0	3.0	0.0	1.0	5.5	13.0	13.0	13.5	13.5	13.5
24	6.0	2.0	3.5	3.0	0.0	2.5	6.0	14.5	12.0	13.5	13.5	13.5
25	5.0	1.0	5.0	3.0	0.0	1.0	7.0	13.0	12.5	13.5	13.5	12.0
26	4.0	---	3.0	3.0	0.0	2.5	8.0	12.5	10.0	13.5	18.5	11.0
27	5.0	2.5	---	3.0	0.0	1.0	7.0	14.5	11.0	14.5	13.5	10.0
28	5.0	2.5	---	3.0	0.0	1.5	7.0	12.0	12.0	13.5	13.5	10.0
29	4.0	2.5	6.0	3.0	---	---	7.0	12.5	12.0	13.5	14.5	10.0
30	3.0	2.5	5.0	3.0	---	4.0	4.5	---	13.0	13.5	14.0	9.5
31	3.0	---	6.5	---	---	1.0	---	13.5	---	13.5	13.5	---
AVG	5.5	2.0	3.5	3.5	---	1.5	5.5	11.0	10.5	13.5	14.0	13.0

09314500 PRICE RIVER AT WOODSIDE, UTAH

LOCATION.--Lat 39°15-50", long 110°20'45", in SE¼ sec.9, T.18 S., R.14 E., Emery County, at gaging station on left downstream wingwall of old highway bridge, 200 ft downstream from railroad bridge at Woodside, and about 22 miles upstream from mouth.

DRAINAGE AREA.--1,500 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: December 1946 to September 1949, February 1951 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: February 1951 to September 1959, November 1961 to September 1963, October 1964 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 7,100 micromhos May 9; minimum daily, 1,760 micromhos Sept. 7.
Water temperatures: Maximum, 25.0°C July 10, 11; minimum, freezing point on many days during November to February.

Period of record:
Dissolved solids (1951-69): Maximum, 8,220 mg/l Dec. 11, 1951; minimum, 592 mg/l May 21-30, 1952.
Hardness (1951-69): Maximum, 3,010 mg/l Dec. 11, 1951; minimum, 310 mg/l May 1-7, 1969.
Specific conductance: Maximum daily, 8,540 micromhos Dec. 11, 1951; minimum daily, 814 micromhos June 1, 1952.
Water temperatures: Maximum, 32.0°C July 10, 11, 1954; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SiO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
01...	1115	62	2.7	208	204	528	8.3	284	0	2180	63	.9
08...	1515	74	1.6	192	179	496	8.1	303	0	2000	56	--
JAN.												
07...	1150	25	--	329	360	865	11	559	0	3440	102	--
FEB.												
06...	1030	54	6.7	205	165	460	6.4	409	0	1780	58	.4
MAR.												
09...	1535	83	.8	206	212	603	7.4	367	0	2200	70	.3
APR.												
09...	1515	86	1.9	190	171	440	7.1	372	0	1700	63	.6
MAY												
01...	0730	50	--	--	--	600	--	--	--	2200	--	--
JUNE												
02...	1110	175	7.3	132	107	301	6.6	311	0	1080	34	.5
03...	--	179	10	136	103	293	5.9	286	8	1120	14	.5
26...	1230	122	5.8	144	136	369	7.7	286	0	1430	39	.4
JULY												
07...	0700	110	10	290	164	450	14	330	0	2090	35	.7
29...	1330	100	7.7	293	212	381	10	939	4	1600	44	.6
AUG.												
06...	1415	77	7.5	188	127	368	12	271	0	1510	39	.7
SEP.												
01...	1735	95	6.6	190	139	403	8.6	265	0	1550	45	.5

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
01...	--	370	3530	3340	4.80	591	1360	1130	6.2	3770	8.0
08...	--	--	3250	3080	4.42	649	1210	965	6.2	3550	7.9
JAN.											
07...	--	--	5630	5380	7.66	380	2300	1840	7.8	5700	7.5
FEB.											
06...	--	300	3070	2890	4.18	448	1190	855	5.8	3370	7.9
MAR.											
09...	--	340	3760	3480	5.11	843	1380	1080	7.0	4120	7.9
APR.											
09...	--	300	2770	2760	3.77	643	1180	875	5.6	3360	8.0
MAY											
01...	--	--	--	--	--	--	--	--	--	4130	--
JUNE											
02...	--	230	2090	1830	2.84	988	770	515	4.7	2410	7.9
03...	--	220	1910	1840	2.60	923	765	517	4.6	2270	8.5
26...	.47	310	2470	2280	3.36	814	920	685	5.3	2810	8.2
JULY											
07...	.50	--	3460	3220	4.71	1030	1400	859	5.2	3740	7.5
29...	--	280	2650	3020	3.60	715	1600	824	4.1	2930	8.3
AUG.											
06...	--	360	2570	2390	3.50	534	992	548	5.1	2940	7.6
SEP.											
01...	1.2	310	2640	2480	3.59	677	1040	827	5.4	3010	8.2

09314500 PRICE RIVER AT WOODSIDE, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3750	3840	4860	5190	3830	3550	3480	4130	2370	3200	2850	3070
2	3930	3960	4590	5390	3730	3780	3290	6240	2380	3400	3500	3320
3	4000	3510	4450	5580	3560	3880	3680	6190	2270	3210	2980	3120
4	3890	3630	4220	5760	3580	4220	3980	6070	2290	3150	3200	3030
5	3560	3820	4200	5760	3550	5150	4200	6190	2320	3020	3280	3050
6	3690	3990	4330	5500	3440	4830	4020	5910	2340	3200	2850	3610
7	3610	3990	4460	5740	3360	4520	3970	4900	2300	---	3330	1760
8	3620	4150	4700	5680	3420	4290	3790	5380	2500	---	3070	2190
9	3730	4150	4670	5090	3400	4220	3600	7100	2860	---	3060	2680
10	3910	4460	4660	5110	3430	3450	2930	4960	2420	2350	3010	2880
11	3920	3710	5010	4990	3640	3550	3120	5040	2830	2330	3410	3030
12	3870	3670	4600	4990	3720	3810	3090	4560	3720	3310	3420	3210
13	3930	3670	5070	4640	3670	3670	3310	3960	2520	2680	3570	2480
14	4340	3750	4720	4640	3830	3940	3340	3810	2200	2770	3380	2530
15	4380	4170	4720	4320	3790	3940	3380	3680	2050	3040	3580	2870
16	4020	3880	4970	4100	4020	3810	4010	3560	1950	3010	3580	4030
17	4150	3890	4330	4090	4280	3440	4360	3890	1940	3040	2290	4250
18	4320	4490	4330	4090	3850	3580	6010	3640	1880	2980	3070	4050
19	4320	4820	4490	3830	3910	4030	6450	3610	1840	3290	3310	3770
20	4310	5160	4270	3840	3890	3740	6120	3330	1790	3080	3270	3580
21	4270	5370	4310	3860	3950	3580	6450	3410	1850	2960	2680	3580
22	3970	5040	4270	3260	3980	3800	5340	3010	1930	3220	2990	3430
23	3810	4510	4230	3850	4610	3780	6090	2990	2100	3290	2420	3420
24	3810	4320	4090	3360	4340	3720	5690	3310	2250	3180	2440	3510
25	3940	4030	4060	3410	4340	3510	5660	3670	2340	2890	3020	3300
26	3910	3880	4000	2990	4580	2950	5880	3430	2740	3110	2960	3360
27	3940	3850	4370	3350	4420	2460	6630	3320	2710	2990	3000	3580
28	3930	4130	4210	3560	3680	2610	6520	3130	2820	4970	2960	3570
29	3980	4400	4660	3670	---	2680	5980	3140	2880	3280	2730	3520
30	4010	4480	4750	3790	---	4210	4400	3160	3010	2950	2990	3640
31	4060	---	4960	3870	---	3350	---	2660	---	3010	2830	---
AVG	3960	4160	4500	4430	3850	3740	4630	4240	2380	3100	3070	3250

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	4.0	0.0	0.0	0.0	6.0	2.0	5.0	13.0	14.0	20.0	19.0
2	16.0	2.0	1.0	0.0	0.0	3.0	5.0	5.0	14.0	15.0	20.0	16.0
3	15.5	3.0	0.0	0.0	0.0	3.0	5.0	9.0	15.0	16.0	21.0	14.0
4	7.0	1.0	1.0	0.0	0.0	8.0	2.0	10.0	15.0	18.0	21.0	14.0
5	13.5	8.5	0.0	0.0	0.0	9.0	4.0	9.0	16.0	19.0	20.0	16.0
6	6.5	8.0	0.0	0.0	0.0	10.0	5.0	10.0	16.0	19.0	21.0	13.0
7	6.5	6.0	0.0	0.0	3.0	10.0	5.0	10.0	17.0	19.0	21.0	12.0
8	6.5	4.0	0.0	0.0	0.0	10.0	6.0	8.0	14.0	19.0	21.0	13.0
9	7.5	5.0	0.0	0.0	1.0	5.0	5.0	10.0	15.0	19.0	19.0	14.0
10	9.5	9.0	0.0	0.0	4.0	3.0	7.0	10.0	13.0	25.0	17.0	11.0
11	6.5	5.0	0.0	0.0	1.0	5.0	7.0	9.0	9.0	25.0	20.0	13.0
12	4.5	8.0	1.0	0.0	1.5	4.0	5.0	10.0	11.0	21.0	18.0	15.0
13	4.0	8.0	0.5	0.0	2.0	4.0	5.0	11.0	14.0	19.0	18.0	15.0
14	4.5	3.0	1.0	0.0	5.0	10.0	5.0	9.0	13.0	20.0	19.0	12.0
15	4.0	5.0	0.0	0.0	5.0	7.0	3.0	10.0	14.0	17.0	19.0	9.0
16	7.0	7.0	0.0	0.0	1.0	5.0	---	11.0	13.0	17.0	18.0	9.0
17	4.5	4.0	3.0	0.0	0.0	5.0	6.0	13.0	14.0	18.0	20.0	10.0
18	6.0	0.0	2.0	0.0	2.0	2.0	7.0	12.0	15.0	20.0	19.0	10.0
19	2.0	1.0	3.0	0.0	0.0	3.0	6.0	14.0	15.0	20.0	19.0	10.0
20	3.5	4.0	3.0	0.0	0.0	3.0	4.0	10.0	17.0	20.0	17.0	11.0
21	4.5	0.0	0.0	0.0	3.0	6.0	4.0	11.0	18.0	21.0	16.0	9.0
22	6.5	0.0	0.0	1.0	6.0	4.0	5.0	11.0	19.0	18.0	17.0	7.0
23	7.5	3.0	0.0	1.0	2.0	4.5	5.0	12.0	19.0	17.0	18.0	8.0
24	7.5	0.0	0.0	1.0	2.0	4.0	6.0	12.0	18.0	16.0	18.0	8.0
25	7.5	2.0	0.0	2.0	3.0	5.0	7.0	14.0	19.0	16.0	18.0	6.0
26	6.5	3.0	0.0	1.0	5.0	7.0	8.0	14.0	19.0	18.0	19.0	6.0
27	6.5	2.0	0.0	0.5	0.0	2.0	7.0	15.0	20.0	17.0	18.0	7.0
28	7.5	0.0	0.0	0.0	9.0	2.0	3.0	15.0	15.0	17.0	19.0	12.0
29	4.5	1.0	0.0	0.0	---	4.0	3.0	15.0	16.0	18.0	20.0	11.0
30	2.5	0.0	0.0	0.0	---	4.0	4.0	15.0	14.0	20.0	19.0	15.0
31	4.5	---	0.0	0.0	---	2.0	---	11.0	---	18.0	20.0	---
AVG	7.0	3.5	0.5	0.0	2.0	5.0	5.0	11.0	15.5	18.5	19.0	11.5

09315000 GREEN RIVER AT GREEN RIVER, UTAH
(Irrigation network, pesticide, and radiochemical station)

LOCATION.--Lat 38°59'37", long 110°08'35", in NW¼NE¼ sec.15, T.21 S., R.16 E., Emery County, at bridge on U.S. Highways 50 and 6 in town of Green River, 0.7 mile upstream from gaging station.

DRAINAGE AREA.--40,600 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: August 1928 to September 1969 (daily), October 1969 to September 1970.
Water temperatures: May 1949 to September 1959, October 1964 to September 1970.
Sediment records: May 1930 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,160 micromhos Oct. 22; minimum daily, 338 micromhos June 1, 3.
Water temperatures: Maximum, 23.0°C on several days during July and August; minimum, freezing point on many days during December to February.
Sediment concentrations: Maximum daily, 7,700 mg/l May 10; minimum daily, 69 mg/l Sept. 29.
Sediment discharge: Maximum daily, 269,000 tons June 16; minimum daily, 588 tons Sept. 30.

Period of record:
Dissolved solids (1928-69): Maximum, 3,440 mg/l Dec. 1-3, 1967; minimum, 194 mg/l June 21-30, 1933.
Hardness (1928-69): Maximum, 1,880 mg/l Dec. 1-3, 1967; minimum, 128 mg/l June 21-30, 1933.
Specific conductance (1941-70): Maximum daily, 3,250 micromhos Dec. 1, 1967; minimum daily, 272 micromhos May 13, 1956.
Water temperatures (1949-59, 1965-70): Maximum, 30.0°C Aug. 13, 1958; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 66,000 mg/l July 11, 1936; minimum daily, 20 mg/l Sept. 27, 1956.
Sediment discharge: Maximum daily, 2,230,000 tons July 11, 1936; minimum daily, 54 tons Sept. 27, 1956.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
08...	1105	3130	4.0	68	34	95	3.1	205	0	317	29	--
08...	1145	3100	4.1	68	34	87	2.6	204	0	275	30	.3
NOV.												
13...	1155	3770	6.8	66	40	81	2.7	218	0	275	33	.5
DEC.												
11...	1650	3540	6.3	66	36	72	2.5	218	0	238	27	.5
JAN.												
08...	1350	2740	6.5	74	43	88	2.8	253	0	300	30	.5
FEB.												
06...	1520	2600	8.1	69	35	84	2.7	218	0	265	29	.4
MAR.												
09...	1330	3400	10	72	38	94	2.9	275	0	278	32	.4
APR.												
09...	1205	3000	8.4	66	37	91	3.1	234	3	266	29	.4
MAY												
13...	1330	10900	8.4	48	19	31	3.3	323	0	95	8.7	.3
JUNE												
16...	1400	18300	9.4	54	34	40	2.2	382	0	98	16	.2
JULY												
09...	1250	9290	7.9	47	21	47	2.4	271	0	144	13	.3
AUG.												
06...	1220	3320	6.9	64	28	79	3.2	253	3	236	24	.7
18...	2010	3400	8.0	69	28	84	4.4	202	0	--	25	.5
21...	1515	3080	8.0	66	31	77	4.2	211	0	255	22	.5
24...	1540	3570	7.5	69	29	80	4.0	199	0	257	25	.6
SEP.												
09...	1115	3160	5.3	72	35	83	3.2	299	4	255	27	.4

DATE	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.												
08...	--	--	--	665	651	.90	5620	310	142	2.3	928	7.5
08...	2.7	.02	160	669	604	.91	5600	310	143	2.1	935	7.8
NOV.												
13...	2.1	.00	180	641	614	.87	6530	328	149	1.9	929	7.8
DEC.												
11...	2.1	.00	140	586	558	.80	5600	312	133	1.8	859	7.7
JAN.												
08...	3.6	--	160	732	673	1.00	5420	360	153	2.0	990	7.6
FEB.												
06...	2.3	.04	190	653	603	.89	4580	316	137	2.1	927	7.8
MAR.												
09...	2.0	.06	120	642	668	.87	5890	335	110	2.2	936	8.0
APR.												
09...	2.0	.02	90	617	619	.84	5000	317	119	2.2	927	8.3
MAY												
13...	5.3	.22	80	270	378	.37	7950	197	0	1.0	441	8.0
JUNE												
16...	10	.44	90	289	452	.39	14300	272	0	1.1	508	8.0
JULY												
09...	2.4	.50	70	358	419	.49	8980	204	0	1.4	527	7.7
AUG.												
06...	1.0	.05	130	568	571	.77	5090	276	63	2.1	810	8.5
18...	--	--	--	592	--	.81	5440	287	121	2.2	861	7.5
21...	--	--	100	600	568	.82	4990	292	119	2.0	865	7.6
24...	--	--	120	604	571	.82	5820	342	179	2.0	858	7.7
SEP.												
09...	3.7	.38	120	603	636	.82	5150	324	72	2.0	879	8.5

09315000 GREEN RIVER AT GREEN RIVER, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	965	865	865	914	---	---	---	338	---	770	878
2	---	966	881	---	922	---	---	---	356	424	775	---
3	---	939	881	---	904	---	---	660	338	---	789	---
4	---	904	864	---	931	---	948	668	354	---	812	---
5	---	954	864	---	963	905	965	665	353	---	814	1120
6	937	904	864	---	---	918	962	668	369	430	855	1100
7	974	901	893	---	---	923	962	656	369	508	860	1080
8	1000	885	899	---	---	928	938	---	647	589	858	1050
9	1000	914	896	---	945	928	954	---	---	674	814	---
10	1000	904	894	972	957	952	954	---	---	685	820	---
11	943	957	893	969	960	963	---	497	638	695	818	---
12	943	940	892	926	954	960	---	501	579	576	823	---
13	987	942	896	899	881	918	940	471	---	607	827	---
14	1000	914	845	974	880	916	890	465	---	613	990	---
15	949	914	851	857	876	911	798	443	584	603	---	---
16	922	915	866	837	878	903	791	450	478	592	---	---
17	913	912	---	810	877	908	772	438	482	591	838	---
18	974	937	845	808	904	926	878	433	493	579	---	---
19	977	906	852	810	890	960	880	441	407	611	---	---
20	1000	931	---	832	893	960	895	449	423	610	---	---
21	1080	936	---	823	885	913	930	454	433	615	---	---
22	1160	903	---	825	883	911	935	436	426	624	---	---
23	1150	903	---	826	877	911	887	---	419	687	---	911
24	990	925	---	871	905	949	887	---	429	684	---	937
25	977	903	---	873	906	955	853	368	394	---	---	904
26	971	906	---	876	914	974	848	346	399	---	889	---
27	961	906	---	881	---	971	916	378	361	765	891	---
28	970	908	---	906	---	977	919	369	369	761	874	907
29	979	864	---	914	---	923	929	345	380	786	837	954
30	970	862	---	925	---	918	940	354	383	789	852	945
31	967	---	---	925	---	916	---	354	---	770	868	---
AVG	991	916	---	---	909	933	902	---	431	634	---	---

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10.0	3.0	0.0	0.0	---	---	---	17.0	---	23.0	20.0
2	---	10.0	2.0	---	0.0	---	---	---	17.0	21.0	23.0	---
3	---	6.0	2.0	---	0.0	---	---	12.0	17.0	---	23.0	---
4	---	6.0	2.0	---	0.0	---	8.5	12.0	18.0	---	22.0	---
5	---	6.0	1.0	---	0.0	6.5	8.5	12.0	18.0	---	22.0	19.0
6	14.0	6.0	3.0	---	---	6.5	8.5	12.0	18.0	21.0	22.0	---
7	14.0	6.0	2.0	---	---	7.0	8.5	11.5	18.0	21.0	22.0	19.0
8	13.0	8.0	1.0	---	---	7.0	8.0	---	18.0	22.0	22.0	19.0
9	13.0	8.0	0.0	---	0.5	7.0	12.5	---	---	22.0	21.0	---
10	13.0	7.0	0.0	0.0	0.5	7.0	12.5	---	---	22.0	21.0	---
11	10.0	7.0	0.0	0.0	0.5	7.0	---	13.5	17.0	22.0	21.0	---
12	10.0	8.0	0.0	0.0	0.5	7.5	---	13.0	18.0	22.0	21.0	---
13	11.0	9.0	0.0	0.0	0.5	7.5	12.5	13.5	---	22.0	21.0	---
14	10.0	6.0	0.5	0.0	0.5	7.5	12.5	13.5	---	22.0	21.0	---
15	5.0	6.0	0.5	0.0	0.5	7.5	9.5	15.0	18.0	22.0	---	---
16	5.0	7.0	0.0	0.5	0.0	7.5	9.5	15.0	18.0	22.0	---	---
17	5.0	7.0	---	0.5	0.0	7.5	9.5	15.0	18.0	23.0	21.0	---
18	5.0	5.0	0.0	0.5	0.5	7.0	9.5	15.0	18.0	23.0	21.0	---
19	5.0	5.0	0.0	0.5	0.5	7.0	9.5	15.0	18.0	23.0	---	---
20	5.0	6.0	---	0.0	0.5	7.0	9.5	16.0	18.0	23.0	---	---
21	5.0	5.0	---	0.0	0.5	7.0	8.0	16.0	18.0	23.0	21.0	---
22	5.0	5.0	---	0.0	0.5	6.5	8.0	16.0	18.0	23.0	---	---
23	5.0	4.0	---	0.0	0.5	7.0	11.5	---	18.0	23.0	---	13.0
24	9.0	1.0	---	0.0	6.0	7.5	11.5	---	18.0	23.0	20.0	13.0
25	7.0	2.0	---	0.0	6.0	7.5	12.0	16.0	20.0	---	---	12.0
26	10.0	3.0	---	0.0	7.5	7.5	12.0	16.0	20.0	---	20.0	---
27	10.0	3.0	---	0.5	---	7.5	11.5	17.0	21.0	23.0	23.0	---
28	10.0	3.0	---	0.5	---	7.5	11.5	17.0	21.0	22.0	22.0	13.0
29	9.0	2.0	---	1.0	---	7.0	11.5	17.0	21.0	22.0	20.0	13.0
30	10.0	1.0	---	0.0	---	7.0	11.5	17.0	21.0	22.0	20.0	13.0
31	8.0	---	---	0.0	---	7.0	---	17.0	---	23.0	20.0	---
AVG	8.5	5.5	---	---	1.0	7.0	10.5	---	18.5	22.5	---	---

09315000 GREEN RIVER AT GREEN RIVER, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	4090	278	3070	4490	421	5100	3480	178	1670
2	4090	282	3110	4560	426	5240	3430	134	1240
3	3880	285	2990	4890	275	3630	3850	132	1370
4	4240	289	3310	4400	258	3070	3770	130	1320
5	3770	293	2980	3910	183	1930	3770	113	1150
6	3600	297	2690	3710	214	2140	4090	119	1310
7	3290	166	1470	3880	238	2490	4430	236	2820
8	3080	240	2000	4180	184	2080	4530	244	2980
9	2920	237	1870	4120	280	3110	4620	234	2920
10	3000	174	1410	4150	182	2040	4300	225	2610
11	3850	173	1800	4150	231	2590	3770	174	1770
12	3740	187	1890	4150	221	2480	3910	187	1970
13	3770	206	2100	3740	218	2200	4820	188	2450
14	3540	227	2170	3650	186	1830	4850	360	4710
15	4180	250	2820	3910	191	2020	4620	137	1710
16	4720	304	3870	4120	195	2170	4620	135	1680
17	4950	303	4050	4270	185	2130	4660	124	1560
18	4620	307	3830	4240	159	1820	4530	114	1390
19	4530	360	4400	3910	133	1400	4460	108	1300
20	5500	3630	53900	3540	159	1520	4850	116	1520
21	5160	1570	21900	3510	185	1750	4950	124	1660
22	4560	820	10100	3910	106	1120	4920	133	1770
23	4090	550	6070	4000	103	1110	4950	143	1910
24	4300	531	6160	3940	126	1340	4890	153	2020
25	4660	512	6440	3880	163	1710	4790	164	2120
26	4450	494	5940	3350	127	1150	4950	176	2350
27	4240	477	5460	3260	150	1320	4690	189	2390
28	4370	460	5430	3430	166	1540	4920	203	2700
29	4490	444	5380	3940	330	3510	4920	217	2880
30	4720	428	5450	3970	324	3470	4000	233	2520
31	4300	461	5350	--	--	--	3200	250	2160
TOTAL	128700	--	189610	119160	--	69010	136540	--	63930

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2400	253	1640	2900	230	1800	3970	396	4240
2	2430	245	1610	2480	199	1330	4120	440	4890
3	2360	238	1520	2500	172	1160	3940	490	5210
4	2180	231	1360	2720	149	1090	3910	545	5750
5	2300	224	1390	2430	149	978	3710	606	6070
6	2400	217	1410	2360	120	765	3430	674	6240
7	2240	210	1270	2520	122	830	3400	937	8600
8	2640	204	1450	2480	123	824	3240	979	8560
9	2720	165	1210	2450	125	827	3320	634	5680
10	2720	133	977	2520	104	708	2920	366	2890
11	3370	133	1210	2640	122	870	3050	371	3060
12	3680	133	1320	2800	155	1170	2970	323	2590
13	4010	243	2640	2840	151	1160	2870	281	2180
14	4330	248	2900	3350	349	3160	3320	286	2560
15	3770	132	1340	3820	522	5380	3320	292	2620
16	3770	158	1610	4000	744	8040	3460	401	3750
17	4300	203	2360	3940	452	4810	3210	221	1920
18	4240	212	2430	3910	346	3650	2800	239	1810
19	4000	220	2380	3540	346	3310	2720	327	2400
20	3710	220	2200	3290	346	3070	2700	402	2930
21	3510	220	2080	3650	252	2480	3000	203	1640
22	2950	267	2130	3620	244	2380	3100	207	1730
23	2840	171	1310	3650	228	2250	3000	199	1610
24	2920	145	1140	3480	207	1940	2640	156	1110
25	3080	173	1440	3370	203	1850	2840	159	1220
26	2920	181	1430	3400	228	2090	2570	495	3430
27	2820	117	891	3650	284	2800	2740	410	3030
28	2700	116	846	4030	340	3700	2570	381	2640
29	2800	108	816	--	--	--	2740	434	3210
30	2950	155	1230	--	--	--	2700	424	3090
31	3210	208	1800	--	--	--	3320	417	3740
TOTAL	96290	--	49340	88340	--	64422	97600	--	110400

09315000 GREEN RIVER AT GREEN RIVER, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3080	420	3490	4660	1900	23900	21200	1120	64100
2	3100	464	3880	9070	4700	115000	19700	1020	54300
3	2720	514	3770	8940	2400	57900	18700	981	49500
4	3000	568	4600	7360	2000	39700	17600	1090	51800
5	2770	314	2350	5900	1490	23700	15400	981	40800
6	3130	734	6200	4820	1470	19100	14400	1160	45100
7	3030	369	3020	4530	1490	18200	14800	1220	48800
8	3400	283	2600	5930	4100	65600	15300	5180	214000
9	2970	432	3460	10400	5300	149000	16400	4440	197000
10	3000	600	4860	12900	7700	268000	17400	3800	179000
11	4300	2600	30200	14200	3200	123000	21000	3250	184000
12	5360	4200	60800	13000	2540	89200	23200	2090	131000
13	5900	5400	86000	10900	2990	88000	22900	2640	163000
14	5900	3800	60500	10500	1490	42200	22300	3330	200000
15	5680	3100	47500	11700	2300	72700	22200	4210	252000
16	5970	3100	50000	14200	2640	101000	19000	5240	269000
17	6160	2420	40200	15000	2230	90300	16200	1880	82200
18	5680	1500	23000	14200	1470	56400	15600	1880	79200
19	5230	907	12800	13000	1670	58600	15100	888	36200
20	4690	909	11500	14100	1650	62800	14600	959	37800
21	4590	612	7580	18100	1970	96300	14800	710	28400
22	4370	605	7140	20400	1940	107000	15300	710	29300
23	4120	555	6170	21500	1890	110000	15500	710	29700
24	4460	465	5600	21600	1830	107000	15500	710	29700
25	4490	389	4720	21800	1780	105000	15900	710	30500
26	4330	378	4420	22000	1670	99200	15800	710	30300
27	3540	458	4380	21200	1610	92200	15100	710	28900
28	3570	464	4470	20800	1560	87600	14600	710	28000
29	3460	792	7400	21200	1320	75600	14200	710	27200
30	3290	805	7150	21400	1310	75700	14000	710	26800
31	--	--	--	21600	1330	77600	--	--	--
TOTAL	125290	--	519760	436910	--	2597500	513700	--	2667600

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13200	1000	35600	3800	1060	10900	3620	1420	13900
2	12300	2260	75100	3960	1060	11300	3130	1500	12700
3	11800	2180	69500	3700	434	4340	2670	1200	8650
4	11100	2100	62900	3720	545	5470	2430	1200	7870
5	10100	2020	55100	3350	555	5020	2860	3470	26800
6	9600	1950	50500	3240	531	4650	3510	6000	56900
7	9100	847	20800	3090	791	6600	3370	1300	11800
8	8600	869	20200	3190	743	6400	3140	707	5990
9	8200	1420	31400	3250	329	2890	3090	1070	8930
10	7700	1340	27900	3480	327	3070	2910	854	6710
11	7300	1330	26200	3470	1420	13300	2740	681	5040
12	7000	1120	21200	3430	4420	40900	2710	543	3970
13	6700	1190	21500	3610	1410	13700	3260	433	3810
14	6500	1180	20700	3640	1230	12100	3000	346	2800
15	6200	1230	20600	3610	934	9100	3330	276	2480
16	5900	1220	19400	3330	710	6380	3670	220	2180
17	5600	355	5370	3420	539	4980	3400	176	1620
18	5300	356	5090	3400	498	4570	2800	140	1060
19	5200	273	3830	3480	436	4100	3050	140	1150
20	5100	234	3220	3160	382	3260	2920	139	1100
21	5000	238	3210	3700	335	3350	3040	139	1140
22	4800	211	2730	3360	336	3050	2880	138	1070
23	4650	252	3160	3390	338	3090	2810	138	1050
24	4500	260	3160	3500	339	3200	2780	142	1070
25	4400	321	3810	3620	429	4190	2510	134	908
26	4300	396	4600	3320	543	4870	2670	136	980
27	4400	489	5810	3000	889	7200	2680	139	1010
28	4600	860	10700	2950	222	1770	3120	141	1190
29	4880	510	6720	3310	143	1280	3220	69	600
30	4060	501	5490	3660	141	1390	3110	70	588
31	3800	1040	10700	3740	1420	14300	--	--	--
TOTAL	211890	--	656200	106880	--	220720	90430	--	195066

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 2151730
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 7403558

09315000 GREEN RIVER AT GREEN RIVER, UTAH--Continued

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE INDICATED SIZE (IN MILLIMETERS) .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 8, 1969	1330	10.0	3080	236	1960	--	--	--	--	--	--	--	--	--	--	--	
NOV 13.....	1115	7.0	3800	248	2540	31	42	--	--	--	75	79	92	100	--	--	VPWC
DEC 11.....	1615	0.0	3540	154	1470	--	--	--	--	--	--	--	--	--	--	--	
JAN 8, 1970	1330	0.0	2740	204	1510	--	--	--	--	--	--	--	--	--	--	--	
FEB 6.....	1445	3.0	2520	120	816	--	--	--	--	--	--	--	--	--	--	--	
MAR 9.....	1300	8.5	3400	634	5820	55	70	--	95	--	98	99	100	--	--	--	VPWC
APR 9.....	1135	10.5	2970	235	1880	--	--	--	--	--	--	--	--	--	--	--	
MAY 13.....	1245	13.0	10900	3730	110000	25	29	--	--	--	76	96	100	--	--	--	VPWC
JUN 12.....	1725	18.0	22300	2090	126000	45	57	--	--	--	100	--	--	--	--	--	SPWC
JUN 16.....	1320	14.0	18500	6320	316000	36	43	--	--	--	71	91	100	--	--	--	VPWC
JUL 9.....	1145	21.0	9200	1490	37000	10	17	--	--	--	62	78	95	100	--	--	VPWC
AUG 6.....	1145	24.0	3320	306	2740	52	72	--	--	--	98	99	100	--	--	--	VPWC
SEP 9.....	1045	17.0	3130	1070	9040	47	66	--	--	--	98	99	100	--	--	--	VPWC

09328500 SAN RAFAEL RIVER NEAR GREEN RIVER, UTAH

LOCATION.--Lat 38°52'20", long 110°22'20", in NE¼SW¼ sec.27, T.22 S., R.14 E., Emery County, at gaging station at bridge on State Highway 24, 15 miles southwest of Green River and 35 miles upstream from mouth.

DRAINAGE AREA.--1,670 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: November 1946 to September 1949, November 1950 to September 1969 (daily), October 1969 to September 1970.
Water temperatures: July to September 1949, October 1950 to September 1962, October 1964 to September 1970.
Sediment records: March 1948 to September 1949, October 1950 to September 1959.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 4,650 micromhos Apr. 23; minimum daily, 908 micromhos June 6.
Water temperatures: Maximum, 28.0°C July 17, 18, Aug. 7; minimum, freezing point on many days during November to February.

Period of record:
Dissolved solids (1948-49, 1950-69): Maximum, 6,430 mg/l May 22-25, 1967; minimum, 487 mg/l June 21-30, 1957.
Hardness (1948-49, 1950-69): Maximum, 2,280 mg/l July 11, 13-18, 1954; minimum, 298 mg/l June 21-30, 1957.
Specific conductance: Maximum daily, 7,230 micromhos July 15, 1954; minimum daily, 689 micromhos June 29, 1957.
Water temperatures: Maximum (1949, 1950-61, 1965-70), 35.0°C July 11, 1954; minimum (1949, 1950-61, 1964-70), freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
07...	1120	62	7.0	228	166	461	7.2	317	0	2010	44	.4
31...	--	69	4.2	104	124	--	--	105	0	762	17	--
NOV.												
06...	1615	74	2.9	132	38	--	--	84	0	745	11	--
07...	1715	70	6.0	216	90	--	--	114	0	1580	36	--
08...	1700	63	3.1	153	40	--	--	91	0	818	12	--
JAN.												
15...	1145	65	--	185	161	362	20	458	0	1600	51	--
FEB.												
13...	1100	103	6.6	214	135	384	6.1	456	0	1540	41	.3
APR.												
22...	1000	32	4.6	253	185	558	9.3	333	0	2150	61	.4
MAY												
13...	1630	50	5.7	181	136	377	8.0	350	0	1420	44	.4
JUNE												
05...	1215	1030	5.1	80	42	64	7.5	253	0	298	11	.4
JULY												
10...	1330	137	6.9	162	124	309	7.5	361	0	1220	34	.5
AUG.												
06...	1550	71	6.3	185	141	379	8.5	297	0	1610	38	.7
SEP.												
08...	1730	67	5.5	285	159	451	9.6	399	0	1870	42	.5

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
07...	--	300	3200	3080	4.35	536	1250	990	5.7	3470	7.8
31...	--	--	1280	1120	1.74	238	770	684	1.0	1320	7.8
NOV.											
06...	--	--	1180	1140	1.60	236	488	419	5.8	1530	7.3
07...	--	--	2490	2390	3.39	471	910	817	3.4	2730	7.3
08...	--	--	1260	1250	1.71	241	548	473	4.7	1660	7.5
JAN.											
15...	--	--	--	2600	3.54	474	1120	744	4.7	3040	8.0
FEB.											
13...	--	200	2700	2570	3.67	1140	1090	716	5.1	2960	7.7
APR.											
22...	--	240	3910	3390	4.61	338	1390	1120	6.5	4070	7.8
MAY											
13...	--	240	2570	2340	3.50	347	1010	725	5.2	2890	8.1
JUNE											
05...	--	90	711	634	.97	1980	370	163	1.4	937	8.2
JULY											
10...	.10	250	2210	2040	2.77	817	912	616	4.5	2510	8.0
AUG.											
06...	.10	290	2620	2520	3.43	502	1040	796	5.1	2900	8.2
SEP.											
08...	.30	260	3220	3020	4.11	582	1360	1040	5.3	3490	8.1

09328500 SAN RAFAEL RIVER NEAR GREEN RIVER, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3390	---	3230	3720	3090	3500	---	3390	1120	1390	---	---
2	3370	2160	3250	3810	3210	4260	---	3820	1040	1420	---	---
3	3530	2200	---	3900	3500	3640	3950	3800	---	---	---	---
4	3570	---	3080	4230	---	3620	4150	3890	925	---	---	---
5	---	2910	3050	4320	---	3650	4140	3943	---	---	---	---
6	3570	1530	2850	3670	---	3970	4140	3950	908	2120	---	---
7	---	2730	---	---	---	---	4293	---	---	---	2800	---
8	3260	1660	---	---	---	4270	---	3660	1030	2400	---	---
9	3300	2972	---	3390	2790	4130	3610	3680	1420	2440	---	---
10	---	3230	3030	3373	2720	3980	3593	2849	---	2560	---	---
11	3180	---	3040	3440	---	4010	3850	2780	2010	---	---	---
12	3240	3360	3143	3390	---	3910	3460	2730	1760	2700	---	---
13	3220	3460	3130	3240	2990	3930	3400	---	---	---	---	---
14	3270	---	2880	2910	2910	3910	3600	---	1210	---	---	---
15	3150	---	2860	2913	2900	3970	3780	3020	---	---	1320	---
16	3160	---	2850	2720	3200	3930	3680	3520	---	---	---	---
17	3110	2250	2860	2700	3200	---	3750	3510	---	2840	---	---
18	---	2210	2790	2600	3330	---	3760	---	---	1760	1330	---
19	3160	3210	2793	2630	3380	---	3830	1620	---	---	---	---
20	3190	3650	2443	2660	3450	---	---	1150	---	1570	---	---
21	3670	3073	2793	3680	3390	---	---	993	1060	---	2750	---
22	3360	3323	2773	2793	3439	3990	---	1220	1000	---	---	---
23	3353	3773	2663	2983	4070	---	4650	1110	977	---	---	---
24	3040	3803	2623	2960	---	4150	4130	1453	---	---	---	---
25	3130	3160	2813	2900	---	4060	4020	1340	1040	---	---	---
26	3340	3163	3113	2993	3140	4150	3990	---	1040	---	---	---
27	3340	3260	3110	2910	3130	4060	3960	---	---	---	---	---
28	3480	3373	3340	---	3210	4120	3750	---	---	2410	1830	---
29	3480	3490	3341	---	---	3450	3750	1220	---	---	---	---
30	3420	3390	---	3340	---	3960	---	1140	---	---	---	---
31	1320	---	3760	3200	---	3940	---	1130	---	---	---	---
AVG	3240	2930	2980	3180	---	---	---	---	---	---	---	---

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	---	0.0	0.0	0.0	7.0	---	14.0	18.0	24.0	---	---
2	13.0	5.0	0.0	0.0	0.0	10.0	---	16.0	18.0	25.0	---	---
3	10.0	8.0	---	0.0	8.0	8.0	12.0	19.0	---	---	---	---
4	8.0	---	0.0	0.0	---	9.0	11.0	22.0	19.0	---	---	---
5	---	8.0	0.0	0.0	---	7.0	10.0	21.0	---	---	---	---
6	13.0	7.0	0.0	0.0	---	9.0	12.0	20.0	16.0	24.0	---	---
7	---	7.0	---	---	---	---	10.0	---	---	---	28.0	---
8	13.0	8.0	---	---	---	6.0	---	17.0	17.0	22.0	---	---
9	14.0	8.0	---	0.0	4.0	11.0	12.0	15.0	15.0	18.0	---	---
10	---	8.0	---	0.0	4.0	6.0	14.0	17.0	---	24.0	---	---
11	7.0	---	0.0	0.0	---	9.0	15.0	18.0	14.0	---	---	---
12	6.0	8.0	---	0.0	---	10.0	14.0	14.0	12.0	27.0	---	---
13	5.0	8.0	0.0	0.0	7.0	12.0	12.0	---	---	---	---	---
14	5.0	---	0.0	0.0	5.0	7.0	11.0	---	16.0	---	---	---
15	6.0	---	0.0	0.0	3.0	9.0	11.0	14.0	---	---	26.0	---
16	9.0	---	0.0	0.0	6.0	9.0	12.0	23.0	---	---	---	---
17	7.0	4.0	0.0	0.0	4.0	---	12.0	21.0	---	28.0	---	---
18	---	0.0	0.0	0.0	4.0	---	14.0	---	---	28.0	25.0	---
19	8.0	0.0	0.0	---	5.0	---	14.0	17.0	---	---	---	---
20	9.0	0.0	0.0	---	4.0	---	---	17.0	---	27.0	---	---
21	8.0	0.0	0.0	0.0	6.0	---	---	17.0	25.0	---	25.0	---
22	9.0	0.0	0.0	0.0	4.0	8.0	---	19.0	24.0	---	---	---
23	9.0	0.0	0.0	0.0	6.0	---	13.0	18.0	22.0	---	---	---
24	9.0	0.0	0.0	0.0	---	8.0	16.0	17.0	---	---	---	---
25	11.0	0.0	0.0	0.0	---	7.0	15.0	16.0	23.0	---	---	---
26	11.0	0.0	0.0	0.0	4.0	5.0	15.0	---	21.0	---	---	---
27	12.0	0.0	0.0	0.0	3.0	11.0	11.0	---	---	---	---	---
28	10.0	0.0	0.0	---	5.0	10.0	12.0	---	---	22.0	26.0	---
29	9.0	0.0	0.0	---	---	12.0	11.0	18.0	---	---	---	---
30	9.0	0.0	---	0.0	---	8.0	---	18.0	---	---	---	---
31	8.0	---	0.0	0.0	---	4.0	---	15.0	---	---	---	---
AVG	9.5	3.5	---	0.0	---	---	---	---	---	---	---	---

09330210 PLEASANT CREEK NEAR CAINEVILLE, UTAH

LOCATION.--Lat 38°16'20", long 111°05'30", in SW¼NE¼ sec.19, T.29 S., R.7 E., Wayne County, at gaging station 0.2 mile upstream from mouth with the confluence of Fremont River and 6.5 miles west of Caineville.

DRAINAGE AREA.--115 sq mi, approximately.

PERIOD OF RECORD.--Sediment records: April 1969 to September 1970.

EXTREMES.--April to September 1969:
Sediment concentrations: Maximum daily, 55,800 mg/l Aug. 12; minimum daily, 3 mg/l July 2.
Sediment discharge: Maximum daily, 40,900 tons Aug. 29; minimum daily, 0.01 ton July 2.

EXTREMES.--1969-70:
Sediment concentrations: Maximum daily, 15,400 mg/l Aug. 4; minimum daily, 8 mg/l June 24.
Sediment discharge: Maximum daily, 1,750 tons Aug. 4; minimum daily, 0.03 ton June 27.

Period of record:
Sediment concentrations: Maximum daily, 55,600 mg/l Aug. 12, 1969; minimum daily, 3 mg/l July 2, 1969.
Sediment discharge: Maximum daily, 40,900 tons Aug. 29, 1969; minimum daily, 0.01 ton July 2, 1969.

SUSPENDED-SEDIMENT DISCHARGE, APRIL TO SEPTEMBER 1969

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	6.0	3670	59	4.0	1020	11	24	825	53
2	6.0	3670	59	3.6	905	8.8	22	1030	61
3	6.0	1560	25	3.2	1000	8.6	21	917	52
4	5.4	1440	21	3.2	1000	8.6	18	617	30
5	4.9	1380	18	4.9	1810	24	14	217	8.2
6	4.9	1380	18	12	1000	32	12	133	4.3
7	4.4	878	10	14	2000	76	13	211	7.4
8	4.0	1060	11	11	1580	47	9.7	76	2.0
9	3.6	976	9.5	11	1580	47	8.8	76	1.8
10	4.0	1230	13	8.8	1520	36	7.3	61	1.2
11	4.0	2020	22	8.8	1000	24	6.0	25	.41
12	4.0	868	9.4	9.7	1150	30	8.0	38	.82
13	4.9	1000	13	9.7	1150	30	8.8	55	1.3
14	4.9	1230	16	6.6	954	17	7.3	61	1.2
15	5.4	1150	17	6.6	1120	20	8.0	463	10
16	4.9	1100	15	6.6	842	15	7.3	304	6.0
17	4.4	1050	12	11	1500	45	21	10200	578
18	4.9	1000	13	14	2490	94	7.3	1270	25
19	4.4	950	11	40	5000	540	4.4	471	5.6
20	2.6	903	6.3	47	1000	127	4.4	471	5.6
21	2.9	1280	10	27	7680	560	4.0	389	4.2
22	6.0	1250	20	16	3010	130	3.6	319	3.1
23	4.4	1220	14	16	2040	88	3.2	255	2.2
24	4.0	1180	13	19	2530	130	2.9	60	.47
25	3.2	1150	9.9	21	3700	210	4.0	111	1.2
26	4.4	1120	13	31	3230	270	2.9	60	.47
27	4.4	1090	13	35	6030	570	2.3	29	.18
28	3.6	741	7.2	22	3700	220	1.6	72	.31
29	4.0	1020	11	21	1450	82	1.5	49	.20
30	4.4	1090	13	29	2810	220	1.6	46	.20
31	--	--	--	27	1530	112	--	--	--
TOTAL	134.9	--	502.3	499.7	--	3833.0	259.9	--	867.36

09330210 PLEASANT CREEK NEAR CAINEVILLE, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, APRIL TO SEPTEMBER 1969

DAY	JULY MEAN DISCHARGE (CFS)	JULY MEAN CONCEN-TRATION (MG/L)	JULY LOAD (TONS)	AUGUST MEAN DISCHARGE (CFS)	AUGUST MEAN CONCEN-TRATION (MG/L)	AUGUST LOAD (TONS)	SEPTEMBER MEAN DISCHARGE (CFS)	SEPTEMBER MEAN CONCEN-TRATION (MG/L)	SEPTEMBER LOAD (TONS)
1	1.5	12	0.05	0.80	162	0.35	0.80	1200	2.6
2	1.1	3	.01	2.7	1780	13	.90	1320	3.2
3	1.5	12	.05	.80	162	.35	.90	1320	3.2
4	1.8	23	.11	.80	147	.32	1.8	2470	12
5	2.1	42	.24	.80	132	.29	1.1	1550	4.6
6	2.6	68	.48	.80	117	.25	.90	1320	3.2
7	2.9	96	.75	.80	102	.22	.90	1320	3.2
8	3.2	127	1.1	.80	87	.19	34	32500	13700
9	2.9	96	.75	.80	72	.16	15	20700	840
10	2.6	68	.48	.80	57	.12	38	28300	28800
11	2.9	96	.75	.80	42	.09	25	24900	9040
12	2.9	96	.75	32	55600	4800	8.0	648	14
13	5.4	631	9.2	19	7410	380	8.0	648	14
14	2.6	476	3.3	11	3160	94	8.0	648	14
15	2.4	321	2.1	6.6	1570	28	8.0	648	14
16	2.4	166	1.1	4.0	769	8.3	4.9	212	2.8
17	2.6	11	.08	3.2	463	4.0	4.4	160	1.9
18	5.4	96	1.4	6.6	1570	28	4.4	160	1.9
19	13	25800	5940	11	3160	94	3.6	103	1.0
20	18	53800	15300	11	3000	89	3.6	103	1.0
21	3.2	1500	13	11	2800	83	5.4	267	3.9
22	2.3	870	5.4	11	2600	77	5.4	267	3.9
23	2.1	758	4.3	12	2200	71	4.9	212	2.8
24	2.1	758	4.3	12	1800	58	4.9	212	2.8
25	1.9	643	3.3	12	1400	45	4.4	160	1.9
26	1.6	486	2.1	13	1100	39	4.4	160	1.9
27	1.4	397	1.5	13	900	32	4.4	160	1.9
28	1.2	309	1.0	11	800	24	4.4	160	1.9
29	1.6	486	2.1	62	36900	40900	4.9	212	2.8
30	1.5	444	1.8	4.0	1200	13	4.9	212	2.8
31	11	774	23	.90	1320	3.2	--	--	--
TOTAL	109.7	--	21324.50	277.00	--	46885.84	220.20	--	52503.2
TOTAL DISCHARGE PERIOD (CFS-DAYS)									1501.40
TOTAL LOAD FOR PERIOD (TONS)									125916.20

DAY	OCTOBER MEAN DISCHARGE (CFS)	OCTOBER MEAN CONCEN-TRATION (MG/L)	OCTOBER SEDIMENT DISCHARGE (TONS/DAY)	NOVEMBER MEAN DISCHARGE (CFS)	NOVEMBER MEAN CONCEN-TRATION (MG/L)	NOVEMBER SEDIMENT DISCHARGE (TONS/DAY)	DECEMBER MEAN DISCHARGE (CFS)	DECEMBER MEAN CONCEN-TRATION (MG/L)	DECEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	5.2	199	2.8	7.3	345	6.8	2.5	237	1.6
2	4.7	169	2.1	6.2	269	4.5	2.5	237	1.6
3	4.7	169	2.1	5.7	208	3.2	2.5	237	1.6
4	5.2	199	2.8	6.2	269	4.5	2.5	237	1.6
5	4.3	146	1.7	6.2	269	4.5	2.2	185	1.1
6	4.3	146	1.7	6.2	269	4.5	2.5	237	1.6
7	4.3	146	1.7	6.2	269	4.5	2.5	237	1.6
8	4.3	146	1.7	3.9	133	1.4	1.9	144	.74
9	3.9	123	1.3	2.5	62	.42	2.5	237	1.6
10	3.9	123	1.3	2.2	49	.29	2.5	237	1.6
11	4.3	146	1.7	2.8	74	.56	2.5	237	1.6
12	3.9	123	1.3	2.5	62	.42	2.5	237	1.6
13	3.5	106	1.0	2.2	49	.29	2.5	237	1.6
14	3.9	123	1.3	2.2	49	.29	2.5	237	1.6
15	3.9	123	1.3	2.2	49	.29	2.8	304	2.3
16	3.9	123	1.3	3.2	93	.80	2.5	237	1.6
17	4.7	169	2.1	2.2	49	.29	1.9	144	.74
18	4.7	169	2.1	1.2	34	.11	2.5	237	1.6
19	3.9	123	1.3	1.7	37	.17	2.5	237	1.6
20	3.9	123	1.3	1.3	34	.12	2.5	237	1.6
21	4.3	146	1.7	1.9	41	.21	2.5	237	1.6
22	11	673	20	2.5	62	.42	2.5	237	1.6
23	12	771	25	2.2	49	.29	2.5	237	1.6
24	10	556	15	1.9	41	.21	2.5	237	1.6
25	9.7	535	14	2.2	49	.29	2.5	237	1.6
26	10	556	15	2.5	62	.42	2.5	237	1.6
27	11	673	20	2.5	62	.42	2.5	237	1.6
28	9.7	535	14	2.2	49	.29	2.5	237	1.6
29	7.3	365	6.8	2.5	62	.42	2.5	237	1.6
30	6.7	291	5.3	2.5	62	.42	2.5	237	1.6
31	7.3	345	6.8	--	--	--	2.5	237	1.6
TOTAL	184.4	--	177.5	97.0	--	41.34	76.3	--	48.08

09330210 PLEASANT CREEK NEAR CAINEVILLE, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.5	237	1.6	2.5	237	1.6	3.5	466	4.4
2	2.5	237	1.6	2.5	237	1.6	3.5	466	4.4
3	2.5	237	1.6	2.5	237	1.6	3.9	570	6.0
4	2.5	237	1.6	2.2	185	1.1	3.9	570	6.0
5	2.5	237	1.6	2.8	304	2.3	4.3	672	7.8
6	2.5	237	1.6	2.5	237	1.6	4.7	788	10
7	2.5	237	1.6	3.2	394	3.4	4.7	788	10
8	2.5	237	1.6	3.2	394	3.4	4.7	788	10
9	2.5	237	1.6	2.8	304	2.3	4.7	788	10
10	2.5	237	1.6	3.9	570	6.0	4.3	672	7.8
11	2.5	237	1.6	3.2	394	3.4	3.2	394	3.4
12	2.5	237	1.6	3.5	466	4.4	2.8	304	2.3
13	2.5	237	1.6	3.5	466	4.4	3.5	466	4.4
14	2.5	237	1.6	3.5	466	4.4	3.2	394	3.4
15	2.5	237	1.6	3.5	466	4.4	3.9	570	6.0
16	2.5	237	1.6	3.5	466	4.4	3.9	570	6.0
17	2.5	237	1.6	3.5	466	4.4	3.2	394	3.4
18	2.5	237	1.6	3.5	466	4.4	1.9	160	.82
19	2.5	237	1.6	3.2	394	3.4	2.2	185	1.1
20	2.5	237	1.6	2.5	237	1.6	1.9	160	.82
21	2.5	237	1.6	2.8	304	2.3	1.9	160	.82
22	2.5	237	1.6	3.9	570	6.0	1.9	160	.82
23	2.5	237	1.6	3.5	466	4.4	2.2	185	1.1
24	2.5	237	1.6	3.9	570	6.0	2.5	237	1.6
25	2.5	237	1.6	3.5	466	4.4	1.5	89	.36
26	2.5	237	1.6	3.5	466	4.4	1.3	66	.23
27	2.5	237	1.6	3.5	466	4.4	1.3	66	.23
28	2.5	237	1.6	3.9	570	6.0	1.5	89	.36
29	2.2	185	1.1	--	--	--	3.2	394	3.4
30	2.5	237	1.6	--	--	--	3.2	394	3.4
31	2.5	237	1.6	--	--	--	2.5	237	1.6
TOTAL	77.2	--	49.1	90.0	--	102.0	94.9	--	121.96

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2.2	185	1.1	1.9	270	1.4	3.2	170	1.5
2	1.9	160	.82	2.2	382	2.3	2.5	190	1.3
3	1.7	96	.44	1.9	400	2.1	2.5	194	1.3
4	1.5	24	.10	1.7	419	1.9	1.9	49	.25
5	1.9	409	2.1	1.7	740	3.4	2.8	154	1.2
6	1.9	56	.29	1.9	1060	5.4	3.9	258	2.7
7	2.2	168	1.0	1.9	1380	7.1	4.3	362	4.2
8	1.7	222	1.0	1.9	527	2.7	4.7	428	5.4
9	1.2	65	.21	1.7	872	4.0	5.2	444	6.2
10	1.2	132	.43	1.9	920	4.7	7.3	842	17
11	1.0	140	.38	1.9	975	5.0	9.1	1240	30
12	1.0	140	.38	1.5	363	1.5	6.7	574	10
13	1.2	144	.47	1.5	551	2.2	5.7	383	5.9
14	1.7	1020	4.7	1.3	120	.42	4.7	274	3.5
15	2.2	400	2.4	1.9	263	1.3	5.2	164	2.3
16	1.5	380	1.5	3.2	2830	24	3.5	127	1.2
17	2.2	356	2.1	17	3230	148	3.9	90	.95
18	2.8	394	3.0	20	2150	116	2.2	51	.30
19	2.8	370	2.8	19	1000	51	2.5	76	.51
20	3.2	338	2.9	17	2090	96	2.5	14	.09
21	3.9	409	4.3	15	2300	93	2.5	24	.16
22	3.5	315	3.0	13	1130	40	2.5	34	.23
23	3.2	92	.79	12	1610	52	2.5	21	.14
24	2.8	94	.71	11	1480	44	2.2	8	.05
25	2.8	92	.70	9.1	1230	30	1.2	14	.05
26	2.8	613	4.6	10	980	26	1.5	20	.08
27	2.8	532	4.0	7.9	730	16	.90	11	.03
28	2.5	331	2.2	5.2	480	6.7	.64	29	.05
29	2.5	127	.86	4.7	233	3.0	1.2	56	.18
30	1.9	155	.80	3.9	412	4.3	1.2	56	.18
31	--	--	--	3.5	290	2.7	--	--	--
TOTAL	65.7	--	50.08	198.3	--	798.12	100.64	--	96.95

09330210 PLEASANT CREEK NEAR CAINEVILLE, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	JULY MEAN DISCHARGE (CFS)	JULY MEAN CONCEN-TRATION (MG/L)	JULY SEDIMENT DISCHARGE (TONS/DAY)	AUGUST MEAN DISCHARGE (CFS)	AUGUST MEAN CONCEN-TRATION (MG/L)	AUGUST SEDIMENT DISCHARGE (TONS/DAY)	SEPTEMBER MEAN DISCHARGE (CFS)	SEPTEMBER MEAN CONCEN-TRATION (MG/L)	SEPTEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	1.3	66	0.23	6.2	1610	27	43	1000	116
2	1.2	56	.18	5.7	1170	18	6.0	500	8.1
3	1.2	56	.18	5.2	926	13	4.9	295	3.9
4	1.0	37	.10	42	15400	1750	6.6	505	9.0
5	1.3	66	.23	5.5	1080	16	11	1180	35
6	11	13000	386	14	5030	190	8.9	832	20
7	11	8800	261	15	4630	188	7.3	812	16
8	4.7	1540	20	4.9	831	11	7.3	812	16
9	11	15000	1470	8.1	1920	42	4.9	295	3.9
10	12	11000	356	6.6	1400	25	4.9	295	3.9
11	11	3400	101	2.1	176	1.0	4.4	244	2.9
12	17	6500	298	1.2	56	.18	5.5	350	5.2
13	9.7	2700	71	6.6	1400	25	6.6	505	9.0
14	5.2	926	13	21	1600	91	5.5	350	5.2
15	3.2	394	3.4	14	900	34	6.0	432	7.0
16	1.9	160	.82	4.4	699	8.3	4.9	295	3.9
17	1.5	89	.36	2.9	319	2.5	4.9	295	3.9
18	1.2	56	.18	2.3	209	1.3	4.4	244	2.9
19	1.2	56	.18	2.1	176	1.0	4.0	231	2.5
20	1.2	56	.18	6.6	1400	25	4.0	231	2.5
21	1.0	37	.10	1.9	160	.82	3.2	139	1.2
22	1.0	37	.10	1.6	102	.44	2.9	125	.98
23	1.0	37	.10	1.8	132	.64	1.9	58	.30
24	1.5	89	.36	1.9	132	.64	1.6	44	.19
25	5.2	926	13	1.9	160	.82	1.6	44	.19
26	7.3	1670	33	1.6	102	.44	2.1	71	.40
27	7.3	1670	33	1.9	160	.82	2.3	84	.52
28	7.3	1670	33	1.9	160	.82	2.3	84	.52
29	7.3	1670	33	2.1	176	1.0	2.5	98	.66
30	6.7	1490	27	2.3	209	1.3	2.1	71	.40
31	6.7	1490	27	2.9	319	2.5	--	--	--
TOTAL	161.1	--	3181.70	198.1	--	2479.52	177.5	--	282.16

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 1521.14
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 7428.51

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
APR 22, 1969	1340	24.0	7.4	3840	77	4	4	--	7	--	20	79	99	100	--	--	VPWC
MAY 21.....	1230	19.0	37	10800	1080	4	5	--	11	--	24	69	93	99	100	--	VPWC
JUN 17.....	1335	14.0	35	3990	377	8	11	--	23	--	58	92	100	--	--	--	VPWC
JUL 20.....	2055	21.0	86	268000	62200	25	36	--	62	--	82	95	99	100	--	--	VPWC
AUG 12.....	1220	23.0	4.4	939	11	14	22	--	46	--	59	89	100	--	--	--	VPWC
SEP 9.....	1130	20.0	18	25800	1250	40	55	--	88	--	95	99	100	--	--	--	VPWC
DEC 10.....	1320	0.0	8.5	3400	78	8	9	--	15	--	41	85	99	100	--	--	VPWC
JAN 15, 1970	1445	0.0	2.7	419	3.1	6	12	--	--	--	41	76	99	100	--	--	VPWC
FEB 12.....	1200	8.0	3.2	302	2.6	23	34	--	--	--	60	88	100	--	--	--	VPWC
MAR 10.....	1140	3.0	4.6	1420	18	27	37	--	66	--	73	91	100	--	--	--	VPWC
APR 10.....	0910	7.0	1.4	92	.35	18	24	--	--	--	74	90	100	--	--	--	VPWC
MAY 14.....	1125	14.0	1.2	120	.39	--	--	--	--	--	--	--	--	--	--	--	
JUN 12.....	1405	22.5	8.0	571	12	--	--	--	--	--	--	--	--	--	--	--	
JUL 8.....	1425	28.5	7.9	1540	33	16	19	--	--	--	56	95	100	--	--	--	VPWC
JUL 9.....	2025	17.0	68	82600	15200	26	29	--	--	--	73	97	100	--	--	--	VPWC
AUG 7.....	0925	11.0	14	4630	175	49	53	--	--	--	82	88	100	--	--	--	VPWC
SEP 8.....	1320	21.0	6.7	619	11	10	14	--	--	--	34	78	100	--	--	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (C)	NUMBER OF SAMPLING 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 ANALYSIS
APR 22, 1969	1340	24.0		7.4	--	7	22	32	41	44	50	60	82	100	--	SV
JUL 17.....	1110	23.0		2.6	1	10	40	67	79	84	90	96	100	--	--	SV
SEP 9.....	1130	20.0		18	1	6	31	54	67	70	75	82	90	100	--	SV
FEB 12, 1970	1200	8.0		3.2	1	7	30	50	59	63	72	84	95	100	--	SV
MAR 10.....	1140	3.0		4.6	1	7	33	58	67	71	78	86	95	100	--	SV
APR 10.....	0910	7.0		1.4	--	3	23	42	47	50	58	71	89	100	--	SV
JUL 8.....	1425	28.5		7.9	1	15	38	47	52	55	62	71	92	100	--	SV
AUG 7.....	0920	11.0		14	--	8	33	50	57	66	78	89	98	100	--	SV
SEP 8.....	1320	21.0		6.7	--	45	71	85	88	92	97	99	100	--	--	SV

09330230 FREMONT RIVER NEAR CAINEVILLE, UTAH

LOCATION.--Lat 38°16'40", long 111°04'00", in NE¼NE¼ sec.20, T.29 S., R.8 E., Wayne County, at gaging station 2 miles downstream from Pleasant Creek, 4.5 miles southwest of Caineville, and 9.8 miles east of Fruita, Utah.

DRAINAGE AREA.--1,190 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: March to September 1967 (miscellaneous).
Water temperatures: March 1967 to September 1969.
Sediment records: March 1967 to September 1970.

EXTREMES.--1969-70:
Sediment concentrations: Maximum daily, 56,000 mg/l Aug. 3; minimum daily, 24 mg/l Aug. 2.
Sediment discharge: Maximum daily, 18,900 tons Aug. 4; minimum daily, 1.6 tons Aug. 12.

Period of record:
Water temperatures (1967-69): Maximum, 31.0°C Aug. 12, 1967; minimum, freezing point on many days during December 1967 and January 1968.
Sediment concentrations: Maximum daily, 129,000 mg/l July 20, 1969; minimum daily, 11 mg/l July 23, 1968.
Sediment discharge: Maximum daily, 105,000 tons Sept. 10, 1969; minimum daily, 1 ton on several days in 1967 and 1968.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	45	120	15	84	353	80	77	240	50
2	45	90	11	84	353	80	77	240	50
3	46	89	11	86	442	105	80	296	64
4	46	89	11	86	442	105	84	353	80
5	46	89	11	88	442	105	84	353	80
6	46	89	11	88	442	105	79	277	59
7	47	102	13	85	392	90	83	442	105
8	47	102	13	82	325	72	80	296	64
9	47	102	13	82	325	72	88	442	105
10	47	102	13	80	296	64	84	519	123
11	48	116	15	74	277	59	83	392	90
12	49	168	22	77	221	46	88	442	105
13	48	116	15	72	180	35	87	426	100
14	49	128	17	69	145	27	85	392	90
15	52	178	25	69	145	27	84	353	80
16	53	189	27	85	392	90	84	353	80
17	57	279	43	87	426	100	87	426	100
18	62	430	72	75	217	44	87	426	100
19	65	541	95	74	200	40	88	442	105
20	72	489	95	79	277	59	94	630	160
21	87	426	100	75	217	44	95	694	180
22	115	1220	379	82	325	72	92	543	135
23	100	519	140	82	325	72	90	444	120
24	87	426	100	75	217	44	92	543	135
25	87	426	100	77	240	50	90	494	120
26	88	442	105	79	277	59	85	392	90
27	82	325	72	79	277	59	75	217	44
28	82	325	72	77	240	50	65	114	20
29	82	325	72	74	200	40	65	114	20
30	84	423	96	75	217	44	68	142	26
31	85	392	90	--	--	--	74	200	40
TOTAL	1996	--	1874	2390	--	1939	2546	--	2720

09330230 FREMONT RIVER NEAR CAINEVILLE, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	65	114	20	90	494	120	96	694	180
2	67	133	24	88	442	105	94	630	160
3	72	180	35	88	442	105	94	630	160
4	74	200	40	98	794	210	94	630	160
5	71	172	33	98	794	210	94	630	160
6	71	172	33	100	852	230	92	543	135
7	72	180	35	101	953	260	90	494	120
8	72	180	35	101	953	260	92	543	135
9	72	180	35	100	852	230	90	494	120
10	72	180	35	101	953	260	87	356	84
11	80	296	64	101	953	260	85	392	90
12	90	494	120	103	890	248	85	392	90
13	100	852	230	105	1230	349	85	392	90
14	110	1620	481	105	1230	349	85	392	90
15	110	1620	481	103	1080	300	85	392	90
16	115	1930	599	96	694	180	85	392	90
17	115	1930	599	96	694	180	85	392	90
18	107	1310	378	94	630	160	85	392	90
19	103	1080	300	88	442	105	85	392	90
20	94	630	160	87	426	100	85	392	90
21	96	694	180	88	442	105	85	392	90
22	101	953	260	94	630	160	85	392	90
23	107	1310	378	96	694	180	80	296	64
24	107	1310	378	94	630	160	70	159	30
25	101	953	260	92	543	135	70	159	30
26	98	794	210	92	543	135	70	159	30
27	98	794	210	94	630	160	70	159	30
28	96	694	180	94	630	160	70	159	30
29	82	325	72	--	--	--	70	159	30
30	85	392	90	--	--	--	70	159	30
31	88	442	105	--	--	--	70	159	30
TOTAL	2791	--	6060	2687	--	5416	2583	--	2798

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	70	159	30	51	60	8.3	35	136	13
2	70	159	30	51	56	7.7	33	90	8.0
3	70	119	22	46	50	6.5	32	134	12
4	65	87	15	47	41	5.2	33	203	18
5	60	100	16	55	600	89	34	176	16
6	60	79	13	91	1000	246	34	150	15
7	56	93	14	106	1400	401	36	220	21
8	56	76	11	115	1150	357	35	194	18
9	61	190	31	97	620	162	35	419	40
10	59	94	15	76	356	73	33	426	38
11	75	140	28	68	148	27	41	432	48
12	109	190	56	73	163	32	38	128	13
13	69	243	45	64	120	21	34	140	13
14	57	136	21	61	91	15	33	123	11
15	49	143	19	62	97	16	32	106	9.2
16	52	107	15	57	142	22	30	89	7.2
17	54	71	10	64	520	90	30	72	5.8
18	54	72	10	63	820	139	29	56	4.4
19	53	60	8.6	67	1450	262	28	62	4.7
20	56	46	7.0	60	1690	274	29	51	4.0
21	65	378	66	49	1560	206	36	96	9.3
22	59	108	17	46	600	75	37	141	14
23	55	34	5.0	44	600	71	34	104	9.9
24	55	30	4.5	44	589	70	34	74	6.8
25	54	36	5.2	43	443	51	33	76	6.8
26	52	86	12	45	297	36	34	79	7.3
27	58	135	21	42	150	17	33	422	38
28	90	647	157	40	185	20	33	70	6.2
29	59	103	16	43	220	26	35	50	4.7
30	53	59	8.4	40	209	23	36	50	4.9
31	--	--	--	38	200	21	--	--	--
TOTAL	1855	--	728.7	1850	--	2369.7	1011	--	427.2

09330230 FREMONT RIVER NEAR CAINEVILLE, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	37	50	5.0	38	55	5.6	96	460	119
2	39	59	6.2	36	47	4.6	58	160	25
3	41	72	8.0	35	56000	5290	47	110	14
4	42	74	8.4	217	32200	18900	47	110	14
5	45	91	11	94	18000	4570	47	110	14
6	61	401	66	59	326	52	47	110	14
7	69	741	138	52	178	25	47	110	14
8	64	539	93	37	50	5.0	47	110	14
9	88	9960	2370	33	39	3.5	44	84	10
10	73	7100	1400	31	35	2.9	47	110	14
11	61	5400	889	27	27	2.0	53	189	27
12	53	3700	529	25	24	1.6	45	91	11
13	44	105	13	32	36	3.1	45	91	11
14	39	59	6.2	41	290	32	43	83	9.6
15	37	50	5.0	34	200	18	44	84	10
16	33	39	3.5	30	32	2.6	44	84	10
17	35	44	4.2	29	31	2.4	44	84	10
18	37	50	5.0	30	32	2.6	45	91	11
19	38	57	5.8	35	44	4.2	47	110	14
20	34	41	3.8	104	440	124	46	105	13
21	34	41	3.8	79	330	70	45	91	11
22	36	47	4.6	57	286	44	45	105	13
23	35	44	4.2	52	178	25	44	84	10
24	38	57	5.8	46	105	13	45	91	11
25	68	116	15	43	83	9.6	45	91	11
26	41	72	8.0	68	708	130	52	178	25
27	42	74	8.4	42	74	8.4	49	128	17
28	46	105	13	34	59	6.2	52	178	25
29	43	83	9.6	39	59	6.2	56	251	38
30	43	116	15	38	107	11	54	206	30
31	43	83	9.6	41	154	17	--	--	--
TOTAL	1428	--	5667.1	1563	--	24391.5	1471	--	569.6

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 24209
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 60460.8

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 9 1969	1215	9.0	48	137	18	5	7	--	--	--	29	60	99	100	--	--	VPWC
NOV 12.....	1520	11.0	78	220	46	17	27	--	--	--	62	81	99	100	--	--	VPWC
DEC 10.....	1200	0.0	89	553	133	9	13	--	25	--	43	70	90	100	--	--	VPWC
JAN 15 1970	1625	0.0	110	2190	650	15	22	--	47	--	72	93	100	--	--	--	VPWC
FEB 12.....	1440	0.0	103	505	140	12	17	--	30	--	50	78	96	100	--	--	VPWC
MAR 10.....	0940	3.0	87	348	82	15	22	--	--	--	60	86	99	100	--	--	VPWC
APR 10.....	1130	10.0	59	110	18	28	34	--	--	--	74	89	99	100	--	--	VPWC
MAY 14.....	1320	15.0	65	95	17	28	33	--	--	--	65	86	100	--	--	--	VPWC
JUL 8.....	1600	21.0	63	551	94	19	24	--	--	--	65	94	100	--	--	--	VPWC
JUL 9.....	2040	--	204	53100	30300	35	43	--	--	--	88	100	--	--	--	--	VPWC
AUG 4.....	1715	--	156	48100	21000	32	36	--	--	--	88	99	100	--	--	--	VPWC
AUG 7.....	1240	21.0	51	2470	340	37	44	--	--	--	70	92	99	100	--	--	VPWC
SEP 8.....	1520	23.0	48	506	66	5	6	--	--	--	35	59	88	97	100	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (°C)	NUMBER OF SAMPLING 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 ANALYSIS
NOV 12 1969			14	78	--	1	2	3	5	6	12	26	57	96	100	SV
JAN 15 1970			10	110	--	4	14	23	28	32	42	59	80	100	--	SV
FEB 12.....			22	103	--	2	6	10	12	15	21	35	61	96	100	SV
MAR 10.....			20	87	--	--	3	6	7	9	15	27	60	97	100	SV
APR 10.....			20	59	--	1	4	6	7	9	14	26	59	96	100	SV
MAY 14.....			22	65	--	1	3	5	6	8	13	26	54	97	100	SV
JUL 8.....			22	63	--	3	12	17	21	24	29	39	59	97	100	SV
AUG 7.....			19	51	--	2	9	16	20	23	31	42	58	76	100	SV
SEP 8.....			22	48	--	11	13	15	16	19	25	37	54	77	100	SV

09346000 NAVAJO RIVER AT EDITH, COLO.

LOCATION.--Lat 37°00'10", long 106°54'25", in NW¼ sec.24, T.32 N., R.1 W., Archuleta County, at gaging station 290 ft downstream from highway bridge, 0.2 mile southeast of Edith, 0.5 mile upstream from Colorado-New Mexico State line, and 1.3 miles upstream from Coyote Creek.

DRAINAGE AREA.--172 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1969 to September 1970.
Sediment records: October 1969 to September 1970 (partial records).

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
14...	1200	95	22	--	28	5.8	9.2	1.7	77
JAN.									
12...	1200	42	24	--	28	5.6	9.6	1.6	77
APR.									
13...	1215	77	21	10	30	7.0	9.9	1.6	87
JUNE									
08...	0945	551	19	--	17	3.6	5.6	1.1	57
JULY									
13...	0955	104	21	20	20	4.3	6.3	1.3	66

DATE	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
14...	0	48	1.0	.2	--	.00	.0	--	--
JAN.									
12...	0	48	.8	.2	--	.00	.0	--	--
APR.									
13...	0	48	.6	.2	.00	.00	.0	.04	60
JUNE									
08...	0	20	.2	.3	--	.00	.0	--	--
JULY									
13...	0	25	.6	.3	.00	.00	.0	.03	0

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.								
14...	160	154	90	27	.4	--	--	6.0
JAN.								
12...	166	156	93	30	.4	--	8.0	0.0
APR.								
13...	156	161	99	28	.4	--	--	6.0
JUNE								
08...	94	95	55	8	.3	--	--	6.5
JULY								
13...	113	111	66	12	.3	162	--	12.5

09346000 NAVAJO RIVER AT EDITH, COLO.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.							
14...	1200	95	220	8.3	6.0	--	--
JAN.							
12...	1200	42	213	8.0	0.0	--	2
APR.							
13...	1215	77	232	8.5	6.0	--	7
JUNE							
08...	0945	551	128	8.2	6.5	18.0	5
JULY							
13...	0955	104	175	8.0	12.5	20.0	5

DATE	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
OCT.							
14...	--	9.5	--	--	<10	110	30
JAN.							
12...	--	11.5	--	--	<10	400	<10
APR.							
13...	25	9.8	21	1.1	<10	<100	<10
JUNE							
08...	14	9.7	12	1.1	60	100	110
JULY							
13...	4	8.2	--	--	<10	200	<10

SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
JAN.										
12...	1205	<100	<4	<10	<10	<40	<20	30	--	13
APR.										
13...	1220	<100	<3	<10	<30	<40	<20	<20	--	<10
JUNE										
08...	0950	<10	--	<5	<50	--	16	--	<1000	160

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

DATE	TIME	WATER TEM-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
OCT 14, 1969	1215	6.0	95	16	4.1	--	--	--	--	--	--	--	--	--	--	--	
JAN 12, 1970	1200	0.0	42	4	.45	--	--	--	--	--	--	--	--	--	--	--	
APR 13.....	1215	6.0	77	55	11	53	66	--	87	--	92	96	98	100	--	--	SPWC
JUN 8.....	1000	6.5	551	91	135	--	--	--	--	--	--	--	--	--	--	--	
JUL 13.....	0945	12.5	104	28	7.9	--	--	--	--	--	--	--	--	--	--	--	

09346400 SAN JUAN RIVER NEAR CARRACAS, COLO.

LOCATION (revised).--Lat 37°00'43", long 107°18'34", in SE¼SW¼ sec.17, T.32 N., R.4 W., Archuleta County, at gaging station just upstream from flow line of Navajo Reservoir, 3 miles northwest of Carracas, 7.2 miles upstream from Piedra River, and at mile 178.8.

DRAINAGE AREA.--1,230 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1970.
Sediment records: October 1969 to September 1970 (partial records).

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
14...	1600	420	19	--	24	5.9	14	1.7	85
NOV.									
17...	1700	310	10	--	31	9.2	21	2.3	89
DEC.									
09...	1540	154	21	--	32	7.9	21	2.2	101
JAN.									
13...	0845	135	21	--	34	7.3	26	3.0	102
FEB.									
09...	1440	160	16	--	34	8.1	27	2.7	106
MAR.									
09...	1545	207	16	--	44	13	30	3.3	127
APR.									
13...	1500	395	18	0	30	7.7	17	2.1	102
MAY									
11...	1240	1460	16	--	15	2.9	6.9	.8	60
JUNE									
08...	1130	1510	16	--	20	3.4	6.8	1.2	64
JULY									
13...	1200	415	16	0	22	4.6	9.9	1.8	80

DATE	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE (NI) (MG/L)	DIS-SOLVED NITRATE (NI) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
14...	0	46	1.8	.2	--	.10	.4	--	--
NOV.									
17...	0	77	2.0	.2	--	.00	.0	--	--
DEC.									
09...	0	70	2.0	.0	--	.10	.4	--	--
JAN.									
13...	2	77	3.6	.3	--	.00	.0	--	--
FEB.									
09...	0	82	3.8	.3	--	.00	.0	--	--
MAR.									
09...	0	114	3.8	.3	--	.10	.4	--	--
APR.									
13...	0	54	1.8	.3	.00	.00	.0	.04	100
MAY									
11...	0	17	.2	.2	--	.10	.4	--	--
JUNE									
08...	0	20	.4	.2	--	.10	.4	--	--
JULY									
13...	0	28	1.1	.3	.00	.00	.0	.01	20

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.								
14...	156	155	84	14	.7	--	--	9.0
NOV.								
17...	200	197	114	41	.9	--	7.8	5.0
DEC.								
09...	215	207	112	29	.9	--	--	0.0
JAN.								
13...	231	224	114	27	1.1	339	--	0.0
FEB.								
09...	233	226	119	32	1.1	--	--	0.4
MAR.								
09...	298	287	160	56	1.0	--	--	8.7
APR.								
13...	184	181	98	14	.7	--	--	6.6
MAY								
11...	98	90	48	0	.4	--	--	12.0
JUNE								
08...	101	99	56	4	4	--	--	11.5
JULY								
13...	124	123	74	8	.5	--	--	20.0

09346400 SAN JUAN RIVER NEAR CARRACAS, COLO.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.							
14...	1600	420	240	8.3	9.0	--	--
NOV.							
17...	1700	310	298	--	5.0	--	--
DEC.							
09...	1540	154	320	8.0	0.0	--	--
JAN.							
13...	0845	135	--	8.6	0.0	--	3
FEB.							
09...	1440	160	380	8.1	0.4	--	5
MAR.							
09...	1545	207	460	8.0	8.7	9.6	5
APR.							
13...	1500	395	258	8.8	6.6	--	20
MAY							
11...	1240	1460	130	8.0	12.0	19.7	40
JUNE							
08...	1130	1510	132	8.5	11.5	20.0	20
JULY							
13...	1200	415	200	8.5	20.0	28.5	5

DATE	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
OCT.							
14...	--	9.5	--	--	10	180	20
NOV.							
17...	--	10.4	--	--	10	2000	<10
DEC.							
09...	--	11.6	--	--	<10	<100	<10
JAN.							
13...	--	11.3	--	--	130	800	<10
FEB.							
09...	--	11.2	--	--	<10	<100	<10
MAR.							
09...	600	9.6	--	--	<10	<100	<10
APR.							
13...	48	10.8	--	--	<10	<100	10
MAY							
11...	148	8.5	--	--	740	2300	10
JUNE							
08...	83	8.7	--	1.3	320	700	250
JULY							
13...	15	7.6	4	1.8	<10	200	<10

BIOCHEMICAL AND SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS. ORTHO + HYDRD. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT.												
14...	1605	<.05	.150	<100	<2	<5	10	<20	20	<10	--	10
JAN.												
13...	0850	--	--	<100	<4	<10	<10	<40	<20	<20	--	14
APR.												
13...	1505	.14	.170	<100	<3	<10	30	<40	<20	<20	--	<10
JUNE												
08...	1135	.06	.200	<10	--	<5	<50	--	10	--	<1000	35

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEM-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
JUL 13, 1970	1230	20.0	415	38	42

09349800 PIEDRA RIVER NEAR ARBOLES, COLO.

LOCATION (revised).--Lat 37°05'18", long 107°23'50", in NE¼SW¼ sec.21, T.33 N., R.5 W., Archuleta County, at gaging station 3 miles downstream from Ignacio Creek, 5.2 miles northeast of Arboles Post Office, and 8 miles upstream from mouth.

DRAINAGE AREA.--629 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1970.
Sediment records: October 1969 to September 1970 (partial records).

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
14...	1500	250	13	--	33	4.5	8.9	1.1	99
NOV.									
17...	1340	201	22	--	38	5.6	11	1.7	108
DEC.									
09...	1730	133	14	--	57	7.6	20	2.5	141
JAN.									
12...	1600	90	14	--	52	6.9	20	2.3	134
FEB.									
09...	1550	66	14	--	58	7.6	20	2.7	142
MAR.									
09...	1745	96	16	--	56	7.7	20	2.8	135
APR.									
13...	1630	256	11	220	42	6.5	8.9	2.6	116
MAY									
11...	1410	998	9.6	--	22	3.2	4.2	1.0	74
JUNE									
08...	1325	714	12	--	22	2.9	5.2	1.2	65
JULY									
13...	1330	159	12	20	34	4.4	11	2.0	91

DATE	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
14...	0	39	1.5	.2	--	.00	.0	--	--
NOV.									
17...	0	52	1.9	.3	--	.00	.0	--	--
DEC.									
09...	0	95	2.4	.3	--	.10	.3	--	--
JAN.									
12...	0	90	2.4	.3	--	.00	.0	--	--
FEB.									
09...	0	99	3.4	.3	--	.00	.0	--	--
MAR.									
09...	0	95	3.0	.4	--	.00	.0	--	--
APR.									
13...	0	46	1.6	.2	.00	.00	.0	.04	120
MAY									
11...	0	19	.2	.3	--	.10	.4	--	--
JUNE									
08...	0	20	.4	.2	--	.00	.0	--	--
JULY									
13...	3	43	1.7	.3	.00	.00	.0	.01	30

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.								
14...	155	150	98	17	.4	--	--	10.0
NOV.								
17...	172	186	117	28	.4	278	7.8	--
DEC.								
09...	277	268	174	58	.7	--	--	0.0
JAN.								
12...	262	254	160	50	.7	--	--	0.0
FEB.								
09...	282	275	176	60	.7	--	--	4.4
MAR.								
09...	274	267	168	58	.7	--	--	9.2
APR.								
13...	179	176	120	25	.4	--	--	6.9
MAY								
11...	105	96	69	8	.2	--	7.7	10.7
JUNE								
08...	106	96	67	14	.3	--	--	13.0
JULY								
13...	158	156	102	22	.5	--	--	21.5

09349800 PIEDRA RIVER NEAR ARBOLES, COLO.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	AIR TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.							
14...	1500	250	238	8.4	10.0	--	--
NOV.							
17...	1340	201	278	--	--	--	--
DEC.							
09...	1730	133	425	8.4	.0	--	--
JAN.							
12...	1600	90	380	8.6	.0	--	5
FEB.							
09...	1550	66	470	8.1	4.4	--	5
MAR.							
09...	1745	96	420	8.1	9.2	6.4	5
APR.							
13...	1630	256	262	--	6.9	--	20
MAY							
11...	1410	998	150	8.5	10.7	25.6	25
JUNE							
08...	1325	714	140	8.3	13.0	21.0	10
JULY							
13...	1330	159	240	9.2	21.5	30.0	7

DATE	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT.							
14...	--	9.3	--	--	<1(	<20	<20
NOV.							
17...	--	9.6	--	--	<1(	<100	<10
DEC.							
09...	--	11.6	--	--	<10	<100	<10
JAN.							
12...	--	11.6	--	--	<10	<100	<10
FEB.							
09...	--	10.3	--	--	<10	<100	<10
MAR.							
09...	10	9.7	--	--	<10	<100	<10
APR.							
13...	41	9.5	--	--	<10	<100	<10
MAY							
11...	40	9.0	--	--	10	900	<10
JUNE							
08...	11	9.0	--	--	<10	<100	50
JULY							
13...	3	9.7	8	2.2	<10	<100	<10

SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
OCT.									
14...	1505	<100	<2	<5	50	<20	<20	<10	12
APR.									
13...	1635	<100	<3	<10	230	<40	<20	<20	10

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
JUL 13, 1970	1330	21.5	159	10	4.3

09352900 VALLECITO CREEK NEAR BAYFIELD, COLO.
(Hydrologic bench-mark station)

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

DRAINAGE AREA.--72.1 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1963 to September 1968.
Water temperatures: November 1962 to September 1970.
Sediment records: October 1969 to September 1970 (partial records).

EXTREMES.--1969-70:
Water temperatures: Maximum, 16.0°C July 20, 21, Aug. 2, 3, 6-10; minimum, freezing point on many days during January to April.

Period of record:
Water temperatures: Maximum, 17.0°C July 21, 1963; minimum, freezing point on many days during winter periods.

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

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	6.0	3.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2	9.0	8.0	3.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
4	4.0	1.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
5	4.0	1.0	3.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
6	5.0	1.0	3.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
7	6.0	3.0	3.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
8	7.0	4.0	3.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
9	7.0	6.0	3.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
10	6.0	6.0	3.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
11	6.0	5.0	4.0	3.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
12	5.0	5.0	4.0	3.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
13	5.0	2.0	3.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
14	5.0	4.0	3.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
15	5.0	4.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
16	5.0	4.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
17	5.0	4.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
18	5.0	5.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
19	5.0	5.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
20	6.0	4.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
21	6.0	5.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
22	5.0	5.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
23	5.0	4.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
24	5.0	4.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
25	5.0	4.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
26	6.0	5.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
27	6.0	5.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
28	5.0	5.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
29	5.0	2.0	1.0	1.0	1.0	1.0	0.0	0.0	---	---	0.0	0.0
30	2.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	---	---	0.0	0.0
31	3.0	1.0	--	--	1.0	1.0	0.0	0.0	---	---	0.0	0.0
AVG	5.4	3.8	1.9	1.2	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	1.0	1.0	6.0	3.0	12.0	7.0	15.0	13.0	12.0	10.0
2	0.0	0.0	5.0	1.0	7.0	3.0	11.0	10.0	16.0	14.0	10.0	9.0
3	0.0	0.0	6.0	3.0	7.0	3.0	10.0	10.0	16.0	14.0	10.0	7.0
4	0.0	0.0	6.0	2.0	7.0	4.0	11.0	10.0	17.0	15.0	10.0	8.0
5	1.0	0.0	5.0	2.0	6.0	4.0	11.0	10.0	17.0	15.0	8.0	8.0
6	1.0	1.0	6.0	3.0	8.0	4.0	12.0	11.0	16.0	14.0	8.0	7.0
7	1.0	1.0	6.0	3.0	8.0	6.0	12.0	11.0	16.0	14.0	8.0	5.0
8	2.0	1.0	5.0	2.0	6.0	6.0	12.0	11.0	16.0	15.0	9.0	6.0
9	2.0	2.0	5.0	2.0	6.0	6.0	13.0	9.0	16.0	13.0	9.0	7.0
10	2.0	2.0	7.0	3.0	6.0	6.0	13.0	9.0	16.0	13.0	--	--
11	2.0	2.0	7.0	4.0	6.0	4.0	13.0	11.0	14.0	10.0	--	--
12	2.0	1.0	7.0	4.0	6.0	4.0	13.0	11.0	14.0	9.0	--	--
13	2.0	1.0	8.0	3.0	8.0	5.0	16.0	11.0	13.0	12.0	--	--
14	2.0	1.0	8.0	3.0	9.0	6.0	15.0	11.0	13.0	12.0	--	--
15	2.0	1.0	8.0	3.0	9.0	5.0	15.0	12.0	12.0	12.0	--	--
16	2.0	1.0	8.0	4.0	9.0	5.0	13.0	11.0	12.0	12.0	--	--
17	2.0	2.0	7.0	4.0	10.0	5.0	13.0	11.0	12.0	10.0	--	--
18	2.0	2.0	6.0	5.0	10.0	5.0	13.0	11.0	12.0	10.0	--	--
19	2.0	2.0	6.0	5.0	10.0	5.0	13.0	12.0	12.0	11.0	--	--
20	2.0	1.0	8.0	4.0	11.0	6.0	16.0	11.0	12.0	11.0	--	--
21	2.0	2.0	8.0	5.0	10.0	7.0	16.0	13.0	11.0	9.0	9.0	8.0
22	2.0	1.0	7.0	3.0	9.0	7.0	13.0	13.0	11.0	9.0	8.0	5.0
23	2.0	1.0	5.0	3.0	12.0	7.0	16.0	13.0	11.0	9.0	6.0	4.0
24	3.0	1.0	7.0	3.0	12.0	8.0	16.0	12.0	13.0	9.0	6.0	4.0
25	4.0	2.0	5.0	3.0	13.0	8.0	13.0	12.0	12.0	10.0	5.0	3.0
26	4.0	2.0	5.0	3.0	14.0	8.0	13.0	11.0	11.0	10.0	4.0	2.0
27	3.0	2.0	4.0	3.0	14.0	10.0	13.0	12.0	13.0	10.0	5.0	2.0
28	3.0	1.0	6.0	3.0	13.0	11.0	15.0	12.0	13.0	10.0	5.0	3.0
29	2.0	1.0	5.0	3.0	13.0	9.0	15.0	12.0	12.0	10.0	6.0	4.0
30	2.0	1.0	7.0	3.0	12.0	08.0	15.0	13.0	12.0	11.0	6.0	5.0
31	--	--	6.0	3.0	--	--	14.0	13.0	12.0	11.0	--	--
AVG	1.8	1.1	6.1	3.0	9.2	5.9	13.4	11.1	13.4	11.5	--	--

09352900 VALLECITO CREEK NEAR BAYFIELD, COLO.--Continued

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
MAY 12, 1970	1115	04.0	350	6	5.7
MAY 21.....	1630	08.0	632	17	29
MAY 21.....	1920	08.0	829	15	34
JUN 5.....	1000	04.0	326	2	1.8
JUN 18.....	1420	09.0	356	7	6.7
JUL 9.....	1015	09.0	285	4	3.1
AUG 11.....	1040	10.0	77	1	.19
SEP 3.....	0931	07.0	92	2	.50

09354500 LOS PINOS RIVER AT LA BOCA, COLO.

LOCATION (revised).--Lat 37°00'37", long 107°35'49", in S½ sec.15, T.32 N., R.7 W., La Plata County, at gaging station at the Denver and Rio Grande Western Railroad Co. bridge at southeast edge of La Boca, 0.1 mile upstream from Spring Creek and 13 miles upstream from mouth.

DRAINAGE AREA.--510 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1970.
Sediment records: October 1969 to September 1970 (partial records).

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
OCT.									
15...	0845	441	4.6	--	20	2.9	5.3	.5	76
NOV.									
18...	1120	258	12	--	22	3.8	7.9	1.2	86
DEC.									
09...	1350	175	5.8	--	23	3.8	8.7	.9	94
JAN.									
13...	1130	120	5.3	--	28	4.7	13	1.1	122
FEB.									
09...	1235	60	3.1	--	30	5.0	14	1.0	132
MAR.									
09...	1340	63	3.7	--	34	5.9	19	1.4	142
APR.									
14...	0820	92	4.6	0	34	5.8	11	1.4	130
MAY									
11...	1005	88	5.4	--	29	5.1	17	2.1	123
JUNE									
08...	1415	345	6.7	--	28	4.5	12	2.4	115
JULY									
13...	1430	159	8.1	10	30	4.9	12	2.8	130

DATE	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)
OCT.									
15...	0	11	.9	.3	--	.00	.0	--	--
NOV.									
18...	0	14	1.6	.3	--	.10	.4	--	--
DEC.									
09...	0	14	.4	.2	--	.10	.4	--	--
JAN.									
13...	0	18	1.8	.3	--	.10	.4	--	--
FEB.									
09...	0	18	2.6	.3	--	.00	.0	--	--
MAR.									
09...	0	26	4.0	.3	--	.05	.2	--	--
APR.									
14...	0	[illegible]	1.9	.3	.00	.00	.0	.01	80
MAY									
11...	0	24	4.1	.4	--	.30	1.3	--	--
JUNE									
08...	0	18	3.0	.4	--	.20	.9	--	--
JULY									
13...	0	14	2.0	.4	.00	.10	.4	.05	20

09354500 LOS PINOS RIVER AT LA BOCA, COLO.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.								
15...	80	83	58	0	.3	140	--	9.5
NOV.								
18...	90	105	71	0	.4	--	7.7	2.0
DEC.								
09...	105	103	73	0	.4	--	--	2.0
JAN.								
13...	136	133	89	0	.6	--	--	0.0
FEB.								
09...	144	139	97	0	.6	--	--	5.0
MAR.								
09...	165	164	106	0	.8	--	--	7.8
APR.								
14...	138	142	100	0	.5	--	7.8	5.7
MAY								
11...	156	149	92	0	.8	--	--	10.8
JUNE								
08...	140	133	85	0	.6	--	7.7	14.5
JULY								
13...	144	139	94	0	.5	--	--	24.5

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.							
15...	0845	441	--	7.9	9.5	--	--
NOV.							
18...	1120	258	159	--	2.0	--	--
DEC.							
09...	1350	175	184	8.4	2.0	--	--
JAN.							
13...	1130	120	205	8.5	0.0	--	3
FEB.							
09...	1235	60	255	8.5	5.0	--	0
MAR.							
09...	1340	63	315	8.3	7.8	10.9	5
APR.							
14...	0820	92	223	--	5.7	--	10
MAY							
11...	1005	88	249	8.4	10.8	15.4	50
JUNE							
08...	1415	345	218	--	14.5	16.0	30
JULY							
13...	1430	259	215	8.7	24.5	28.5	25

DATE	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
OCT.							
15...	--	9.0	--	--	20	360	20
NOV.							
18...	--	11.7	--	--	20	<100	<10
DEC.							
09...	--	11.4	--	--	<10	200	<10
JAN.							
13...	--	11.8	--	--	<10	300	<10
FEB.							
09...	--	11.5	--	--	10	<100	10
MAR.							
09...	4	9.6	--	--	<10	<100	<10
APR.							
14...	43	10.3	--	--	<10	<100	200
MAY							
11...	184	8.7	--	--	450	1000	20
JUNE							
08...	77	7.9	--	--	490	900	280
JULY							
13...	39	7.2	7	2.8	<10	800	150

09354500 LOS PINOS RIVER AT LA BOCA, COLO.--Continued

SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT.									
15...	0850	<100	<2	<5	20	<20	<20	<10	6
APR.									
14...	0825	<100	<3	<10	50	<40	40	<20	10

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
JUL 13, 1970	1430	24.5	159	79	34

09355500 SAN JUAN RIVER NEAR ARCHULETA, N. MEX.
(Irrigation network station)

LOCATION (revised).--Lat 36°48'05", long 107°41'51", in NE¼ sec.20, T.30 N., R.8 W., San Juan County, at gaging station 0.5 mile upstream from Gobernador Canyon, 0.8 mile northeast of Archuleta, 7.2 miles downstream from Navajo Dam, and at river mile 136.8.

DRAINAGE AREA.--3,260 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: December 1954 to December 1968 (daily), January to September 1970 (monthly).
Water temperatures: December 1954 to January 1969.
Sediment records: December 1954 to September 1965.

EXTREMES.--1954-68:
Dissolved solids (1956-68): Maximum, 472 mg/l Jan. 5, 1960; minimum, 85 mg/l June 14 to July 11, 1957.
Hardness (1956-68): Maximum, 250 mg/l Sept. 19, 1961; minimum, 40 mg/l July 1-11, 1957.
Specific conductance: Maximum daily, 685 micromhos Jan. 5, 1960; minimum daily, 101 micromhos July 2, 1957.
Water temperatures: Maximum, 26.0°C Aug. 19, 1955; minimum, freezing point on many days during winter periods.

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.										
15...	1040	1700	12	--	29	6.9	--	7.6	--	86
NOV.										
18...	1300	1100	--	--	--	--	--	--	--	--
DEC.										
09...	1215	1430	13	--	28	5.0	13	--	1.9	87
JAN.										
13...	1320	434	11	20	28	4.6	14	--	1.5	87
FEB.										
09...	1030	2020	11	0	25	4.4	11	--	1.6	92
MAR.										
09...	1110	1998	12	0	29	5.0	12	--	1.8	91
APR.										
14...	1000	374	12	0	30	5.3	14	--	1.8	92
MAY										
11...	0730	486	10	10	30	5.0	14	--	1.5	93
JUNE										
08...	1545	504	10	0	32	5.2	18	--	1.7	92
JULY										
13...	1600	496	11	0	29	5.0	13	--	1.8	91
AUG.										
11...	1200	512	11	10	30	5.2	13	--	1.8	91
SEP.										
09...	1530	897	12	10	29	5.1	13	--	1.7	76

09355500 SAN JUAN RIVER NEAR ARCHULETA, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
15...	0	42	1.6	.2	--	.10	.4	.00	--
NOV.									
18...	--	--	2.0	--	--	--	--	.00	--
DEC.									
09...	0	39	2.1	.1	--	.20	.9	.00	--
JAN.									
13...	3	43	1.4	.5	--	.00	.0	.01	70
FEB.									
09...	0	35	1.3	.2	--	.00	.0	.05	60
MAR.									
09...	0	38	1.6	.2	--	.10	.4	.01	110
APR.									
14...	0	46	1.7	.2	.00	.00	.0	.05	80
MAY									
11...	0	45	2.2	.3	--	.00	.0	.02	30
JUNE									
08...	0	54	3.0	.3	--	.10	.4	.00	0
JULY									
13...	0	43	2.0	.3	.00	.00	.0	.01	10
AUG.									
11...	0	45	3.5	.3	--	.00	.0	.01	100
SEP.									
09...	7	45	2.3	.4	--	.00	.0	.02	50

DATE	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
OCT.								
15...	--	142	101	30	.3	228	7.6	10.0
NOV.								
18...	--	--	--	--	--	229	--	10.0
DEC.								
09...	154	146	88	16	.6	241	7.8	8.5
JAN.								
13...	152	150	88	12	.7	--	8.4	6.0
FEB.								
09...	141	135	85	10	.5	--	--	5.0
MAR.								
09...	147	145	86	12	.6	--	--	6.0
APR.								
14...	158	156	94	18	.6	--	--	6.3
MAY								
11...	172	154	92	16	.6	--	7.7	5.8
JUNE								
08...	170	170	92	16	.8	--	8.2	11.0
JULY								
13...	153	150	93	18	.6	--	--	14.0
AUG.								
11...	138	155	93	18	.6	--	--	12.0
SEP.								
09...	140	153	94	20	.6	242	8.7	13.0

09355500 SAN JUAN RIVER NEAR ARCHULETA, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	AIR TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
JAN.							
13...	1320	434	218	9.5	6.0	--	5
FEB.							
09...	1030	2020	238	7.8	5.0	--	5
MAR.							
09...	1110	1998	220	8.3	6.0	9.2	10
APR.							
14...	1000	374	232	--	6.3	--	3
MAY							
11...	0730	486	240	8.2	5.8	16.6	10
JUNE							
08...	1545	504	238	--	11.0	15.0	4
JULY							
13...	1600	496	255	9.0	14.0	26.5	5
AUG.							
11...	1200	512	258	8.4	12.0	24.0	5
SEP.							
09...	1530	897	--	8.7	13.0	28.5	7

DATE	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
JAN.							
13...	--	12.9	10	.8	<10	<100	<10
FEB.							
09...	--	11.7	6	1.8	<10	<100	<10
MAR.							
09...	15	12.7	--	--	<10	<100	<10
APR.							
14...	11	10.4	8	.9	<10	<100	<10
MAY							
11...	5	9.5	--	.9	20	400	<10
JUNE							
08...	5	10.3	4	.8	<10	300	90
JULY							
13...	4	10.6	2	1.4	<10	<100	<10
AUG.							
11...	3	9.9	8	.8	<10	<100	<10
SEP.							
09...	10	11.4	13	.7	<10	<100	20

09357300 SAN JUAN RIVER ABOVE ANIMAS RIVER, AT FARMINGTON, N. MEX.

LOCATION.--Lat 36°43'10", long 108°12'45", in NE¼SE¼NE¼ sec.20, T.29 N., R.13 W., San Juan County, 100 ft upstream from mouth of Animas River at south edge of Farmington and at river mile 99.

DRAINAGE AREA.--5,800 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: March 1963 to September 1970.

REMARKS.--Discharges are estimated from the streamflow records of the San Juan River at Farmington (station 09365000) and Animas River at Farmington (station 09364500). Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.												
16...	1245	1624	12	100	35	7.4	22	2.0	104	0	78	2.6
NOV.												
18...	1455	1470	14	120	38	7.3	25	2.0	108	0	84	2.0
DEC.												
11...	0740	1240	14	220	42	2.4	25	2.0	103	0	83	2.2
FEB.												
10...	1840	2110	11	0	32	5.0	19	1.8	92	0	62	2.0
MAR.												
10...	1230	1610	11	--	36	4.9	23	--	92	2	74	1.8
APR.												
15...	0645	658	12	20	52	6.9	43	2.2	119	0	142	1.8
MAY												
13...	0810	530	9.9	--	57	7.5	50	--	122	0	169	2.5
JUNE												
10...	0910	530	9.9	--	65	6.8	51	--	123	3	181	3.6
JULY												
15...	1000	282	11	--	56	8.4	43	--	128	0	153	3.2
AUG.												
12...	1010	388	12	--	56	7.4	44	--	126	0	157	3.1
SEP.												
08...	1430	1400	12	--	60	6.7	55	--	130	0	177	3.9

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
16...	.3	.00	.0	30	228	211	118	33	.9	331	7.7	10.0
NOV.												
18...	.3	.20	.9	60	257	227	125	36	1.0	347	7.2	6.0
DEC.												
11...	.4	.20	.9	50	257	223	115	30	1.0	338	7.7	3.0
FEB.												
10...	.2	.10	.4	60	185	178	100	24	.8	290	8.1	7.6
MAR.												
10...	--	.00	.0	--	--	198	110	31	1.0	326	8.3	7.0
APR.												
15...	.3	.30	1.3	0	--	321	158	60	1.5	--	8.0	3.2
MAY												
13...	--	.10	.4	--	--	356	173	73	1.7	--	8.0	12.0
JUNE												
10...	--	.70	3.1	--	--	383	190	84	1.6	--	8.3	14.5
JULY												
15...	--	.10	.4	--	--	338	174	69	1.4	--	8.2	21.0
AUG.												
12...	--	.30	1.3	--	--	337	170	66	1.5	--	7.9	23.5
SEP.												
08...	--	.30	1.3	--	--	380	177	70	1.8	--	7.9	19.5

FIELD AND BIOCHEMICAL MEASUREMENTS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
APR.											
15...	0645	658	535	3.2	--	--	--	--	80	1100	100
MAY											
13...	0810	530	560	12.0	9.6	--	--	--	210	3500	40
JUNE											
10...	0910	530	580	14.5	14.5	--	--	--	--	1800	240
JULY											
15...	1000	282	525	21.0	30.0	60	9	1.4	<100	2200	20
AUG.											
12...	1010	388	525	23.5	25.5	--	--	--	<100	4300	100
SEP.											
08...	1430	1400	580	19.5	--	--	--	--	<10	100	<10

09363500 ANIMAS RIVER NEAR CEDAR HILL, N. MEX.

LOCATION.--Lat 37°02'17" (revised), long 107°52'25", in sec.7, T.32 N., R.9 W., La Plata County, at gaging station 0.8 mile downstream from Florida River, 2.5 miles upstream from Colorado-New Mexico State line, and 8.5 miles north of Cedar Hill.

DRAINAGE AREA.--1,090 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1970.
Sediment records: July to September 1970 (partial records).

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
15...	1200	714	7.4	--	54	8.0	13	1.6	134
NOV.									
18...	0910	520	5.7	--	62	9.4	16	2.4	144
DEC.									
10...	0930	346	8.0	--	72	12	20	2.8	160
JAN.									
14...	0850	320	8.1	--	76	11	22	3.0	160
FEB.									
10...	0750	254	6.9	--	76	12	22	3.2	168
MAR.									
10...	0800	254	7.8	--	88	22	34	3.6	176
APR.									
14...	0640	425	12	20	72	11	14	2.5	165
MAY									
12...	0855	2050	5.8	--	39	5.3	5.0	.9	100
JUNE									
09...	0830	2228	5.6	--	38	5.0	5.8	1.1	88
JULY									
14...	0930	828	6.3	290	45	6.3	11	1.9	102
AUG.									
11...	1430	505	8.0	0	62	9.5	19	3.1	129

DATE	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
15...	0	85	11	.4	--	.20	.9	--	--
NOV.									
18...	0	95	12	.4	--	.30	1.3	--	--
DEC.									
10...	0	114	13	.3	--	.00	.0	--	--
JAN.									
14...	0	120	15	.7	--	.40	1.8	--	--
FEB.									
10...	0	108	26	.4	--	.20	.9	--	--
MAR.									
10...	0	195	22	.5	--	.40	1.8	--	--
APR.									
14...	0	97	11	.3	.00	.20	.9	.06	120
MAY									
12...	0	44	3.1	.3	--	.30	1.3	--	--
JUNE									
09...	0	48	4.3	.3	--	.20	.7	--	--
JULY									
14...	0	63	8.4	.4	.00	.00	.0	.00	40
AUG.									
11...	9	92	16	.5	--	.00	.0	--	--

09363500 ANIMAS RIVER NEAR CEDAR HILL, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.								
15...	257	247	178	68	.4	--	--	9.0
NOV.								
18...	270	275	195	77	.5	--	7.7	0.0
DEC.								
10...	336	321	230	99	.6	--	--	0.0
JAN.								
14...	337	336	238	107	.6	--	--	0.0
FEB.								
10...	361	338	240	102	.6	--	--	1.2
MAR.								
10...	479	462	304	160	.8	--	--	5.1
APR.								
14...	300	302	230	95	.4	--	8.0	5.3
MAY								
12...	174	154	120	38	.2	--	--	11.2
JUNE								
09...	162	152	112	40	.2	--	7.7	8.5
JULY								
14...	200	193	140	56	.4	--	--	15.0
AUG.								
11...	311	282	198	78	.6	--	--	24.5

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.							
15...	1200	714	420	8.6	9.0	--	--
NOV.							
18...	0910	520	460	--	0.0	--	--
DEC.							
10...	0930	346	512	8.3	0.0	--	--
JAN.							
14...	0850	320	535	8.4	0.0	--	5
FEB.							
10...	0750	254	560	8.1	1.2	--	3
MAR.							
10...	0800	254	710	8.1	5.1	2.6	5
APR.							
14...	0640	425	495	--	5.3	--	3
MAY							
12...	0855	2050	258	8.2	11.2	11.4	10
JUNE							
09...	0830	2228	238	--	8.5	13.5	4
JULY							
14...	0930	828	340	8.4	15.0	19.5	3
AUG.							
11...	1430	505	452	8.6	24.5	34.5	3
SEP.							
09...	1400	2150	315	8.3	15.0	28.0	--

DATE	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
OCT.							
15...	--	10.1	--	--	<10	<100	<10
NOV.							
18...	--	12.2	--	--	20	100	<10
DEC.							
10...	--	12.1	--	--	<10	100	<10
JAN.							
14...	--	11.4	--	--	240	1000	40
FEB.							
10...	--	10.7	--	--	120	500	<10
MAR.							
10...	1250	--	--	--	<10	<100	20
APR.							
14...	51	9.6	--	--	550	1800	80
MAY							
12...	180	9.1	--	--	--	2100	20
JUNE							
09...	14	9.2	--	--	60	300	70
JULY							
14...	15	8.2	14	.8	<100	1600	<10
AUG.							
11...	10	7.8	7	2.8	E15000	--	<10
SEP.							
09...	35	8.1	11	.6	<100	<100	10

E ESTIMATED

09363500 ANIMAS RIVER NEAR CEDAR HILL, N. MEX.--Continued

BIOCHEMICAL, SPECTROGRAPH, AND RADIO CHEMICAL ANALYSES
WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS. ORTHO + HYDRO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)
OCT.										
15...	1205	<.05	.180	<100	<2	<5	10	<20	40	<10
DEC.										
10...	0935	--	--	--	--	--	--	--	--	--
JAN.										
14...	0855	.20	.190	<100	<4	<10	<10	<40	90	<20
FEB.										
10...	0755	--	--	--	--	--	--	--	--	--
MAR.										
10...	0805	--	--	--	--	--	--	--	--	--
APR.										
14...	0645	.24	.100	<100	<3	<10	<30	<40	40	<20
MAY										
12...	0900	--	--	--	--	--	--	--	--	--
JUNE										
09...	0835	.19	.060	<10	--	<5	<50	--	40	--
JULY										
14...	0935	--	--	13	--	<4	--	--	40	--

DATE	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ALPHA (PC/L)	SUS-PENDED ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED RADIUM 226 (RA) (PC/L)	TOTAL STRON-TIUM 90 (PC/L)	DIS-SOLVED TRITIUM (PC/L)	DIS-SOLVED NATURAL URANIUM (U) (UG/L)
OCT.										
15..A	--	45	2.0	2.0	3.0	6.0	.0	--	--	2.4
DEC.										
10...	--	--	2.0	.2	4.0	.4	.0	--	--	3.3
JAN.										
14...	--	120	2.0	.1	4.0	.5	.0	--	--	2.5
FEB.										
10...	--	--	2.0	.1	5.0	1.0	.0	--	--	3.7
MAR.										
10...	--	--	2.0	2.0	6.0	6.0	.1	--	--	3.5
APR.										
14..A	--	30	2.0	2.0	3.0	4.0	.0	--	--	2.6
MAY										
12...	--	--	1.0	7.0	9.0	19	.0	--	--	1.9
JUNE										
09..A	<1000	70	1.0	.5	3.0	2.0	.0	.4	--	1.9
JULY										
14..B	<1000	29	2.0	1.0	2.0	2.0	.0	.1	.5	2.0

A INCLUDES 0 PICOCURIE PER LITRE OF STRONTIUM 89.
B INCLUDES 1 PICOCURIE PER LITRE OF STRONTIUM 89.

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEM-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
JUL 14, 1969	0900	15.0	828	132	295
SEP 9.....	1300	24.5	505	260	355

09364500 ANIMAS RIVER AT FARMINGTON, N. MEX.

LOCATION (revised).--Lat 36°43'12", long 108°12'08", in SE¼ sec.16, T.29 N., R.13 W., San Juan County, at gaging station at bridge on former State Highway 17, 0.6 mile downstream from bridge on State Highway 17 and 1.3 miles upstream from mouth.

DRAINAGE AREA.--1,360 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: June 1940 to December 1969 (daily), January to September 1970 (monthly).
Specific conductance: October 1969 to September 1970.
Water temperatures: December 1950 to September 1970.
Sediment records: December 1950 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 806 micromhos Jan. 7; minimum daily, 208 micromhos May 23.
Water temperatures: Maximum, 30.0°C July 31; minimum, freezing point on Jan. 1, 4-6.
Sediment concentrations: Maximum daily, 20,200 mg/l Aug. 21; minimum daily, 11 mg/l Dec. 28.
Sediment discharge: Maximum daily, 125,000 tons Sept. 6; minimum daily, 8.9 tons Feb. 25.

Period of record:
Dissolved solids (1940-49, 1952-54, 1956-69): Maximum, 1,500 mg/l Aug. 19, 1949; minimum, 111 mg/l June 11-17, 19-20, 1944.
Hardness (1956-69): Maximum, 608 mg/l July 30, 1961; minimum, 80 mg/l July 1-7, 1957.
Specific conductance (1941-70): Maximum daily, 1,980 micromhos Aug. 19, 1944; minimum daily, 170 micromhos June 27, 1944.
Water temperatures: Maximum, 32.0°C Aug. 26, 1966; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 36,800 mg/l July 23, 1954; minimum daily, 1 mg/l on several days during September 1956, 1958.
Sediment discharge: Maximum daily, 337,000 tons July 23, 1954; minimum daily, less than 0.50 ton on many days during 1955-57, 1959, 1960, and 1963.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.										
01-03	--	431	11	--	79	11	--	50	--	168
04-21	--	786	9.9	--	70	9.1	--	48	--	155
22...	--	1220	17	--	78	9.1	--	97	--	162
23-31	--	1000	9.2	0	66	10	20	--	1.8	154
NOV.										
01-03	--	782	7.8	--	70	11	--	22	--	153
04-30	--	514	9.1	--	78	12	--	42	--	164
19...	1215	390	--	--	--	--	--	--	--	--
DEC.										
01-14	--	444	7.8	--	84	19	--	35	--	177
11...	0810	440	7.3	--	90	14	32	--	2.8	185
15-28	--	436	6.2	--	87	12	--	33	--	176
29-31	--	317	--	--	--	--	--	--	--	184
JAN.										
14...	1145	408	7.6	10	88	12	29	--	2.8	179
FEB.										
10...	1725	255	5.0	10	89	14	32	--	3.1	158
MAR.										
10...	1045	270	8.0	20	105	17	39	--	3.4	208
APR.										
15...	0715	372	6.7	10	84	12	23	--	2.7	180
MAY										
13...	0910	1640	5.4	50	38	5.3	6.9	--	.9	95
JUNE										
10...	0930	1865	5.8	0	42	5.7	10	--	1.2	97
JULY										
15...	1030	828	6.2	0	58	8.0	19	--	2.1	123
AUG.										
12...	0850	240	9.2	0	86	12	32	--	2.8	180
SEP.										
07..A	1200	7850	--	--	42	3.9	8.8	--	--	91
08...	1045	3440	6.8	10	43	5.3	9.2	--	2.1	92

A ANALYZED FROM NATIVE WATER USED IN PARTICLE-SIZE DETERMINATION OF SUSPENDED SEDIMENT.

09364500 ANIMAS RIVER AT FARMINGTON, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)
OCT.										
01-03	0	131	18	.4	--	.18	.8	--	--	--
04-21	0	116	12	.4	--	.20	.9	--	--	314
22...	0	225	15	.4	--	.43	1.9	--	--	--
23-31	0	109	10	.3	--	.25	1.1	--	70	295
NOV.										
01-03	0	120	11	.3	--	.16	.7	--	--	332
04-30	0	123	15	.3	--	.14	.6	--	--	379
19...	--	--	14	--	--	--	--	--	--	--
DEC.										
01-14	0	152	15	.3	--	.25	1.1	--	--	410
11...	0	162	15	.4	--	.27	1.2	--	--	432
15-28	0	164	17	.4	--	.20	.9	--	--	417
29-31	0	--	--	--	--	--	--	--	--	455
JAN.										
14...	0	157	15	.7	--	.40	1.8	.03	140	417
FEB.										
10...	0	179	20	.4	--	.09	.4	.02	140	437
MAR.										
10...	0	196	22	.5	--	.20	.9	.04	180	507
APR.										
15...	0	140	13	.4	.02	.20	.9	.03	120	373
MAY										
13...	0	53	2.7	.3	--	.30	1.3	.03	30	176
JUNE										
10...	0	59	4.5	.4	--	.20	.9	.01	30	188
JULY										
15...	0	98	10	.4	.00	.00	.0	.00	70	272
AUG.										
12...	0	161	16	.5	--	.00	.0	.02	130	441
SEP.										
07..A	0	--	--	--	--	--	--	--	--	180
08...	0	68	4.6	.4	--	.11	.5	.01	80	202

DATE	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
OCT.							
01-03	384	244	106	1.4	592	8.0	--
04-21	342	212	85	1.4	526	7.9	--
22...	523	232	99	2.8	752	7.9	--
23-31	303	206	80	.6	494	7.8	--
NOV.							
01-03	318	220	94	.6	512	7.6	--
04-30	361	244	110	1.2	575	7.7	--
19...	--	--	--	--	594	--	3.5
DEC.							
01-14	401	250	105	1.0	615	7.8	--
11...	416	284	132	.8	664	8.1	0.0
15-28	408	268	124	.9	636	7.9	--
29-31	--	--	--	--	688	7.9	--
JAN.							
14...	402	276	130	.8	--	--	0.6
FEB.							
10...	421	272	142	.8	--	--	8.0
MAR.							
10...	494	320	150	1.0	--	--	7.6
APR.							
15...	372	256	108	.6	--	--	4.0
MAY							
13...	161	117	38	.3	--	7.6	9.1
JUNE							
10...	177	130	50	.4	--	--	10.0
JULY							
15...	262	181	80	.6	--	--	19.5
AUG.							
12...	409	276	128	.8	--	8.2	20.0
SEP.							
07..A	--	121	46	.3	303	8.0	16.0
08...	185	129	54	.4	--	--	11.5

A ANALYZED FROM NATIVE WATER USED IN PARTICLE-SIZE DETERMINATION OF SUSPENDED SEDIMENT.

09364500 ANIMAS RIVER AT FARMINGTON, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)
JAN.							
14...	1145	408	640	8.7	0.6	--	3
FEB.							
10...	1725	255	680	8.6	8.0	--	0
MAR.							
10...	1045	270	765	8.3	7.6	11.3	5
APR.							
15...	0715	372	590	--	4.0	--	3
MAY							
13...	0910	1640	273	8.2	9.1	18.2	25
JUNE							
10...	0930	1865	290	--	10.0	16.0	5
JULY							
15...	1030	828	445	8.4	19.5	31.0	5
AUG.							
12...	0850	240	630	8.2	20.0	22.5	5
SEP.							
08...	1045	3440	320	8.2	11.5	27.5	10

DATE	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
JAN.							
14...	--	12.4	10	1.2	70	700	<10
FEB.							
10...	--	10.3	16	1.6	10	100	10
MAR.							
10...	125	10.0	--	--	<10	5300	40
APR.							
15...	125	10.4	9	2.5	1520	7300	90
MAY							
13...	192	9.7	--	1.8	--	1800	50
JUNE							
10...	33	9.2	8	.8	--	3500	70
JULY							
15...	17	8.0	--	1.6	190	1200	<10
AUG.							
12...	55	7.9	--	1.4	1000	6900	80
SEP.							
08...	225	8.4	14	1.0	<100	1100	70

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	581	454	589	718	678	679	772	536	224	301	636	719
2	587	458	604	650	658	685	778	557	242	328	638	728
3	568	530	597	558	673	663	781	577	242	354	---	667
4	517	557	598	625	685	664	791	577	241	384	659	675
5	512	553	587	783	670	706	795	502	287	379	638	670
6	548	532	592	760	661	698	758	384	288	382	666	286
7	549	547	609	806	652	708	755	356	296	397	625	279
8	535	540	614	756	678	706	700	302	398	351	598	315
9	507	540	615	733	664	782	665	297	304	379	606	332
10	475	554	612	685	655	774	612	350	308	330	593	395
11	472	548	626	649	668	800	602	375	313	339	605	412
12	471	561	634	629	662	735	576	274	310	398	624	459
13	483	550	636	640	661	745	588	281	328	408	627	456
14	501	559	632	633	675	715	593	280	332	432	705	261
15	508	563	620	641	692	712	576	264	312	439	720	232
16	504	579	626	658	675	756	586	253	300	470	754	276
17	498	580	622	660	663	744	588	242	288	475	668	300
18	495	582	623	685	689	770	590	232	275	500	577	332
19	495	586	628	685	679	735	578	216	256	495	552	388
20	479	617	637	682	674	730	596	224	238	501	546	412
21	495	615	627	675	690	709	614	219	235	513	737	412
22	729	581	624	674	704	765	607	227	239	526	559	---
23	480	569	628	660	698	729	622	208	258	516	546	---
24	484	570	627	664	669	747	634	216	276	474	572	---
25	485	569	633	671	698	764	624	212	243	480	590	---
26	485	576	639	670	689	774	573	220	242	522	613	---
27	476	578	639	667	689	769	573	226	249	542	612	---
28	491	578	667	670	691	750	438	225	248	560	612	---
29	480	590	664	670	---	769	448	230	254	573	632	---
30	483	592	686	656	---	747	494	251	272	577	664	---
31	491	---	692	710	---	765	---	245	---	580	714	---
AVG	512	563	627	681	676	735	630	308	277	449	630	---

09364500 ANIMAS RIVER AT FARMINGTON, N. MEX.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	8.0	5.0	0	4.0	8.0	6.0	13.0	14.0	20.0	21.0	25.0
2	17.0	8.0	3.0	1.0	2.0	8.0	8.0	18.0	10.0	20.0	25.0	23.0
3	13.0	7.0	5.0	3.0	2.0	8.0	10.0	8.0	15.0	18.0	---	25.0
4	12.0	8.0	5.0	0	3.0	9.0	12.0	18.0	18.0	20.0	25.0	23.0
5	8.0	9.0	3.0	0	3.0	10.0	12.0	19.0	11.0	20.0	24.0	16.0
6	13.0	9.0	5.0	0	3.0	10.0	13.0	20.0	12.0	20.0	25.0	14.0
7	10.0	9.0	4.0	1.0	2.0	10.0	13.0	15.0	15.0	21.0	27.0	14.0
8	15.0	9.0	3.0	1.0	4.0	9.0	15.0	14.0	16.0	20.0	21.0	16.0
9	14.0	9.0	3.0	2.0	8.0	10.0	13.0	10.0	12.0	22.0	21.0	17.0
10	14.0	8.0	3.0	2.0	4.0	8.0	15.0	15.0	12.0	23.0	26.0	16.0
11	10.0	12.0	2.0	2.0	8.0	6.0	15.0	17.0	7.0	23.0	27.0	18.0
12	15.0	10.0	1.0	1.0	10.0	10.0	16.0	18.0	10.0	23.0	22.0	20.0
13	11.0	10.0	2.0	3.0	8.0	10.0	14.0	19.0	18.0	25.0	23.0	15.0
14	12.0	9.0	3.0	2.0	8.0	11.0	11.0	20.0	19.0	25.0	27.0	17.0
15	12.0	5.0	3.0	3.0	8.0	11.0	12.0	20.0	20.0	25.0	22.0	14.0
16	10.0	7.0	4.0	3.0	8.0	10.0	14.0	20.0	21.0	25.0	20.0	15.0
17	10.0	4.0	5.0	4.0	10.0	6.0	9.0	20.0	22.0	26.0	25.0	14.0
18	10.0	4.0	5.0	3.0	6.0	5.0	9.0	22.0	20.0	25.0	25.0	15.0
19	11.0	3.0	5.0	3.0	8.0	10.0	10.0	19.0	20.0	25.0	24.0	---
20	12.0	3.0	4.0	3.0	8.0	9.0	14.0	18.0	20.0	26.0	23.0	17.0
21	12.0	3.0	7.0	3.0	9.0	8.0	14.0	14.0	20.0	24.0	24.0	17.0
22	11.0	5.0	7.0	3.0	5.0	10.0	14.0	17.0	20.0	24.0	18.0	15.0
23	10.0	6.0	6.0	5.0	5.0	14.0	15.0	17.0	18.0	24.0	23.0	15.0
24	9.0	5.0	5.0	4.0	5.0	9.0	16.0	13.0	20.0	22.0	25.0	15.0
25	9.0	6.0	6.0	5.0	9.0	8.0	18.0	12.0	21.0	20.0	25.0	13.0
26	9.0	6.0	5.0	7.0	10.0	9.0	20.0	11.0	21.0	19.0	25.0	---
27	10.0	7.0	4.0	5.0	9.0	6.0	18.0	13.0	19.0	22.0	25.0	---
28	11.0	5.0	3.0	5.0	4.0	7.0	15.0	15.0	20.0	24.0	---	---
29	8.0	6.0	3.0	5.0	---	7.0	12.0	14.0	20.0	25.0	20.0	17.0
30	5.0	4.0	5.0	2.0	---	6.0	13.0	15.0	20.0	25.0	22.0	18.0
31	8.0	---	1.0	5.0	---	5.0	---	14.0	---	30.0	24.0	---
AVG	11.5	7.0	4.0	3.0	6.0	8.5	13.0	16.0	17.0	23.0	23.5	17.0

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	400	420	454	855	650	1500	448	134	162
2	400	355	383	810	190	416	464	162	203
3	498	1360	3310	656	310	549	456	56	69
4	1010	12100	36200	600	375	608	464	29	36
5	696	1200	2260	616	315	524	504	102	139
6	608	545	895	584	315	497	456	37	46
7	608	515	845	584	275	434	365	19	19
8	648	630	1100	568	120	184	372	90	90
9	712	730	1400	600	60	97	490	64	85
10	801	810	1750	600	85	138	576	127	198
11	828	505	1130	528	205	292	504	127	173
12	828	380	850	488	205	270	496	147	197
13	801	600	1300	520	225	316	536	57	82
14	756	810	1650	496	230	308	552	46	69
15	765	750	1550	440	135	160	536	98	142
16	747	525	1060	448	170	206	496	40	54
17	875	890	2100	624	145	244	488	24	32
18	927	705	1760	504	570	776	480	67	87
19	963	395	1030	399	395	426	480	70	91
20	1020	670	1850	424	250	286	432	30	35
21	972	315	827	480	245	318	456	24	30
22	1460	5660	23000	520	270	379	464	43	54
23	1450	6010	24200	496	110	147	448	20	24
24	1090	880	2590	496	156	209	424	34	39
25	1000	490	1320	448	210	254	400	17	18
26	981	310	821	424	56	64	365	12	12
27	945	280	714	456	29	36	344	14	13
28	918	320	793	440	23	27	330	11	9.8
29	1010	1250	3410	386	84	88	318	12	10
30	927	585	1460	408	176	194	265	25	18
31	873	190	448	--	--	--	270	38	28
TOTAL	26517	--	122460	15898	--	9947	13679	--	2264.8

09364500 ANIMAS RIVER AT FARMINGTON, N. MEX.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	280	43	33	294	40	32	220	41	24
2	270	32	23	288	37	29	276	47	35
3	260	24	17	250	40	27	351	114	108
4	270	39	28	270	32	23	312	132	111
5	260	32	22	324	26	23	265	173	124
6	250	25	17	324	30	26	294	109	87
7	240	28	18	306	33	27	294	67	53
8	250	44	30	306	42	35	265	77	55
9	260	52	37	294	34	27	270	234	171
10	300	57	46	294	30	24	255	447	308
11	400	84	91	294	21	17	265	825	590
12	410	95	105	300	20	16	270	375	273
13	390	66	69	318	26	22	245	120	79
14	370	103	103	324	31	27	235	54	34
15	370	85	85	306	63	52	240	48	31
16	358	34	33	270	34	25	230	80	50
17	365	39	38	270	30	22	215	106	62
18	358	54	52	280	24	18	225	140	85
19	464	47	59	276	22	16	215	135	78
20	393	56	59	245	24	16	220	84	50
21	424	38	44	250	37	25	195	85	45
22	432	27	31	265	26	19	148	115	46
23	424	33	38	250	28	19	142	72	28
24	424	32	37	250	19	13	166	30	13
25	408	30	33	235	14	8.9	170	95	44
26	386	25	26	225	16	9.7	156	72	30
27	379	18	18	195	18	9.5	235	114	72
28	358	26	25	205	54	30	230	127	79
29	318	32	27	--	--	--	156	55	23
30	240	60	39	--	--	--	195	110	58
31	245	73	48	--	--	--	245	235	155
TOTAL	10556	--	1331	7708	--	638.1	7200	--	3001

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	230	280	174	400	195	211	2300	135	838
2	170	370	170	344	150	139	2060	125	695
3	190	298	153	270	110	80	2090	160	903
4	215	445	258	306	110	91	2210	176	1050
5	200	1020	551	688	450	836	2060	117	651
6	156	1020	430	1160	1700	5320	1500	111	450
7	240	1440	933	1500	2690	10900	1630	184	810
8	294	1450	1150	1540	1540	6400	1810	193	943
9	288	950	739	1350	830	3030	1810	140	684
10	351	1170	1110	1080	590	1720	1720	118	548
11	386	620	646	1030	480	1400	1720	105	488
12	416	550	618	1530	620	2560	1720	105	488
13	306	450	372	1820	2300	11300	1530	81	335
14	351	480	455	2060	2720	15100	1450	78	305
15	456	580	714	2290	2470	15200	1450	77	301
16	351	294	279	2660	2490	17900	1490	63	253
17	324	237	207	3300	2210	19700	1540	88	366
18	448	207	250	3850	1680	17500	1700	110	505
19	400	153	165	3990	1060	11400	1970	96	511
20	351	137	130	3810	580	5970	2140	103	595
21	306	105	87	3400	347	3190	2160	98	572
22	324	105	92	3320	300	2690	2060	60	334
23	288	92	72	3440	266	2470	1880	60	305
24	245	90	60	3170	217	1860	1820	57	280
25	220	123	73	3130	197	1660	1850	66	330
26	240	465	301	2980	183	1470	2030	66	362
27	632	675	1150	2770	167	1250	1860	59	296
28	801	915	1980	2600	147	1030	1850	64	320
29	680	482	885	2400	142	920	1790	55	266
30	496	290	388	2210	146	871	1550	37	155
31	--	--	--	2360	136	867	--	--	--
TOTAL	10355	--	14592	66798	--	165035	54750	--	14939

09364500 ANIMAS RIVER AT FARMINGTON, N. MEX.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1320	30	107	255	46	32	230	340	211
2	1170	25	79	250	53	36	230	710	441
3	1090	25	74	225	50	30	250	176	119
4	1030	20	56	288	470	365	270	104	76
5	1020	66	182	324	445	389	781	1450	4340
6	1060	48	137	312	960	809	5650	8430	125000
7	1140	432	1330	324	280	245	7690	2880	61600
8	1280	367	1580	379	270	276	3420	1440	13300
9	1460	12600	56200	400	300	324	2330	700	4400
10	1230	331	1100	358	274	265	1770	310	1480
11	1140	249	766	312	100	84	1430	240	927
12	1000	150	405	240	110	71	1350	420	1530
13	855	97	224	210	49	28	1720	1140	6720
14	801	66	143	180	67	33	5130	5490	76300
15	720	66	128	175	41	19	4640	1090	13700
16	688	82	152	200	54	29	3300	570	5080
17	640	60	104	324	130	114	2580	390	2720
18	576	39	61	496	330	442	2160	274	1600
19	584	64	101	528	1550	2210	1840	217	1080
20	608	166	273	772	6850	38300	1520	173	710
21	560	255	386	979	20200	55900	1280	112	387
22	544	320	470	696	1760	3310	1130	86	262
23	632	305	520	560	490	741	1030	78	217
24	616	148	246	520	370	519	954	79	203
25	576	160	249	386	272	283	855	92	212
26	536	78	113	330	188	168	774	77	161
27	464	72	90	344	195	181	729	61	120
28	448	57	69	324	143	125	696	50	94
29	386	45	47	270	95	69	664	45	81
30	312	43	36	230	63	39	624	44	74
31	270	47	34	255	2220	1530	--	--	--
TOTAL	24756	--	65462	11446	--	106966	57027	--	323145

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 306690
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 829780.9

09364500 ANIMAS RIVER AT FARMINGTON, N. MEX.--Continued

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 10, 1969	1600	14.	774	958	2000	9	12	--	16	--	39	70	100	--	--	--	VPWC
OCT 23.....	1600	10.	1310	4790	16900	30	46	--	63	--	80	91	99	100	--	--	VPWC
NOV 18.....	1810	4.5	456	817	1010	35	47	--	62	--	69	76	93	100	--	--	VPWC
MAR 10, 1970	1715	6.	276	694	517	73	88	--	97	--	99	100	--	--	--	--	SPWC
APR 1.....	1630	6.	205	366	203	56	70	--	84	--	96	98	99	100	--	--	SPWC
APR 7.....	1600	13.	260	2600	1830	66	79	--	96	--	100	--	--	--	--	--	PWC
MAY 7.....	1700	15.	1640	2580	11400	11	16	--	28	--	81	99	100	--	--	--	VPWC
MAY 13.....	0910	9.0	1640	2430	10800	7	9	--	16	--	36	60	82	96	100	--	VPWC
MAY 16.....	1645	20.	2980	3580	28800	9	12	--	19	--	43	70	88	99	100	--	VPWC
JUL 9.....	0800	19.	1340	17200	62200	54	62	--	92	--	100	--	--	--	--	--	PWC
JUL 20.....	1545	25.	568	2280	3500	50	68	--	95	--	100	--	--	--	--	--	PWC
AUG 21.....	0945	20.0	950	24700	63400	45	64	--	92	--	100	--	--	--	--	--	PWC
SEP 7.....	1200	16.	7850	2370	50200	26	36	44	53	64	78	90	97	100	--	--	VPWC
SEP 7.....	1200	16.	7850	2370	50200	8	26	34	47	60	78	90	97	100	--	--	VPN
SEP 8.....	1000	12.	3440	1450	13500	16	21	--	36	--	67	87	96	100	--	--	VPWC
SEP 14.....	1630	17.	5490	4630	68600	27	37	--	57	--	77	90	97	100	--	--	VPWC

09365000 SAN JUAN RIVER AT FARMINGTON, N. MEX.

LOCATION (revised).--Lat 36°43'22", long 108°13'30", in SE¼ sec.17, T.29 N., R.13 W., San Juan County, at gaging station 4,000 ft downstream from Animas River, 1 mile west of Farmington, and at mile 97.4.
DRAINAGE AREA.--7,240 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: May 1962 to September 1970.
Water temperatures: June 1962 to September 1970.
EXTREMES.--1969-70:
Dissolved solids: Maximum, 1,720 mg/l Aug. 8; minimum, 162 mg/l May 16-26.
Hardness: Maximum, 565 mg/l Aug. 8, Sept. 12; minimum, 111 mg/l Feb. 10.
Specific conductance: Maximum daily, 2,290 micromhos Aug. 8; minimum daily, 264 micromhos May 22, 25.
Water temperatures: Maximum, 29.0°C July 31; minimum, freezing point on Jan. 2-6.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
01-03	1930	16	--	50	7.6	23	--	--	130
04...	2630	14	--	62	6.2	44	--	--	178
05-21	2320	14	--	57	7.4	22	--	--	133
22...	3830	18	--	102	7.8	171	--	--	268
23-31	2420	14	--	53	6.0	29	--	--	136
NOV.									
01...	2240	13	--	51	8.0	20	--	--	126
02...	1390	11	--	68	9.3	26	--	--	142
03-18	2010	13	--	51	7.0	22	--	--	126
19-20	1410	13	--	56	7.4	26	--	--	136
21-24	1870	13	--	47	8.7	24	--	--	128
25-28	1610	13	--	46	7.8	22	--	--	122
29-30	735	13	--	64	8.8	41	--	--	150
DEC.									
01-02	1080	11	--	68	9.8	30	--	--	131
03-31	1690	13	--	46	7.5	21	--	--	120
JAN.									
01-05	1870	13	--	38	5.1	18	--	--	103
06...	1860	--	--	70	23	84	--	--	160
07-08	1280	14	--	43	6.4	26	--	--	113
09-28	1020	12	--	69	7.8	46	--	--	140
29-31	2180	15	--	38	5.8	18	--	--	108
FEB.									
01-28	2400	12	--	36	6.3	17	--	--	104
MAR.									
01-09	2340	13	--	40	6.1	19	--	--	111
10-26	1670	14	--	38	5.6	20	--	--	105
27-31	1210	13	--	40	6.6	27	--	--	103
APR.									
01...	1120	14	--	41	6.0	28	--	--	100
02-30	703	12	--	60	6.2	42	--	--	125
MAY									
01-05	650	12	--	66	9.6	53	--	--	132
06-15	1997	8.0	--	53	6.1	20	--	--	125
16-26	4111	6.1	--	38	4.4	9.8	--	--	92
27-31	3076	6.4	--	40	3.9	12	--	--	88
JUNE									
01-04	2655	7.2	--	38	5.1	14	--	--	83
05-18	2284	8.2	--	42	9.2	19	--	--	104
19-21	2687	6.9	--	38	4.9	13	--	--	84
22-30	2298	6.9	--	39	5.5	15	--	--	85
JULY									
01-02	1575	8.6	30	48	7.8	23	--	2.0	105
03-08	1360	9.2	--	56	7.9	27	--	--	120
09...	2220	16	--	98	8.1	104	--	--	220
10-13	1608	9.2	--	55	6.6	24	--	--	117
14-31	865	11	--	62	8.4	33	--	--	136
AUG.									
01-07	578	13	--	70	8.6	40	--	--	156
08...	1720	27	--	192	21	332	--	--	264
09...	915	13	--	80	7.9	96	--	--	206
10-16	550	13	--	68	7.9	40	--	--	152
17...	1350	18	--	96	7.9	140	--	--	252
18-31	1115	13	--	62	7.7	36	--	--	144
SEP.									
01-05	792	13	--	63	8.0	38	--	--	144
06...	8190	14	--	70	8.6	70	--	--	204
07-12	4148	8.5	--	51	5.6	18	--	--	117
13...	4170	13	--	95	6.8	111	--	--	200
14-30	3454	9.8	--	44	4.9	19	--	--	110
WTD. AVG.	--	11	--	48	6.6	26	--	--	118
TIME WTD. AVG.	1875	12	--	52	6.9	29	--	--	122
TONS PER DAY	--	55	--	244	33	130	--	--	597

09365000 SAN JUAN RIVER AT FARMINGTON, N. MEX.--Continued

Period of record:
Dissolved solids: Maximum, 1,720 mg/l Aug. 8, 1970; minimum, 103 mg/l May 11-15, 1962
Hardness: Maximum, 820 mg/l Aug. 6, 1968; minimum, 65 mg/l May 11-15, 1962.
Specific conductance: Maximum daily, 2,290 micromhos Aug. 8, 1970; minimum daily, 154 micromhos May 13, 1962.
Water temperatures: Maximum, 33.5°C July 6, 1967; minimum, freezing point on several days during December and January of most years.

REMARKS.--Daily chemical samples are collected by transversing the stream cross section. Bacteriological and macroinvertebrate analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)
OCT.									
01-03	0	89	4.6	--	.25	1.1	--	--	--
04...	0	125	8.3	--	.75	3.3	--	--	--
05-21	0	95	5.8	--	.36	1.6	--	--	--
22...	0	430	10	--	.00	.0	--	--	--
23-31	0	105	4.9	--	.43	1.9	--	--	--
NOV.									
01...	0	93	5.9	--	.32	1.4	--	--	--
02...	0	134	9.5	--	.38	1.7	--	--	--
03-18	0	95	3.9	--	.36	1.6	--	--	--
19-20	0	111	5.8	--	.38	1.7	--	--	--
21-24	0	95	5.5	--	.36	1.6	--	--	--
25-28	0	90	4.9	--	.32	1.4	--	--	--
29-30	0	162	5.8	--	.43	1.9	--	--	--
DEC.									
01-02	0	150	11	--	.56	2.4	--	--	--
03-31	0	94	4.7	--	.09	.4	--	--	--
JAN.									
01-05	0	71	3.0	--	.02	.1	--	--	--
06...	0	276	10	--	.18	.8	--	--	--
07-08	0	96	4.7	--	.05	.2	--	--	--
09-28	0	172	7.8	--	.32	1.4	--	--	--
29-31	0	68	3.5	--	.27	1.2	--	--	--
FEB.									
01-28	0	68	3.3	--	.07	.3	--	--	--
MAR.									
01-09	0	76	4.1	--	.05	.2	--	--	--
10-26	0	76	2.6	--	.07	.3	--	--	--
27-31	0	104	3.0	--	.07	.3	--	--	--
APR.									
01...	0	101	3.0	--	.05	.2	--	--	--
02-30	0	152	6.1	--	.27	1.3	--	--	--
MAY									
01-05	0	194	5.8	--	.29	1.3	--	--	--
06-15	0	93	3.8	--	.36	1.6	--	--	--
16-26	0	54	3.0	--	.34	1.5	--	--	--
27-31	0	66	4.0	--	.18	.8	--	--	--
JUNE									
01-04	0	69	4.0	--	.41	1.8	--	--	--
05-18	0	90	4.6	--	.25	1.1	--	--	--
19-21	0	68	3.7	--	.20	.9	--	--	--
22-30	0	74	4.7	--	.25	1.1	--	--	--
JULY									
01-02	0	102	6.3	.3	.34	1.5	--	80	--
03-08	0	118	7.5	--	.61	2.7	--	--	--
09...	0	308	6.0	--	.09	.4	--	--	--
10-13	0	110	6.6	--	.38	1.7	--	--	--
14-31	0	136	7.4	--	.25	1.1	--	--	--
AUG.									
01-07	0	155	11	--	.36	1.6	--	--	--
08...	0	1000	17	--	--	--	--	--	--
09...	0	252	13	--	.84	3.7	--	--	--
10-16	0	157	5.9	--	.38	1.7	--	--	--
17...	0	354	10	--	.25	1.1	--	--	--
18-31	0	138	8.0	--	.27	1.2	--	--	--
SEP.									
01-05	0	143	6.4	--	.00	.0	--	--	--
06...	0	200	6.2	--	.02	.1	--	--	--
07-12	0	88	5.9	--	.34	1.5	--	--	--
13...	0	330	9.6	--	.05	.2	--	--	--
14-30	0	76	3.9	--	.02	.1	--	--	--
WTD. AVG.	0	104	5.1	--	.22	--	--	--	--
TIME WTD. AVG.	0	114	5.6	--	.24	--	--	--	--
TONS PER DAY	0	502	25	--	1.1	--	--	--	--

09365000 SAN JUAN RIVER AT FARMINGTON, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT.								
01-03	255	.35	1330	156	50	.8	410	7.3
04...	351	.48	2490	180	34	1.4	551	7.6
05-21	263	.36	1650	160	51	.8	420	7.4
22...	871	1.18	9010	288	68	4.4	1270	7.4
23-31	281	.38	1840	157	46	1.0	455	7.5
NOV.								
01...	254	.35	1540	160	56	.7	413	7.6
02...	330	.45	1240	208	92	.8	527	7.7
03-18	256	.35	1390	156	52	.8	417	7.7
19-20	288	.39	1100	170	58	.9	459	7.6
21-24	258	.35	1300	153	48	.8	413	7.6
25-28	245	.33	1070	147	47	.8	398	7.7
29-30	370	.50	734	196	73	1.3	580	7.7
DEC.								
01-02	346	.47	1010	210	102	.9	499	7.8
03-31	246	.33	1120	146	48	.8	395	7.2
JAN.								
01-05	199	.27	1010	116	32	.7	323	7.1
06...	610	.83	3060	270	139	2.2	828	8.0
07-08	246	.33	850	134	42	1.0	388	7.4
09-28	385	.52	1060	204	90	1.4	592	7.4
29-31	202	.27	1190	119	30	.7	327	7.5
FEB.								
01-28	194	.26	1260	116	31	.7	319	7.3
MAR.								
01-09	213	.29	1350	125	34	.7	345	7.0
10-26	208	.28	938	118	32	.8	335	7.4
27-31	245	.33	800	127	42	1.0	388	7.4
APR.								
01...	242	.33	732	127	45	1.1	393	7.3
02-30	340	.46	645	175	72	1.4	537	7.6
MAY								
01-05	407	.55	714	204	96	1.6	635	7.7
06-15	246	.33	1330	157	54	.7	407	7.6
16-26	162	.22	1800	113	38	.4	279	7.5
27-31	176	.24	1460	116	44	.5	295	7.6
JUNE								
01-04	180	.24	1290	116	48	.6	307	7.3
05-18	225	.31	1390	143	58	.7	377	7.5
19-21	176	.24	1280	115	46	.5	303	7.5
22-30	188	.26	1170	120	50	.6	316	7.3
JULY								
01-02	252	.34	1070	152	66	.8	405	7.8
03-08	287	.39	1050	172	74	.9	466	7.5
09...	648	.88	3880	278	98	2.7	953	7.5
10-13	271	.37	1180	164	68	.8	443	7.4
14-31	326	.44	761	189	78	1.0	519	7.8
AUG.								
01-07	376	.51	587	210	81	1.2	587	8.0
08...	1720	2.34	7990	565	348	6.1	2290	7.9
09...	567	.77	1400	232	63	2.8	871	8.2
10-16	368	.50	546	202	78	1.2	589	7.7
17...	751	1.02	2740	272	66	3.7	1080	7.5
18-31	337	.46	1020	186	68	1.2	533	7.9
SEP.								
01-05	342	.47	731	190	72	1.2	529	7.8
06...	469	.64	10400	210	43	2.1	725	7.6
07-12	236	.32	2640	150	54	.6	389	7.8
13...	664	.90	7480	265	101	3.0	962	7.6
14-30	212	.29	1980	130	40	.7	358	7.9
WTD. AVG.	268	.36	--	148	51	.9	413	7.5
TIME WTD. AVG.	287	.39	--	157	57	1.0	443	7.5
TONS PER DAY	1300	--	--	--	--	--	--	--

09365000 SAN JUAN RIVER AT FARMINGTON, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	CROSS SECTION LOCATION (FT)	DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)
OCT.									
16...	0947	60	2310	8.8	--	59	8.9	23	2.0
16...	1116	20	2310	12	--	36	6.0	22	1.7
NOV.									
18...	1531	20	1940	11	--	38	6.0	26	2.2
18...	1632	60	1940	12	--	52	8.8	28	2.4
DEC.									
11...	0921	20	1720	13	--	36	6.2	24	2.0
11...	1032	60	1720	10	--	62	9.8	29	2.6
JAN.									
14...	1330	60	1060	7.8	--	82	12	34	3.0
14...	1445	20	1060	9.7	--	63	9.3	44	2.5
FEB.									
10...	1510	60	2390	8.9	--	55	9.2	26	2.5
10...	1550	20	2390	11	--	34	5.8	20	2.0
MAR.									
10...	1310	60	1880	9.8	--	70	12	32	2.8
10...	1400	20	1880	11	--	37	6.3	24	2.0
APR.									
15...	0830	20	860	10	20	64	10	34	2.8
15...	0900	60	860	8.8	0	77	11	30	3.4
MAY									
13...	0525	20	2350	6.8	--	44	6.2	18	1.6
13...	0645	60	2350	5.9	--	40	5.8	11	1.6
JUNE									
10...	0800	20	2190	7.1	--	50	6.4	17	1.6
10...	0825	60	2190	8.7	--	48	6.3	16	1.7
JULY									
15...	0840	60	923	7.3	0	58	8.1	25	2.3
15...	0915	20	923	7.8	0	58	8.0	28	2.3
AUG.									
12...	1040	60	470	10	0	78	11	38	3.3
12...	1145	20	470	11	1700	60	8.0	42	2.6
SEP.									
08...	1215	20	4090	7.3	0	45	5.5	18	2.2
08...	1330	60	4090	7.1	0	46	5.6	14	2.2

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT.									
16...	140	0	106	8.1	.4	--	.16	.7	--
16...	100	0	80	2.6	.2	--	.11	.5	--
NOV.									
18...	101	0	83	3.0	.3	--	.00	.0	--
18...	124	0	108	7.5	.4	--	.00	.0	--
DEC.									
11...	100	0	86	2.6	.2	--	.16	.7	--
11...	139	0	120	10	.3	--	.59	2.6	--
JAN.									
14...	164	0	158	16	.7	--	.99	4.4	--
14...	135	0	162	6.2	.6	--	.86	3.8	--
FEB.									
10...	130	0	110	11	.4	--	.47	2.1	--
10...	100	0	66	2.8	.2	--	.14	.6	--
MAR.									
10...	152	0	136	13	.4	--	.52	2.3	--
10...	104	0	78	3.0	.3	--	.18	.8	--
APR.									
15...	144	0	146	8.9	.3	.02	.29	1.3	.05
15...	164	0	141	14	.3	.02	.50	2.2	.23
MAY									
13...	104	0	83	3.4	.3	--	.36	1.6	--
13...	100	0	66	3.4	.3	--	.45	2.0	--
JUNE									
10...	108	0	87	4.8	.4	--	.38	1.7	--
10...	106	0	82	5.3	.4	--	.50	2.2	--
JULY									
15...	126	0	110	10	.4	.00	.61	2.7	.20
15...	126	0	118	8.1	.4	.00	.27	1.2	.03
AUG.									
12...	173	0	162	16	.5	--	.70	3.1	--
12...	92	12	154	5.2	.4	--	.00	.0	--
SEP.									
08...	100	0	89	5.0	.4	--	.11	.5	--
08...	101	0	80	5.6	.4	--	.27	1.2	--

09365000 SAN JUAN RIVER AT FARMINGTON, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
16...	--	299	286	185	70	.7	--	--	9.5
16...	--	214	210	114	32	.9	--	--	9.5
NOV.									
18...	--	220	220	118	35	1.0	--	7.6	6.0
18...	--	278	280	167	66	.9	--	7.2	5.5
DEC.									
11...	--	229	220	118	36	1.0	--	--	2.0
11...	--	327	314	198	84	.9	--	--	2.0
JAN.									
14...	--	403	399	256	122	.9	--	--	3.8
14...	--	371	367	196	86	1.4	--	--	5.0
FEB.									
10...	--	298	289	181	74	.8	--	--	9.0
10...	--	197	191	111	29	.8	--	--	8.0
MAR.									
10...	--	365	353	216	92	.9	--	--	7.9
10...	--	218	213	118	33	1.0	--	--	6.6
APR.									
15...	110	350	349	203	85	1.0	--	7.6	4.7
15...	150	377	370	224	90	.9	575	7.6	5.8
MAY									
13...	--	230	216	133	48	.7	--	--	9.2
13...	--	200	185	124	42	.4	308	--	9.8
JUNE									
10...	--	236	229	140	52	.6	363	7.6	10.5
10...	--	225	223	136	49	.6	346	7.6	10.5
JULY									
15...	60	300	286	182	79	.8	--	--	19.0
15...	50	306	294	180	77	.9	--	--	19.5
AUG.									
12...	--	426	407	246	104	1.1	--	8.2	22.5
12...	--	369	342	182	86	1.4	--	--	23.0
SEP.									
08...	--	239	222	139	57	.7	--	--	13.5
08...	--	222	212	139	56	.5	--	--	14.0

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	CROSS SECTION LOC-ATION (FT)	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMP-ERATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.								
16...	0947	60	2310	470	8.3	9.5	--	--
16...	1116	20	2310	340	8.6	9.5	--	--
NOV.								
18...	1530	20	1940	337	--	6.0	--	--
18...	1630	60	1940	426	--	5.5	--	--
DEC.								
11...	0920	20	1720	350	8.3	2.0	--	--
11...	1030	60	1720	525	8.3	2.0	--	--
JAN.								
14...	1330	60	1060	640	8.7	3.8	--	5
14...	1445	20	1060	570	8.6	5.0	--	5
FEB.								
10...	1510	60	2390	480	7.9	9.0	--	3
10...	1550	20	2390	322	8.2	8.0	--	5
MAR.								
10...	1310	60	1880	575	8.1	7.9	--	3
10...	1400	20	1880	355	8.3	6.6	6.1	7
APR.								
15...	0830	20	860	540	--	4.7	--	12
15...	0900	60	860	575	--	5.8	--	7
MAY								
13...	0525	20	2350	358	8.4	9.2	6.2	15
13...	0645	60	2350	308	8.2	9.8	4.5	20
JUNE								
10...	0800	20	2190	--	--	10.5	12.0	5
10...	0825	60	2190	--	--	10.5	17.0	15
JULY								
15...	0840	60	923	465	8.2	19.0	27.5	3
15...	0915	20	923	460	8.3	19.5	27.5	3
AUG.								
12...	1040	60	470	615	8.2	22.5	30.5	5
12...	1145	20	470	530	8.2	23.0	31.0	5
SEP.								
08...	1215	20	4090	380	8.2	13.5	25.0	8
08...	1330	60	4090	360	8.1	14.0	25.5	10

09365000 SAN JUAN RIVER AT FARMINGTON, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (CDL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT.							
16...	--	9.5	8	1.6	15600	E113000	4000
16...	--	9.4	12	.8	<100	E1000	<10
NOV.							
18...	--	10.5	3	.6	100	<10000	<10
18...	--	10.5	12	1.2	1100D	<1D0000	30
DEC.							
11...	--	11.2	16	3.3	300	10000	20
11...	--	12.0	16	.4	<100	34000	230
JAN.							
14...	--	11.7	7	3.0	98800	400000	280
14...	--	10.9	15	1.0	700	<10000	<10
FEB.							
10...	--	10.8	15	2.4	6340	360000	430
10...	--	10.3	9	2.0	20	100	10
MAR.							
10...	70	9.8	9	4.7	<100	<100000	300
10...	38	10.0	21	2.0	<100	<10000	<10
APR.							
15...	105	10.6	16	3.1	660	6700	120
15...	125	10.9	8	5.6	9520	37400	300
MAY							
13...	188	8.8	8	2.4	1800	27000	50
13...	200	9.0	7	3.0	39600	290000	180
JUNE							
10...	80	8.9	16	2.8	8900	30000	3300
10...	64	9.0	9	2.8	14800	300000	1800
JULY							
15...	29	7.5	6	2.9	420	>420	60
15...	36	7.5	7	1.9	620	800	30
AUG.							
12...	100	7.0	6	4.9	36800	1100000	180
12...	300	6.8	6	1.4	<100	40000	30
SEP.							
08...	350	8.5	12	.8	<100	70000	100
08...	300	8.2	12	1.3	100	100000	900

E ESTIMATED.

MACROINVERTEBRATE ANALYSIS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

AUG. 12, 1970 - COLLECTED BY SURBER SAMPLER (3 SQ FT)

ORGANISM AND CLASSIFICATION	NUMBER
DIPTERA	
CHIRONOMIDAE (TANYPODINAE)	2
TIPULIDAE	1
EPHEMEROPTERA	
BAETIDAE EPHEMERELLA SP.	3
OTHER	5
HEPTAGENIIDAE	2
TRICHOPTERA	
HYDROPSYCHIDAE	46
PLECOPTERA	1
COLEOPTERA	
ELMIDAE LARVAE	1
TOTAL NUMBER OF ORGANISMS	61
TOTAL BIOMASS (GRAMS)	0.76

COMMON NAME FOR PRECEDING ORDERS:
DIPTERA - FLIES, MOSQUITOES, MIDGES
EPHEMEROPTERA - MAYFLIES
TRICHOPTERA - CADDIS FLIES
PLECOPTERA - STONE FLIES
COLEOPTERA - BEETLES

09365000 SAN JUAN RIVER AT FARMINGTON, N. MEX.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	442	413	570	394	302	351	393	635	280	403	533	524
2	417	527	438	315	356	374	508	646	310	405	580	515
3	372	456	385	302	290	383	501	653	321	451	---	521
4	551	406	403	299	293	371	483	663	315	485	---	459
5	430	419	407	299	290	305	489	592	355	450	609	572
6	460	406	396	828	293	300	486	504	359	471	615	725
7	437	403	372	304	345	359	491	463	382	496	595	361
8	417	332	407	482	292	353	495	432	379	434	2290	378
9	425	399	402	639	343	300	489	404	372	953	871	402
10	420	430	398	538	297	331	508	471	377	439	591	406
11	405	392	394	535	355	334	504	476	402	419	575	397
12	429	397	405	594	354	328	503	357	402	449	593	460
13	432	399	385	567	301	315	501	361	395	479	589	962
14	400	409	385	562	301	374	515	355	395	494	594	380
15	407	359	384	589	293	321	484	347	384	493	590	276
16	413	477	385	582	293	315	496	314	364	513	555	310
17	417	492	376	658	293	319	590	266	356	519	1080	330
18	411	420	378	628	339	319	571	268	340	537	569	350
19	408	477	385	645	344	319	551	268	316	519	544	---
20	410	439	402	586	291	356	535	289	293	523	575	382
21	393	422	345	571	291	327	532	282	296	521	616	393
22	1270	414	410	575	358	351	523	264	322	523	541	350
23	571	403	400	579	344	375	515	278	322	519	513	373
24	483	401	411	582	291	319	522	268	305	498	507	370
25	390	399	406	616	356	316	596	264	306	498	462	369
26	368	395	415	606	---	351	653	275	317	522	458	---
27	359	398	410	609	303	393	654	282	314	530	520	---
28	421	392	338	621	342	350	608	279	314	550	516	---
29	593	580	413	324	---	374	608	295	323	529	514	372
30	482	585	394	359	---	375	628	315	341	530	504	379
31	417	---	396	294	---	410	---	305	---	538	532	---
AVG	460	428	400	519	317	346	531	383	342	506	642	435

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	10.0	4.0	1.0	4.0	8.0	6.0	13.0	9.0	20.0	22.0	25.0
2	17.0	8.0	5.0	0.0	2.0	8.0	10.0	18.0	9.0	20.0	27.0	24.0
3	11.0	8.0	6.0	0.0	2.0	8.0	10.0	8.0	18.0	18.0	---	25.0
4	10.0	8.0	6.0	0.0	3.0	10.0	11.0	18.0	18.0	18.0	26.0	23.0
5	8.0	10.0	5.0	0.0	3.0	10.0	12.0	19.0	11.0	20.0	23.0	17.0
6	13.0	10.0	5.0	0.0	3.0	10.0	13.0	20.0	12.0	20.0	25.0	14.0
7	10.0	9.0	3.0	1.0	2.0	10.0	13.0	15.0	11.0	20.0	28.0	16.0
8	18.0	9.0	4.0	1.0	4.0	9.0	7.0	15.0	13.0	23.0	20.0	16.0
9	14.0	8.0	4.0	1.0	8.0	10.0	9.0	10.0	11.0	19.0	22.0	17.0
10	14.0	8.0	5.0	2.0	4.0	8.0	15.0	15.0	12.0	23.0	25.0	16.0
11	10.0	12.0	3.0	2.0	9.0	7.0	9.0	17.0	8.0	22.0	27.0	18.0
12	16.0	10.0	3.0	1.0	10.0	10.0	16.0	18.0	10.0	23.0	25.0	20.0
13	11.0	10.0	2.0	3.0	8.0	10.0	14.0	19.0	18.0	25.0	23.0	16.0
14	12.0	8.0	2.0	2.0	8.0	11.0	11.0	20.0	18.0	25.0	26.0	17.0
15	12.0	5.0	4.0	3.0	8.0	11.0	12.0	20.0	20.0	25.0	23.0	14.0
16	10.0	8.0	5.0	3.0	8.0	10.0	14.0	20.0	20.0	25.0	20.0	15.0
17	10.0	4.0	5.0	3.0	10.0	6.0	9.0	20.0	21.0	25.0	25.0	14.0
18	12.0	4.0	5.0	3.0	6.0	5.0	9.0	22.0	20.0	25.0	25.0	15.0
19	11.0	4.0	5.0	3.0	10.0	10.0	10.0	19.0	20.0	25.0	25.0	---
20	13.0	5.0	5.0	3.0	8.0	9.0	10.0	18.0	20.0	25.0	23.0	17.0
21	13.0	5.0	6.0	3.0	9.0	8.0	14.0	14.0	20.0	24.0	24.0	17.0
22	11.0	7.0	6.0	3.0	5.0	10.0	14.0	17.0	20.0	24.0	20.0	15.0
23	10.0	6.0	6.0	3.0	5.0	13.0	15.0	17.0	18.0	22.0	23.0	15.0
24	8.0	7.0	5.0	4.0	5.0	9.0	16.0	13.0	19.0	22.0	25.0	15.0
25	9.0	8.0	6.0	5.0	6.0	8.0	18.0	11.0	20.0	22.0	25.0	13.0
26	9.0	7.0	5.0	7.0	10.0	9.0	20.0	11.0	21.0	20.0	25.0	---
27	10.0	7.0	5.0	6.0	9.0	6.0	18.0	11.0	19.0	23.0	25.0	---
28	11.0	6.0	3.0	5.0	5.0	7.0	15.0	14.0	20.0	24.0	25.0	---
29	8.0	5.0	3.0	5.0	---	7.0	12.0	15.0	20.0	26.0	21.0	---
30	5.0	5.0	5.0	3.0	---	6.0	13.0	15.0	20.0	26.0	23.0	18.0
31	4.0	---	2.0	5.0	---	5.0	---	14.0	---	29.0	25.0	---
AVG	11.5	7.5	4.5	2.5	6.0	8.5	12.5	16.0	16.5	23.0	24.0	17.5

09366500 LA PLATA RIVER AT COLORADO-NEW MEXICO STATE LINE

LOCATION.--Lat 36°59'59", long 108°11'17", in NW¼SE¼ sec.10, T.32 N., R.13 W., La Plata County, Colorado, at gaging station at Colorado-New Mexico State line, 0.2 mile downstream from Ponds Arroyo and 4.8 miles north of La Plata, N. Mex.

DRAINAGE AREA.--331 sq mi.

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

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
AUG 1969									
27...	--	5.6	96	68	40	4.4	191	--	388
SEP.									
11...	--	30	83	42	27	2.0	175	--	261
DEC.									
19...	1455	7.2	128	97	44	2.0	263	0	518
MAR 1970									
31...	1605	7.0	145	76	56	2.2	254	0	535
MAY									
13...	1530	92	54	25	15	2.0	147	0	145

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG 1969									
27...	19	764	--	--	326	.8	1020	8.5	24.0
SEP.									
11...	14	570	--	382	218	.6	785	8.5	13.0
DEC.									
19...	27	1100	945	720	504	.7	1340	8.1	6.0
MAR 1970									
31...	26	1080	965	676	468	.9	1330	8.1	10.0
MAY									
13...	5.8	345	317	238	122	.4	501	7.5	17.0

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
SEP.							
11...	0830	23	810	8.1	16.0	20.0	10.0

09367500 LA PLATA RIVER NEAR FARMINGTON, N. MEX.

LOCATION.--Lat 36°44'23", long 108°14'51", in SW¼ sec.7, T.29 N., R.13 W., San Juan County, at gaging station 1,300 ft upstream from bridge on U.S. Highway 550, 1,800 ft upstream from mouth, and 2.5 miles northwest of Farmington.

DRAINAGE AREA.--583 sq mi.

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

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are furnished by the New Mexico Environmental Improvement Agency.

FIELD AND BIOCHEMICAL MEASUREMENTS, AUGUST TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
AUG.										
11...	1640	2.4	2000	30.0	34.5	4	23	<10	100	<10
SEP.										
09...	1145	30	1500	18.5	--	7	250	10	100	80

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.

LOCATION (revised).--Lat 36°47'52", long 108°43'52", in SW¼ sec.22, T.30 N., R.18 W., San Juan County, at gaging station 3 miles west of Shiprock, 6 miles downstream from Chaco River, and at river mile 61.0.
DRAINAGE AREA.--12,900 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: February 1941 to September 1945, July 1957 to September 1970.
Water temperatures: December 1950 to September 1970.
Sediment records: December 1950 to September 1970.
EXTREMES.--1969-70:
Dissolved solids: Maximum, 1,290 mg/l Aug. 9; minimum, 174 mg/l May 21-31.
Hardness: Maximum, 600 mg/l Sept. 5; minimum, 124 mg/l May 21-31.
Specific conductance: Maximum daily, 1,890 micromhos Aug. 9; minimum daily, 274 micromhos May 20.
Water temperatures: Maximum, 30.0°C July 15; minimum, freezing point on several days during December and January.
Sediment concentrations: Maximum daily, 52,200 mg/l Oct. 22; minimum daily, 78 mg/l Aug. 2.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
01-02	1560	13	--	58	12	--	34	--	138
03-04	3150	15	--	102	23	--	63	--	180
05-21	2550	13	--	55	11	--	33	--	137
22-23	9900	19	--	62	7.2	--	182	--	236
24-31	2760	14	--	59	11	--	44	--	148
NOV.									
01-02	2040	13	--	58	8.6	--	37	--	144
03...	1590	14	--	82	15	--	63	--	176
04-18	2340	12	--	56	8.4	--	37	--	130
19-20	1680	13	--	67	12	--	55	--	142
21-28	1960	13	--	57	9.2	--	39	--	129
29-30	1200	12	--	75	14	--	42	--	152
DEC.									
01...	967	13	--	82	16	--	59	--	166
02...	1260	14	--	71	13	--	50	--	146
03-09	1880	13	--	57	11	--	39	--	129
10-11	1800	14	--	45	8.6	--	39	--	88
12-31	1800	13	--	53	9.7	--	39	--	119
JAN.									
01-07	1704	9.2	--	50	10	--	30	--	123
08-28	1024	14	--	61	16	--	60	--	87
29...	1710	3.6	--	48	12	--	46	--	99
30-31	2815	5.8	--	34	8.5	--	25	--	82
FEB.									
01-28	2475	8.2	--	44	8.3	--	26	--	106
MAR.									
01-09	2422	8.6	--	44	8.0	--	32	--	120
10-26	1660	9.9	--	49	8.9	-	31	--	119
27-31	1238	8.9	--	60	12	--	45	--	127
APR.									
01...	1120	9.1	--	67	13	--	43	--	132
02-19	758	8.9	0	75	15	54	--	2.2	152
20-27	525	8.7	--	82	22	--	54	--	164
28-30	471	8.7	--	79	15	--	50	--	158
MAY									
01-05	490	8.2	--	87	18	--	61	--	167
06-07	1045	10	--	71	12	--	32	--	143
08-12	1444	8.3	--	62	8.9	--	27	--	126
13-16	2730	8.3	--	52	6.9	--	16	--	107
17-20	4132	7.4	--	42	5.1	--	11	--	97
21-31	3038	6.1	--	40	5.8	--	8.0	--	84
JUNE									
01-06	2520	6.8	--	44	5.8	--	19	--	92
07-19	2143	8.7	--	57	7.3	--	28	--	116
20-30	1946	6.8	--	46	5.8	--	22	--	91
JULY									
01-08	1227	8.0	10	65	8.5	3.5	--	2.2	123
09...	2120	12	--	90	9.6	--	48	--	168
10-14	1398	9.1	--	65	8.0	--	37	--	129
15-28	707	9.4	--	79	12	--	52	--	157
29-31	464	8.1	--	90	14	--	58	--	169
AUG.									
01-03	309	12	--	95	18	--	69	--	172
04-06	398	12	--	114	17	--	117	--	204
07-08	676	13	--	95	14	--	72	--	184
09...	1010	13	--	176	16	--	223	--	280
10-17	451	12	--	95	15	--	84	--	189
18...	870	12	--	124	10	--	156	--	262
19-22	1320	15	--	91	11	--	63	--	184
23-31	780	12	--	87	12	--	45	--	159
SEP.									
01-04	616	14	--	90	12	--	59	--	159
05...	1650	11	--	202	23	--	106	--	166
06...	8470	12	--	114	6.7	--	142	--	204
07...	11300	14	--	67	6.2	--	41	--	162
08-13	3370	13	--	64	6.0	--	30	--	123
14...	6810	13	--	100	14	--	58	--	170
15-30	2890	12	--	56	5.0	--	27	--	117
WTD. AVG.	--	11	--	58	9.1	--	41	--	129
TIME WTD. AVG.	1887	11	--	63	11	--	41	--	130
TONS PER DAY	--	58	--	309	49	--	229	--	685

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

EXTREMES.--1969-70:--Continued
Sediment discharge: Maximum daily, 1,730,000 tons Oct. 22; minimum daily, 62 tons Aug. 2.
Period of record:
Dissolved solids: Maximum, 2,980 mg/l July 30-31, 1959; minimum, 115 mg/l June 21-28, 30, 1944.
Hardness: Maximum, 1,100 mg/l July 30-31, 1959; minimum, 70 mg/l June 21-28, 30, 1944.
Specific conductance (1957-70): Maximum daily, 4,360 micromhos July 31, 1959; minimum daily, 188 micromhos June 6, 1958.
Water temperatures: Maximum, 34.0°C July 20, 1968; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 114,000 mg/l Aug. 11, 1967; minimum daily, 2 mg/l May 4, 1963.
Sediment discharge: Maximum daily, 2,000,000 tons Aug. 11, 1967; minimum daily, 1 ton on several days during July and September 1959, September 1962, May and July 1963.
REMARKS.--Bacteriological and macroinvertebrate analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)
OCT.									
01-02	0	135	8.3	.3	.50	2.2	--	--	--
03-04	0	296	15	.4	1.8	8.1	--	--	--
05-21	0	123	7.6	.3	.45	2.0	--	--	--
22-23	0	344	12	.7	1.3	5.7	--	--	--
24-31	0	146	7.6	.4	.65	2.9	--	--	--
NOV.									
01-02	0	123	10	.2	.23	1.0	--	--	--
03...	0	226	16	.2	.68	3.0	--	--	--
04-18	0	125	11	.2	.47	2.1	--	--	--
19-20	0	188	14	.3	.68	3.0	--	--	--
21-28	0	134	12	.3	.45	2.0	--	--	--
29-30	0	176	17	.3	.75	3.3	--	--	--
DEC.									
01...	0	224	18	.3	.79	3.5	--	--	--
02...	0	188	14	.3	.79	3.5	--	--	--
03-09	0	140	12	.3	.50	2.2	--	--	--
10-11	0	137	12	.2	.02	.1	--	--	--
12-31	0	134	13	.4	.29	1.3	--	--	--
JAN.									
01-07	0	119	5.4	.4	.16	.7	--	--	--
08-28	0	242	15	.4	.18	.8	--	--	--
29...	0	166	8.9	.4	.00	.0	--	--	--
30-31	0	100	6.1	.4	.00	.0	--	--	--
FEB.									
01-28	0	99	6.5	.3	.23	1.0	--	--	--
MAR.									
01-09	0	99	5.9	.4	.29	1.3	--	--	--
10-26	0	115	6.0	.4	.34	1.5	--	--	--
27-31	0	164	12	.4	.61	2.7	--	--	--
APR.									
01...	0	177	6.0	.4	.56	2.5	--	--	--
02-19	0	212	12	.4	.84	3.7	--	80	--
20-27	0	246	13	.4	.93	4.1		--	--
28-30	0	212	10	.4	1.0	4.6	--	--	--
MAY									
01-05	0	264	5.2	.4	1.0	4.5	--	--	--
06-07	0	164	3.0	.4	.90	4.0	--	--	--
08-12	0	128	7.4	.4	.72	3.2	--	--	--
13-16	0	88	7.0	.3	.54	2.4	--	--	--
17-20	0	62	2.8	.3	.38	1.7	--	--	--
21-31	0	66	5.5	.3	.27	1.2	--	--	--
JUNE									
01-06	0	88	4.2	.2	.32	1.4	--	--	--
07-19	0	120	6.7	.3	.43	1.9	--	--	--
20-30	0	98	6.0	.2	.34	1.5	--	--	--
JULY									
01-08	0	152	7.2	.3	.50	2.2	--	0	--
09...	0	206	8.9	.4	.54	2.4	--	--	--
10-14	0	148	8.8	.3	.54	2.4	--	--	--
15-28	0	203	13	.3	.72	3.2		--	--
29-31	0	240	12	.4	.81	3.6	--	--	--
AUG.									
01-03	0	273	22	.5	1.2	5.3	--	--	--
04-06	0	378	27	.7	1.9	8.4	--	--	--
07-08	0	258	18	.6	1.4	6.3	--	--	--
09...	0	702	18	.7	.38	1.7	--	--	--
10-17	0	288	16	.6	1.1	4.7	--	--	--
18...	0	435	16	.6	.11	.5	--	--	--
19-22	0	227	14	.6	.27	1.2	--	--	--
23-31	0	204	14	.6	.41	1.8	--	--	--
SEP.									
01-04	4	229	16	.5	.47	2.1	--	--	--
05...	0	546	86	.6	1.2	5.2	--	--	--
06...	0	407	19	.7	.16	.7	--	--	--
07...	0	120	6.4	.7	.29	1.3	--	--	--
08-13	0	130	7.7	.4	.20	.9	--	--	--
14...	0	259	16	.5	.11	.5	--	--	--
15-30	0	106	7.4	.1	.16	.7	--	--	--
WTD. AVG.	0	145	9.0	.4	.42	--	--	--	--
TIME WTD. AVG.	0	160	10	.4	.48	--	--	--	--
TONS PER DAY	0	772	48	1.9	2.2	--	--	--	--

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT.								
01-02	331	.45	1390	194	81	1.1	527	8.0
03-04	612	.83	5210	348	200	1.5	895	7.9
05-21	312	.42	2150	181	68	1.1	496	7.6
22-23	749	1.02	20000	184	0	5.9	1110	7.9
24-31	358	.49	2670	192	71	1.4	560	7.5
NOV.								
01-02	322	.44	1770	180	62	1.2	489	7.5
03...	506	.69	2170	268	124	1.7	747	7.6
04-18	316	.43	2000	174	68	1.2	493	7.8
19-20	422	.57	1910	216	100	1.6	617	7.6
21-28	330	.45	1750	180	74	1.3	507	7.7
29-30	415	.56	1350	244	120	1.2	678	7.8
DEC.								
01...	498	.68	1300	270	134	1.6	758	7.8
02...	426	.58	1450	230	110	1.4	652	7.9
03-09	338	.46	1720	186	80	1.2	522	7.6
10-11	299	.41	1450	148	76	1.4	461	8.0
12-31	322	.44	1570	172	74	1.3	499	7.9
JAN.								
01-07	285	.39	1310	168	67	1.0	468	7.5
08-28	452	.61	1250	216	144	1.8	689	7.8
29...	334	.45	--	168	87	1.5	536	7.8
30-31	222	.30	1690	125	58	1.0	376	7.8
FEB.								
01-28	245	.33	1640	144	57	.9	400	8.1
MAR.								
01-09	258	.35	--	143	44	1.1	405	7.9
10-26	281	.38	--	159	62	1.1	450	7.9
27-31	367	.50	1230	197	93	1.4	573	7.9
APR.								
01...	378	.51	1140	210	102	1.3	604	7.8
02-19	458	.62	937	248	124	1.5	700	7.8
20-27	511	.69	724	296	162	1.4	788	8.0
28-30	457	.62	581	260	130	1.3	709	7.7
MAY								
01-05	530	.72	701	292	155	1.6	841	7.9
06-07	366	.50	1030	226	109	.9	607	7.5
08-12	307	.42	1200	191	88	.9	507	7.6
13-16	234	.32	--	158	70	.5	396	7.6
17-20	180	.24	2010	126	46	.4	307	7.7
21-31	174	.24	1430	124	24	.3	310	7.7
JUNE								
01-06	214	.29	1460	134	58	.7	353	7.9
07-19	286	.39	1660	172	77	.9	460	7.9
20-30	231	.31	--	139	64	.8	380	7.9
JULY								
01-08	340	.46	1130	197	96	1.1	553	8.0
09...	460	.63	2630	264	126	1.3	700	7.9
10-14	342	.47	1290	195	90	1.1	544	8.0
15-28	449	.61	857	248	120	1.4	696	8.1
29-31	509	.69	638	284	146	1.5	779	8.1
AUG.								
01-03	580	.79	484	312	171	1.7	889	8.1
04-06	774	1.05	832	354	187	2.7	1180	7.8
07-08	567	.77	1030	296	145	1.8	868	7.9
09...	1290	1.75	3520	504	274	4.3	1890	7.3
10-17	608	.83	741	300	145	2.1	928	7.6
18...	883	1.20	2070	352	138	3.6	1320	7.3
19-22	513	.70	1830	272	121	1.7	787	7.4
23-31	454	.62	956	268	138	1.2	702	7.9
SEP.								
01-04	505	.69	840	272	135	1.6	770	8.4
05...	1060	1.44	4720	600	464	1.9	1590	7.9
06...	802	1.09	18340	312	145	3.5	1180	7.8
07...	332	.45	10100	180	47	1.3	577	7.9
08-13	312	.42	2840	184	83	1.0	483	7.9
14...	545	.74	10000	308	168	1.4	829	8.0
15-30	273	.37	2130	160	64	.9	425	8.1
WTD. AVG.	351	.48	--	182	75	1.3	534	7.8
TIME WTD. AVG.	376	.51	--	199	91	1.3	567	7.9
TONS PER DAY	1870	--	--	--	--	--	--	--

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
15...	1600	2600	10	--	54	9.8	31	.8	126
NOV.									
19...	0830	1990	7.2	--	57	12	39	2.4	129
DEC.									
10...	1420	1820	12	--	54	11	37	2.8	122
JAN.									
13...	1710	1180	9.5	--	85	17	61	2.9	158
FEB.									
10...	1150	2550	10	--	44	8.3	28	2.2	116
MAR.									
10...	1615	1800	9.8	--	50	10	32	2.4	118
APR.									
14...	1320	724	9.8	40	77	15	52	2.7	154
MAY									
12...	1340	1570	7.5	--	62	11	32	1.7	133
JUNE									
09...	1100	2140	7.0	--	58	8.9	30	1.8	116
JULY									
14...	1245	910	8.4	0	68	12	42	2.3	140
AUG.									
11...	1745	370	10	0	85	14	66	3.3	172
SEP.									
09...	0830	3280	8.3	10	52	7.3	27	2.4	110

DATE	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
15...	0	126	7.9	.3	--	.38	1.7	--	--
NOV.									
19...	0	147	9.2	.3	--	.65	2.9	--	--
DEC.									
10...	0	141	7.6	.2	--	3.1	14	--	--
JAN.									
13...	0	250	15	.7	--	1.1	5.0	--	--
FEB.									
10...	0	104	6.8	.3	--	.18	.8	--	--
MAR.									
10...	0	121	7.6	.3	--	.50	2.2	--	--
APR.									
14...	0	208	12	.3	.02	.63	2.8	.07	120
MAY									
12...	0	138	8.2	.4	--	.70	3.1	--	--
JUNE									
09...	0	130	7.5	.4	--	.54	2.4	--	--
JULY									
14...	0	173	12	.5	.00	.65	2.9	.00	100
AUG.									
11...	0	251	14	.5	--	1.0	4.6	--	--
SEP.									
09...	0	121	6.4	.4	--	.34	1.5	--	--

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.								
15...	315	304	172	68	1.0	--	--	13.5
NOV.								
19...	332	340	190	84	1.2	--	7.6	3.0
DEC.								
10...	342	340	183	83	1.2	527	--	5.5
JAN.								
13...	543	524	288	158	1.6	--	--	5.2
FEB.								
10...	272	261	146	51	1.0	--	--	6.4
MAR.								
10...	304	293	162	66	1.1	--	--	7.6
APR.								
14...	468	456	240	114	1.5	--	8.0	11.9
MAY								
12...	345	329	188	79	1.0	--	--	17.2
JUNE								
09...	324	303	175	80	1.0	--	7.8	14.5
JULY								
14...	408	390	224	109	1.2	--	--	23.5
AUG.								
11...	564	533	274	133	1.7	--	8.2	28.5
SEP.								
09...	294	280	164	74	.9	446	--	15.0

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	AIR TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.							
15...	1600	2600	510	8.3	13.5	--	--
NOV.							
19...	0830	1990	560	--	3.0	--	--
DEC.							
10...	1420	1820	--	8.4	5.5	--	--
JAN.							
13...	1710	1180	770	8.7	5.2	--	5
FEB.							
10...	1150	2550	440	7.9	6.4	--	5
MAR.							
10...	1615	1800	480	7.9	7.6	6.6	7
APR.							
14...	1320	724	700	--	11.9	--	7
MAY							
12...	1340	1570	520	8.3	17.2	29.6	5
JUNE							
09...	1100	2140	515	--	14.5	17.5	8
JULY							
14...	1245	910	620	8.4	23.5	34.5	3
AUG.							
11...	1745	370	780	8.2	28.5	33.5	5
SEP.							
09...	0830	3280	--	8.1	15.0	18.0	10

DATE	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT.							
15...	--	8.8	9	1.2	1200	7600	780
NOV.							
19...	--	11.5	5	1.0	6800	40000	90
DEC.							
10...	--	11.0	20	6.6	1260	3400	10
JAN.							
13...	--	11.0	13	1.2	51000	--	<10
FEB.							
10...	--	10.6	11	3.9	1000	9900	40
MAR.							
10...	80	9.7	16	1.8	<10	4700	<10
APR.							
14...	78	9.1	10	1.8	160	2500	100
MAY							
12...	120	7.9	--	--	3580	E10000	130
JUNE							
09...	89	8.3	9	1.5	200	1700	130
JULY							
14...	60	7.2	18	1.2	E1430	9200	20
AUG.							
11...	530	6.0	--	2.0	9900	14000	30
SEP.							
09...	475	7.1	11	1.2	900	7600	<10

E ESTIMATED.

PESTICIDE ANALYSES (UNFILTERED SAMPLES)

DATE	TIME	DIS-CHARGE (CFS)	ALDRIN (UG/L)	CHLORDANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DIAZINON (UG/L)	DIELDRIN (UG/L)
JULY									
14...	1245	910	.00	.0	.00	.00	.00	--	.00
SEP.									
09...	0830	3280	.00	.0	.00	.00	.00	.00	.00

DATE	ENDRIN (UG/L)	HEPTACHLOR (UG/L)	HEPTACHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	METHYL PARATHION (UG/L)	PARATHION (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
JULY									
14...	.00	.00	.00	.00	--	--	.00	.00	.00
SEP.									
09...	.00	.00	.00	.00	.00	.00	.00	.00	.00

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

MACROINVERTEBRATE ANALYSIS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

AUG. 11, 1970 - COLLECTED BY SURBER SAMPLER (3 SQ FT)

ORGANISM AND CLASSIFICATION	NUMBER
DIPTERA	
TENDIPEDIDAE	1
EPHEMEROPTERA	
BAETIDAE	18
TRICHOPTERA	
HYDROPSYCHIDAE	1
CADDISFLY CASES (UNIDENTIFIED)	2
PLECOPTERA	
PERLODIDAE	1
ACARINA	1
TOTAL NUMBER OF ORGANISMS	24
TOTAL BIOMASS (GRAMS)	~0.12

COMMON NAME FOR PRECEDING ORDERS:
DIPTERA - FLIES, MOSQUITOES, MIDGES
EPHEMEROPTERA - MAYFLIES
TRICHOPTERA - CADDIS FLIES
PLECOPTERA - STONE FLIES
ACARINA - MITES

BIOCHEMICAL, SPECTROGRAPHIC, AND RADIO CHEMICAL ANALYSES
WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS. ORTHO + HYDRO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)
OCT.										
15...	A 1605	.27	--	.940	<100	3	<5	10	<20	<20
NOV.										
19...	0835	--	--	--	--	--	--	--	--	--
DEC.										
10...	1425	--	--	--	--	--	--	--	--	--
JAN.										
13...	1715	1.0	--	.610	<100	<4	<10	<10	<40	<20
FEB.										
10...	1155	--	--	--	--	--	--	--	--	--
MAR.										
10...	1620	--	--	--	--	--	--	--	--	--
APR.										
14...	1325	1.2	--	.010	<100	<3	<10	<30	<40	<20
MAY										
12...	1345	--	--	--	--	--	--	--	--	--
JUNE										
09...	1105	.68	.20	.200	--	--	--	--	--	--
JULY										
14...	1250	.60	--	--	--	--	--	--	--	--

DATE	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ALPHA (PC/L)	SUS-PENDED ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED RADIUM 226 (RA) (PC/L)	TOTAL STRON-TIUM 90 (PC/L)	DIS-SOLVED NATURAL URANIUM (U) (UG/L)
OCT.									
15...	<10	10	2.0	6.0	3.0	17	.1	--	2.1
NOV.									
19...	--	--	3.0	3.0	6.0	7	.1	--	3.2
DEC.									
10...	--	--	1.0	3.0	3.0	6	.0	--	3.4
JAN.									
13...	<20	--	3.0	2.0	6.0	4	.0	--	4.5
FEB.									
10...	--	--	1.0	1.0	5.0	3	.0	--	6.2
MAR.									
10...	--	--	2.0	2.0	2.0	5	.0	--	2.2
APR.									
14...A	<20	--	3.0	6.0	19	9	.2	--	5.0
MAY									
12...	--	--	2.0	23	7.0	25	.0	--	3.4
JUNE									
09...A	--	--	2.0	6.1	6.2	15	.1	.5	4.2
JULY									
14...A	--	--	3.0	3.0	6.0	7.1	.1	1.0	3.6

A INCLUDES 0 PICOCURIES PER LITRE OF STRONTIUM 89.

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	542	509	758	484	385	401	604	750	338	433	867	753
2	515	482	652	482	401	417	647	777	348	468	911	767
3	994	747	517	457	392	419	742	880	370	538	868	770
4	792	493	517	455	412	426	757	915	366	564	1180	748
5	591	488	521	494	412	411	739	920	341	567	1290	1590
6	542	482	538	474	417	405	730	662	390	584	1100	1180
7	511	473	515	453	418	396	711	560	523	624	860	577
8	518	478	526	613	416	395	701	544	465	607	875	437
9	497	486	534	784	418	397	728	459	450	700	1890	458
10	475	513	468	779	415	457	695	475	453	551	1060	488
11	477	490	457	772	414	474	701	543	451	518	785	497
12	503	491	539	754	418	464	690	507	507	517	841	480
13	495	493	452	772	420	455	653	424	459	546	887	533
14	485	489	505	669	417	446	678	402	467	595	955	829
15	479	481	499	656	419	451	655	392	467	643	970	428
16	474	482	511	632	414	448	668	364	467	665	905	338
17	477	518	514	641	406	449	633	344	450	675	793	358
18	463	535	485	699	405	453	731	327	439	725	1320	392
19	484	620	469	690	399	468	755	288	410	742	777	419
20	480	616	482	690	397	463	786	274	382	709	751	434
21	484	527	500	655	397	448	784	292	352	721	755	456
22	1220	528	506	653	400	438	768	292	355	731	823	457
23	1000	501	514	704	408	439	753	285	362	711	684	438
24	664	497	505	685	401	441	749	287	405	674	666	446
25	573	517	496	679	394	435	750	310	390	678	659	444
26	527	500	492	711	395	451	856	304	379	682	695	447
27	506	497	509	705	397	565	857	307	364	721	705	458
28	523	492	515	698	398	610	785	328	397	692	726	462
29	632	623	509	536	---	574	662	325	392	753	736	465
30	544	743	500	367	---	565	679	351	401	778	720	470
31	500	---	488	369	---	571	---	356	---	815	732	---
AVG	580	526	516	620	407	459	722	459	411	643	896	567

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	9.0	3.0	1.5	2.0	8.5	8.5	16.0	12.0	22.5	25.0	26.0
2	18.0	7.0	4.5	1.0	3.0	9.0	12.0	16.0	12.0	21.5	21.5	26.5
3	12.0	7.0	5.5	0.0	5.0	8.0	12.0	19.0	13.5	23.5	26.0	25.0
4	10.0	9.0	7.0	1.0	6.0	8.5	4.5	22.5	14.5	23.0	28.5	19.0
5	10.0	10.0	4.5	0.0	7.0	8.5	7.0	20.5	18.5	26.0	20.5	16.5
6	8.0	10.0	4.5	0.0	7.5	9.5	16.0	19.5	15.0	27.5	22.0	15.0
7	14.0	10.0	4.5	0.0	7.0	10.0	9.0	13.0	18.0	26.0	22.0	13.0
8	15.0	9.5	4.0	0.0	9.0	10.0	8.0	12.0	16.5	25.5	21.5	14.0
9	14.0	9.5	4.0	1.0	9.0	11.0	10.0	10.0	15.0	21.0	20.0	15.5
10	13.0	10.0	4.5	3.0	9.0	8.0	9.0	14.0	13.5	21.0	20.0	15.5
11	10.0	12.5	4.0	3.5	8.5	7.0	10.5	12.0	12.5	20.5	20.5	17.0
12	11.0	11.5	5.0	5.5	10.0	8.5	7.0	18.5	15.0	20.0	20.0	17.0
13	12.0	10.5	5.0	5.0	9.0	9.5	13.0	19.5	14.5	20.5	20.0	16.0
14	12.0	9.0	5.0	4.0	7.5	11.0	11.0	12.0	21.0	21.5	20.5	15.0
15	12.0	8.5	5.0	4.0	8.0	10.0	14.0	10.0	20.5	30.0	20.0	12.0
16	12.0	10.0	5.0	5.0	8.5	12.0	14.0	10.5	23.0	23.0	21.0	12.0
17	13.0	6.0	6.0	5.5	9.5	7.0	10.0	12.5	23.0	24.0	19.5	12.0
18	12.0	3.0	7.0	6.5	7.5	5.5	8.0	12.5	23.5	28.0	20.0	12.0
19	12.0	4.5	7.5	6.5	6.5	8.5	9.0	13.0	23.0	22.5	20.0	15.0
20	12.0	5.0	7.0	6.0	6.5	9.0	14.5	11.0	21.0	26.5	20.5	15.5
21	12.0	5.5	8.0	5.0	8.5	9.0	13.5	11.0	23.5	22.0	20.0	14.0
22	10.0	7.0	7.0	6.0	9.0	10.0	14.5	12.5	24.0	24.0	18.5	13.0
23	9.0	7.5	7.0	7.5	9.5	11.0	15.0	13.0	24.5	21.5	19.5	11.5
24	12.0	7.5	8.0	4.0	10.0	12.0	17.0	13.5	24.5	22.5	20.0	11.5
25	10.0	7.5	6.0	7.5	9.5	10.0	17.5	17.0	24.5	21.5	20.0	10.0
26	12.0	7.0	6.5	8.0	9.5	9.0	18.0	14.0	26.0	20.5	21.0	8.5
27	10.0	6.5	4.0	7.0	9.0	7.0	17.5	14.0	23.0	22.0	21.0	10.0
28	10.0	6.5	3.0	4.0	8.5	11.0	11.0	13.0	23.5	26.5	20.0	10.0
29	8.0	6.0	2.0	1.0	---	10.0	11.0	13.0	23.5	23.0	20.0	12.0
30	5.0	3.5	0	0	---	6.5	6.0	13.5	24.0	28.0	20.5	12.0
31	6.0	---	1.5	1.5	---	7.0	---	14.0	---	22.5	26.5	---
AVG	11.5	8.0	5.0	3.5	8.0	9.0	11.5	14.5	19.5	23.5	21.0	14.5

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1530	1400	5780	2320	3150	19700	967	1170	3050
2	1790	2200	10600	1770	3810	18200	1260	1500	5100
3	2870	9900	76700	1590	2940	12600	1770	1810	8650
4	3430	10700	99100	1970	2720	14500	1940	1510	7910
5	2640	4800	34200	2220	2100	12600	2060	1210	6730
6	2450	2950	19500	2260	1800	11000	2060	1100	6120
7	2420	2750	18000	2130	1980	11200	2010	950	5160
8	2550	2700	18600	2140	2000	11600	1970	1170	6220
9	2450	2800	18500	2160	1900	11100	1990	1200	6450
10	2380	2750	17700	2200	1900	11300	2050	1330	7360
11	2680	2600	18800	2120	1500	8590	1840	1090	5420
12	2680	2730	15900	2100	1500	8510	1960	1060	5610
13	2680	2100	15200	2140	1580	9130	1970	1210	6440
14	2500	2350	15900	2140	1500	8670	2010	1970	10700
15	2400	1950	12600	2090	1440	8130	2100	1200	6800
16	2300	1550	9630	2140	1930	11200	2060	1050	5840
17	2300	1800	11200	2210	1980	11800	2080	1060	5950
18	2320	1750	11000	2110	1800	10300	2030	940	5150
19	2300	1600	9940	1680	1870	8480	2030	900	4930
20	2300	1600	9940	1690	1250	5700	1960	770	4070
21	3920	3800	40200	1820	1760	8650	1940	780	4090
22	11300	52200	1730000	2030	1600	8640	1990	910	4890
23	8520	36600	894000	2010	1360	7380	1940	900	4710
24	3670	13000	129000	2010	1590	8630	2010	890	4830
25	2960	8000	63900	1970	1300	6910	1960	1110	5870
26	2770	5700	42600	1980	1050	5610	1920	1020	5290
27	2760	3750	27900	1950	1130	5950	1920	1020	5290
28	2550	4900	33700	1960	1410	7460	1750	950	4490
29	2550	6520	44900	1370	1750	6470	1800	900	4370
30	2550	6050	41700	1030	950	2640	1780	930	4470
31	2300	3090	19200	--	--	--	1890	1110	5660
TOTAL	94800	--	3515890	59250	--	292650	59017	--	177620

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1780	1000	4810	2770	1380	10300	2420	630	4120
2	1740	1080	5070	2710	1700	12400	2500	2260	15300
3	1680	1160	5260	2640	1790	12800	2560	1000	6910
4	1720	1000	4640	2480	1540	10300	2430	1000	6560
5	1710	950	4390	2420	1250	8170	2460	790	5250
6	1700	960	4410	2320	1390	8710	2400	650	4210
7	1720	800	3720	2300	1290	8010	2430	750	4920
8	1170	630	1990	2360	1300	8280	2370	850	5440
9	894	700	1690	2370	1250	8000	2230	680	4090
10	950	1080	2770	2450	1200	7940	1890	930	4750
11	902	1100	2680	2440	950	6260	1860	830	4170
12	967	900	2350	2470	963	6400	1690	660	3010
13	1040	970	2720	2530	1150	7860	1700	630	2890
14	1020	890	2450	2620	2640	18700	1670	680	3070
15	1030	710	1970	2580	2250	15700	1690	740	3380
16	997	690	1860	2550	1000	6890	1660	620	2780
17	1060	900	2580	2400	910	5900	1640	640	2830
18	1100	880	2610	2520	1050	7140	1640	600	2660
19	1070	780	2250	2400	1040	6740	1650	560	2490
20	1050	750	2130	2440	990	6520	1740	670	3150
21	1070	710	2050	2490	1000	6620	1610	730	3170
22	1070	670	1940	2380	1190	7650	1600	600	2590
23	1070	690	1990	2480	910	6090	1610	630	2740
24	1040	650	1830	2420	800	5230	1510	580	2360
25	1030	640	1780	2470	730	4870	1590	670	2880
26	995	740	1990	2420	670	4380	1470	670	2660
27	980	750	1980	2390	560	3610	1340	530	1920
28	1000	780	2110	2530	570	3890	1300	500	1760
29	1710	2130	12200	--	--	--	1240	600	2010
30	2700	2690	19600	--	--	--	1090	670	1970
31	2930	1700	13400	--	--	--	1220	700	2310
TOTAL	40895	--	123220	69310	--	225360	56210	--	118350

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1120	620	1870	560	364	550	2790	880	6630
2	861	470	1090	525	233	330	2510	740	5010
3	766	500	1030	448	190	230	2410	560	3640
4	676	920	1680	418	175	198	2460	560	3720
5	672	860	1560	430	195	226	2670	820	5910
6	666	830	1490	862	1240	3670	2310	670	4180
7	687	910	1690	1080	1890	5510	2120	2290	13800
8	721	1360	2650	1600	2660	11500	2120	770	4410
9	787	1300	2760	1550	1700	7110	2190	940	5560
10	768	930	1930	1360	1040	3829	2250	800	4860
11	718	740	1430	1220	800	2640	2330	780	4910
12	748	610	1230	1490	1340	5510	2370	860	5500
13	797	580	1250	2370	1370	8770	2140	590	3410
14	757	550	1120	2560	1960	13500	2120	550	3150
15	809	710	1550	2850	2080	16000	2010	600	3260
16	791	570	1220	3140	2050	17400	1930	470	2450
17	830	970	2170	3620	2530	24700	2130	267	1540
18	805	650	1410	4410	3030	36100	2020	157	856
19	778	560	1180	4460	2500	30100	2210	207	1240
20	680	620	1140	4040	2080	22700	2440	351	2310
21	570	660	1020	3290	2290	20300	2480	611	4090
22	492	440	584	3110	1670	14000	2300	461	2860
23	504	440	599	3250	1430	12500	2190	238	1410
24	531	360	516	3230	1030	8980	2120	373	2140
25	515	300	417	3170	1030	8820	2000	155	837
26	422	230	262	3240	900	7870	1990	160	860
27	489	320	422	3290	940	8350	2050	206	1140
28	732	720	1420	2970	960	7700	2000	354	1910
29	807	770	1680	2930	830	6500	1840	507	2520
30	651	600	1050	2470	740	4940	1820	419	2060
31	--	--	--	2500	660	4460	--	--	--
TOTAL	21150	--	39420	72413	--	314984	66320	--	106173

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1630	355	1560	347	104	97	616	815	1360
2	1390	388	1460	294	78	62	616	475	790
3	1260	310	1050	299	153	127	602	370	601
4	1160	370	1160	378	18800	23500	630	405	689
5	1150	295	916	408	15000	16500	1650	18200	88900
6	1140	278	856	445	10700	12900	8470	45700	1030000
7	1200	990	3210	461	3100	3860	11300	14800	452000
8	1380	2830	10500	892	17100	77700	5130	7000	97000
9	1920	4560	24700	949	51200	131000	3140	3520	29800
10	1860	2910	14600	758	15400	31500	2670	3530	25400
11	1560	1010	4250	573	2440	3770	2620	3030	21400
12	1370	637	2250	412	1430	1560	2740	3740	27700
13	1140	479	1470	298	610	491	3930	32200	354000
14	963	393	1020	255	460	317	6810	30900	568000
15	851	298	685	239	460	297	6120	11000	189000
16	788	263	560	400	1220	1320	4510	4300	52400
17	744	248	498	955	11100	33800	3630	2920	28600
18	672	173	314	789	34500	73500	3130	2120	17900
19	657	232	412	940	7800	19800	2870	2690	20800
20	691	244	455	1230	14400	59300	2600	2670	18700
21	683	469	865	1840	33700	171000	2390	1470	9490
22	671	279	505	1370	15300	56600	2520	2030	13800
23	682	325	598	1170	2940	8730	2750	1780	13200
24	785	365	774	1020	1380	3800	2680	2500	18100
25	768	305	632	900	1080	2620	2280	1750	10800
26	710	269	516	816	1000	2200	2270	1440	8830
27	728	290	570	700	680	1290	2130	2190	12600
28	784	257	544	686	460	852	2090	1680	9480
29	538	150	218	644	635	1130	2130	1280	7360
30	479	140	181	623	505	849	2130	1350	7760
31	392	141	149	659	450	740	--	--	--
TOTAL	30746	--	77478	21630	--	741182	97154	--	3116460

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 688895
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 8848787

09368000 SAN JUAN RIVER AT SHIPROCK, N. MEX.--Continued

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 4, 1969	0800	10.0	3500	12500	118000	35	46	--	60	--	88	100	--	--	--	--	VPWC
OCT 25.....	1630	12.5	2780	7330	55000	39	44	--	48	--	65	86	97	100	--	--	VPWC
OCT 30.....	0645	5.0	2550	7040	48500	35	45	--	57	--	73	92	100	--	--	--	VPWC
DEC 19.....	1430	7.5	2060	988	5050	--	--	--	--	--	19	49	99	100	--	--	V
FEB 10, 1970	1140	6.5	2500	1450	9790	--	--	--	--	--	13	37	93	100	--	--	V
APR 8.....	1800	15.5	672	1570	2850	54	62	--	70	--	74	79	97	100	--	--	VPWC
APR 14.....	1320	12.0	724	587	1150	16	19	--	27	--	42	52	82	99	100	--	VPWC
MAY 20.....	1630	16.5	3880	1670	17500	9	10	--	13	--	36	73	100	--	--	--	VPWC
JUN 9.....	1215	14.5	2160	1980	11500	10	12	--	17	--	23	28	52	82	100	--	VPWC
JUL 20.....	2100	27.0	748	277	559	36	42	--	50	--	67	74	87	100	--	--	SPWC
AUG 6.....	0630	22.0	478	11300	14600	78	87	--	96	--	99	99	100	--	--	--	SPWC
AUG 11.....	1900	28.5	560	2190	3310	46	56	66	76	85	89	90	93	99	100	--	VPWC
AUG 11.....	1900	28.5	560	2190	3310	1	5	23	77	85	89	90	93	99	100	--	VPN
AUG 17.....	2100	22.0	1150	18900	58700	42	54	--	73	--	95	97	99	100	--	--	VPWC
SEP 6.....	1200	17.0	14900	64200	2580000	44	55	--	72	--	97	94	98	100	--	--	VPWC
SEP 8.....	0630	14.0	5720	8280	128000	38	48	--	60	--	78	91	99	100	--	--	VPWC
SEP 13.....	1445	17.5	3740	52200	527000	44	53	--	74	--	96	99	100	--	--	--	VPWC

09378700 COTTONWOOD WASH NEAR BLANDING, UTAH

LOCATION.--Lat 37°33'40", long 109°34'40", in NE¼NW¼ sec.23, T.37 S., R.21 E., San Juan County, at gaging station about 2 miles downstream from Brush Basin Canyon and 7 miles southwest of Blanding.

DRAINAGE AREA.--205 sq mi.

PERIOD OF RECORD.--Water temperatures: March 1968 to September 1970.
Sediment records: March 1968 to September 1970.

EXTREMES.--1969-70:
Sediment concentrations: Maximum daily, 130,000 mg/l Aug. 20; minimum daily, no flow for many days.
Sediment discharge: Maximum daily, 142,000 tons Aug. 20; minimum daily, 0 ton on many days.

Period of record:
Sediment concentrations: Maximum daily, 130,000 mg/l Aug. 20, 1970; minimum daily, no flow for many days each year.
Sediment discharge: Maximum daily, 1,800,000 tons Aug. 1, 1968; minimum daily, 0 ton on many days each year.

REMARKS.--No flow Oct. 1, 2, Dec. 29 to Jan. 16, May 31 to June 6, June 15 to Aug. 2, 8-18, Aug. 26 to Sept. 4, 8-11, 15-30.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	8.0	---	---	---	4.0	---	12.0	---	---	---	---
2	---	---	0.0	---	2.0	6.0	---	8.0	---	---	---	---
3	8.0	8.0	---	---	---	10.0	---	13.0	---	---	---	---
4	6.0	---	2.0	---	---	8.5	---	14.0	---	---	---	---
5	---	6.0	---	---	1.0	7.0	---	7.0	---	---	---	---
6	15.0	8.0	2.0	---	---	---	---	15.0	---	---	---	---
7	---	---	---	---	3.0	10.0	---	15.0	---	---	---	---
8	19.0	8.0	2.0	---	---	---	---	16.0	---	---	---	---
9	---	---	---	---	11.0	12.0	---	---	15.0	---	---	---
10	---	6.0	---	---	4.0	4.0	---	7.0	---	---	---	---
11	0.0	---	---	---	---	6.0	---	16.0	---	---	---	---
12	---	---	---	---	3.0	7.0	---	8.0	---	---	---	---
13	10.0	6.0	2.0	---	---	---	---	19.0	---	---	---	---
14	---	---	---	---	---	---	---	10.0	---	---	---	---
15	10.0	8.0	0.0	---	5.0	12.0	15.0	20.0	---	---	---	---
16	---	6.0	---	---	---	---	---	---	---	---	---	---
17	12.0	4.0	2.0	---	6.0	---	---	---	---	---	---	---
18	---	---	---	---	---	---	7.0	---	---	---	---	---
19	---	2.0	2.0	---	6.0	---	6.0	10.0	---	---	---	---
20	12.0	---	---	2.0	---	---	7.0	---	---	---	---	---
21	---	2.0	2.0	---	7.0	---	6.0	---	---	---	---	---
22	15.0	---	---	---	---	---	7.0	---	---	---	---	---
23	14.0	2.0	2.0	2.0	10.0	---	14.0	---	---	---	---	---
24	---	---	---	---	---	---	15.0	---	---	---	---	---
25	12.0	2.0	0.0	0.0	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	13.0	---	---	---	---	---
27	10.0	---	---	0.0	---	---	6.0	---	---	---	---	---
28	8.0	---	---	---	---	---	10.0	---	---	---	---	---
29	---	---	0.0	---	---	---	4.0	---	---	---	---	---
30	8.0	2.0	---	1.0	---	---	10.0	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
AVG	---	---	---	---	---	---	---	---	---	---	---	---

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
FEB 9, 1970	1450	11.0	2.1	1610	9.1	15	20	--	30	--	5[illegible]	99	99	100	--	--	VPWC
MAR 1.....	1625	4.0	15	21200	859	17	22	--	30	--	44	79	98	100	--	--	VPWC
MAR 4.....	1610	8.5	4.6	2180	27	27	34	--	43	--	65	96	100	--	--	--	VPWC
APR 15.....	1625	15.0	.84	376	.8	21	30	--	--	--	67	93	100	--	--	--	VPWC
MAY 19.....	1000	10.0	1.6	478	2.1	26	38	--	--	--	58	92	100	--	--	--	VPWC
JUN 9.....	1630	15.0	.36	266	.26	71	87	--	--	--	92	97	100	--	--	--	VPWC
AUG 4.....	0650	--	9.5	14900	382	65	76	--	--	--	96	99	100	--	--	--	VPWC
AUG 19.....	1755	--	1190	654000	2100000	6	6	--	--	--	25	57	93	100	--	--	VPWC
AUG 19.....	2210	--	96	48500	12600	26	29	--	--	--	66	91	100	--	--	--	VPWC
AUG 20.....	1615	--	2.7	10500	77	54	72	--	--	--	97	99	100	--	--	--	VPWC
AUG 20.....	1645	--	126	87100	29600	26	33	--	--	--	68	91	99	100	--	--	VPWC
AUG 20.....	2300	--	779	181000	381000	13	14	--	--	--	36	76	96	100	--	--	VPWC
AUG 21.....	1910	--	18	17200	836	63	82	--	--	--	97	99	100	--	--	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (°C)	NUMBER OF SAMPLING 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	16.00	32.00	64.00	METHOD OF ANALYSIS
FEB 9, 1970	1450	11.0		2.1	1	15	51	72	81	86	94	99	100	--	--	SV
MAR 4.....	1610	8.5		4.6	2	19	62	82	88	92	96	98	100	--	--	SV
APR 15.....	1625	15.0		.84	2	13	37	52	60	65	74	85	94	100	--	SV
MAY 19.....	1000	10.0		1.64	1	11	61	85	91	92	95	98	99	100	--	SV
JUN 9.....	1630	15.0		.36	1	10	67	95	98	100	--	--	--	--	--	SV

09378700 COTTONWOOD WASH NEAR BLANDING, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	1.5	2610	11	3.7	300	3.0
2	0	0	0	1.5	1500	6.1	3.7	287	2.9
3	8.1	18700	409	1.5	335	1.4	4.4	4180	50
4	3.4	3500	32	1.5	500	2.0	3.7	8070	81
5	1.6	1940	8.4	1.6	663	2.9	3.2	4500	39
6	1.5	378	1.5	2.3	847	5.3	1.6	874	3.8
7	1.5	340	1.4	2.9	1600	13	2.7	2600	19
8	1.4	292	1.1	1.6	2260	9.8	2.7	4260	31
9	1.4	356	1.3	.70	1900	3.6	3.4	3860	35
10	.84	416	.94	1.2	1600	5.2	2.7	3460	25
11	1.0	479	1.3	1.0	2080	5.6	2.9	3070	24
12	1.2	410	1.3	1.0	2560	6.9	3.0	2670	22
13	1.0	341	.92	1.4	3040	11	3.0	2270	18
14	1.0	260	.70	1.6	1800	7.8	3.0	1800	15
15	1.2	177	.57	1.8	529	2.6	3.0	1230	10
16	1.4	188	.71	10	15500	419	3.0	2110	17
17	1.6	199	.86	6.6	7560	135	3.0	3000	24
18	1.4	231	.87	6.0	4600	75	3.0	3280	27
19	1.6	263	1.1	5.3	1680	24	3.0	3560	29
20	1.8	296	1.4	4.7	2700	34	2.9	3000	23
21	2.3	280	1.7	5.0	3790	51	2.7	2480	18
22	14	17800	673	4.7	4600	58	2.7	1700	12
23	3.0	4000	32	4.4	5400	64	2.5	986	6.7
24	2.0	2400	13	4.4	3100	37	2.9	1100	8.6
25	1.5	688	2.8	4.4	892	11	2.3	1220	7.6
26	1.5	570	2.3	4.4	2000	24	2.3	950	5.9
27	1.5	454	1.8	4.2	3110	35	1.0	680	1.8
28	1.5	547	2.2	3.9	4210	44	1.0	410	1.1
29	1.5	520	2.1	3.9	5320	56	0	0	0
30	1.5	487	2.0	3.9	6430	68	0	0	0
31	1.5	1000	4.1	--	--	--	0	0	0
TOTAL	64.74	--	1202.37	98.90	--	1229.2	79.0	--	560.4

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	4.4	1300	15	10	16000	432
2	0	0	0	3.2	1180	10	6.0	18000	292
3	0	0	0	2.9	1500	12	4.0	4620	50
4	0	0	0	1.6	1900	8.2	5.3	2180	31
5	0	0	0	1.2	2200	7.1	4.7	2350	30
6	0	0	0	1.2	2000	6.5	3.9	2300	24
7	0	0	0	1.2	1790	5.8	3.9	2250	24
8	0	0	0	.70	1700	3.2	3.9	2660	28
9	0	0	0	1.6	1600	6.9	4.4	3080	37
10	0	0	0	.47	2130	2.7	6.0	5500	89
11	0	0	0	.58	2050	3.2	6.3	5500	94
12	0	0	0	.70	1970	3.7	4.2	5500	62
13	0	0	0	1.6	2030	8.8	5.3	4290	61
14	0	0	0	1.4	2100	7.9	4.7	3080	39
15	0	0	0	.84	2160	4.9	3.9	1870	20
16	0	0	0	.70	1820	3.4	3.9	1500	16
17	.10	200	.05	.58	1490	2.3	4.7	1500	19
18	3.4	200	1.8	.58	1960	3.1	4.7	1500	19
19	3.9	500	5.3	.47	2440	3.1	4.7	1500	19
20	4.4	5400	64	1.0	2160	5.8	4.2	1500	17
21	3.2	6000	52	2.9	1880	15	4.4	1500	18
22	3.2	6000	52	2.9	1750	14	3.9	1500	16
23	2.3	6500	40	2.9	1620	13	4.2	1500	17
24	1.8	3000	15	2.5	1500	10	4.2	1500	17
25	2.7	1810	13	2.3	1400	8.7	4.4	1500	18
26	2.5	1500	10	2.5	1500	10	3.9	1500	16
27	2.7	1130	8.2	2.7	1600	12	3.4	1500	14
28	1.8	1300	6.3	2.5	1500	10	3.2	1500	13
29	1.2	1500	4.9	--	--	--	3.4	1500	14
30	1.6	1650	7.1	--	--	--	3.9	1500	16
31	3.2	1500	13	--	--	--	5.6	2000	30
TOTAL	38.00	--	292.65	48.12	--	216.3	143.2	--	1592

09378700 COTTONWOOD WASH NEAR BLANDING, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	4.4	1200	14	1.2	1130	3.7	0	0	0
2	3.9	1200	13	1.5	1020	4.1	0	0	0
3	4.2	1200	14	2.2	3250	19	0	0	0
4	3.9	1200	13	4.2	3500	40	0	0	0
5	4.2	1200	14	5.6	11900	180	0	0	0
6	4.2	1200	14	5.6	3980	60	0	0	0
7	4.2	1200	14	4.2	3290	37	.25	200	.14
8	3.7	1000	10	3.2	2210	19	1.0	500	1.4
9	3.7	1000	10	2.5	1760	12	.37	266	.27
10	3.2	1000	8.6	2.3	1310	8.1	.70	862	1.6
11	3.2	1000	8.6	2.0	863	4.7	6.0	9000	146
12	2.5	700	4.7	2.0	2030	11	2.5	4000	27
13	1.8	400	1.9	1.8	1500	7.3	1.0	1000	2.7
14	1.4	400	1.5	1.6	2130	9.2	.50	500	.68
15	1.0	376	1.0	1.4	2660	10	0	0	0
16	3.2	500	4.3	1.6	2110	9.1	0	0	0
17	20	10400	562	1.6	1560	6.7	0	0	0
18	17	8000	367	1.6	1000	4.3	0	0	0
19	7.0	3040	57	1.6	450	1.9	0	0	0
20	2.0	1420	7.7	1.2	500	1.6	0	0	0
21	2.0	1990	11	1.0	500	1.4	0	0	0
22	2.0	3240	17	.84	500	1.1	0	0	0
23	2.0	3130	17	.84	500	1.1	0	0	0
24	3.0	751	6.1	1.0	500	1.4	0	0	0
25	5.0	1300	18	1.4	500	1.9	0	0	0
26	4.5	1940	24	1.4	500	1.9	0	0	0
27	4.0	11300	122	1.4	500	1.9	0	0	0
28	3.0	2370	19	1.6	500	2.2	0	0	0
29	2.5	2490	17	1.4	500	1.9	0	0	0
30	1.8	3160	15	1.0	500	1.4	0	0	0
31	--	--	--	0	0	0	--	--	--
TOTAL	128.5	--	1406.4	60.98	--	464.9	12.32	--	179.79

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	39	3700	390	0	0	0
4	0	0	0	30	13500	1090	0	0	0
5	0	0	0	5.0	4000	54	97	21500	5630
6	0	0	0	1.0	500	1.4	6.0	26000	421
7	0	0	0	.50	250	.34	1.0	4000	11
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	8.6	5600	130
13	0	0	0	0	0	0	8.6	15000	348
14	0	0	0	0	0	0	.84	1000	2.3
15	0	0	0	0	0	0	.37	500	.50
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	60	45600	56800	0	0	0
20	0	0	0	161	130000	142000	0	0	0
21	0	0	0	56	40000	6050	0	0	0
22	0	0	0	20	8430	455	0	0	0
23	0	0	0	6.0	10700	173	0	0	0
24	0	0	0	1.0	3710	10	0	0	0
25	0	0	0	.50	500	.68	0	0	0
26	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
31		0		0	0	0	--	--	--
TOTAL	0	--	0	380.00	--	207024.42	122.41	--	6542.80

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 1176.17
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 202711.23

09379500 SAN JUAN RIVER NEAR BLUFF, UTAH
(Irrigation network station)

LOCATION.--Lat 37°09'04", long 109°52'00", in SE¼NW¼ sec.7, T.42 S., R.19 E., San Juan County, at bridge on State Highway 47, 1,800 ft downstream from gaging station, 20 miles southwest of Bluff, and 114 miles upstream from mouth.

DRAINAGE AREA.--23,000 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: February to June 1927, October 1929 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: May 1944 to September 1961, October 1964 to September 1970.
Sediment records: August to September 1928, July 1929 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,810 micromhos Aug. 11; minimum daily, 351 micromhos May 17.
Water temperatures: Maximum, 30.5°C Aug. 3; minimum, 1.0°C on many days during December and January.
Sediment concentrations: Maximum daily, 80,000 mg/l Oct. 23; minimum daily, 245 mg/l Aug. 3.
Sediment discharge: Maximum daily, 3,210,000 tons Sept. 6; minimum daily, 344 tons Aug. 3.

Period of record:
Dissolved solids (1929-69): Maximum, 1,860 mg/l July 21-31, 1934; minimum, 152 mg/l June 11-20, 1952.
Hardness (1929-69): Maximum, 1,030 mg/l Aug. 29, 1969; minimum, 102 mg/l July 1-6, 8-10, 1957.
Specific conductance (1941-70): Maximum daily, 2,790 micromhos Sept. 19, 1959; minimum daily, 208 micromhos June 17, 1952.
Water temperatures: Maximum, 33.5°C July 31, 1959; minimum (1944-61, 1965-70), freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 383,000 mg/l Sept. 21, 1929; minimum daily, no flow for several days in 1934 and 1939.
Sediment discharge: Maximum daily, 12,000,000 tons Oct. 14, 1941; minimum daily, 0 ton on several days during July 1934 and August 1939.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
01...	1530	1590	11	78	18	45	3.3	168	0	194	12	.4
JAN.												
19...	1430	990	9.8	99	30	80	3.1	180	0	378	22	.4
FEB.												
10...	1430	2360	9.1	56	14	35	1.9	124	0	142	11	.4
MAR.												
04...	1115	2460	8.8	65	21	47	2.7	144	0	199	20	.2
16...	1200	1700	8.6	60	17	42	2.3	131	0	183	12	.3
APR.												
16...	1020	796	8.8	87	32	69	2.8	169	0	327	22	.4
MAY												
18...	1645	4020	6.5	57	15	24	1.9	170	0	105	7.2	.3
JUNE												
10...	0830	2450	7.4	66	16	39	2.5	125	0	184	12	.4
JULY												
16...	1420	1080	8.3	79	21	46	2.7	147	0	227	16	.5
AUG.												
03...	1455	438	6.2	84	30	80	3.6	140	0	336	22	.8
SEP.												
01...	1415	767	8.0	107	28	69	3.9	152	8	358	20	.7
04...	1600	638	16	103	32	76	4.9	194	0	232	120	.5
06...	1200	52800	12	66	14	98	6.0	330	0	135	18	.6
07...	1800	46000	15	116	22	142	8.2	275	0	545	14	.8
09...	1700	4640	11	75	12	54	4.9	189	0	192	16	.7
13...	1000	10800	20	162	24	80	6.7	292	0	--	20	.5
16...	1700	5180	10	72	10	34	3.5	202	0	--	10	.2

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
01...	--	90	469	446	.64	2010	268	130	1.2	687	6.8
JAN.											
19...	--	90	724	717	.98	1940	371	223	1.8	970	8.2
FEB.											
10...	--	50	356	332	.48	2270	196	94	1.1	533	7.1
MAR.											
04...	--	110	444	438	.60	2950	246	128	1.3	642	7.4
16...	--	70	406	391	.55	1860	220	112	1.2	595	8.1
APR.											
16...	--	80	646	635	.88	635	348	209	1.6	892	7.9
MAY											
18...	--	70	269	306	.37	2920	202	63	.7	413	8.0
JUNE											
10...	--	50	424	391	.58	2810	230	128	1.1	614	7.9
JULY											
16...	.50	60	506	475	.69	1480	284	163	1.2	719	8.2
AUG.											
03...	.03	110	707	632	.96	836	333	218	1.9	925	8.2
SEP.											
01...	90	50	708	682	.96	1470	382	244	1.5	957	8.4
04...	--	--	732	680	1.00	1260	388	70	1.7	990	7.9
06...	--	--	572	512	.78	81500	222	0	2.9	821	7.4
07...	--	--	960	999	1.31	119000	380	154	3.2	1310	7.4
09...	--	--	488	459	.66	6110	--	--	1.5	710	7.4
13...	--	--	772	--	1.05	22500	502	262	1.6	1030	7.2
16...	--	--	404	--	.55	5650	220	54	1.0	590	7.7

09379500 SAN JUAN RIVER NEAR BLUFF, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	667	667	832	505	538	544	848	914	451	497	---	942
2	686	673	932	612	541	571	871	---	425	516	899	969
3	746	650	944	583	530	606	861	914	433	547	947	966
4	1230	765	790	585	528	648	906	952	456	---	982	984
5	965	719	686	457	533	638	1010	961	455	635	1130	---
6	812	664	685	615	533	613	1060	1020	---	694	1320	721
7	721	670	681	611	527	591	1010	---	455	843	1270	1250
8	704	654	679	594	548	561	996	1030	557	803	---	638
9	710	633	662	599	540	565	963	777	663	1130	1290	638
10	686	635	673	718	539	552	970	623	604	803	1050	672
11	653	662	667	892	537	563	938	591	613	---	1810	675
12	641	662	658	924	537	642	944	608	685	738	1420	---
13	639	656	641	933	558	652	935	643	---	673	1090	925
14	645	653	643	961	550	632	945	623	---	673	1010	871
15	627	644	659	914	536	615	904	511	616	690	---	736
16	633	632	647	961	559	606	901	---	612	733	1110	505
17	641	674	659	921	553	607	866	351	604	758	1170	487
18	637	728	653	969	542	608	---	362	585	---	1010	525
19	631	728	716	969	526	598	866	373	575	794	1080	---
20	657	698	679	991	507	586	942	377	533	821	1510	574
21	629	804	692	1020	499	614	1020	401	506	853	950	587
22	866	727	693	1030	501	587	1000	---	465	925	---	613
23	1220	709	682	1020	513	580	1010	421	450	866	1430	585
24	1090	699	669	1030	510	575	1070	---	453	891	991	574
25	866	665	664	1030	529	581	---	---	476	---	883	582
26	793	667	660	1020	523	576	1000	---	504	893	847	---
27	713	662	641	1010	513	571	993	---	456	864	848	582
28	682	649	654	1000	511	564	1000	---	---	843	848	589
29	734	643	667	1030	---	677	1110	---	465	853	---	594
30	676	661	653	1000	---	771	1050	---	478	836	923	597
31	769	---	631	592	---	813	---	---	---	844	934	---
AVG	754	678	693	842	531	610	964	---	522	778	1110	706

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	9.0	5.0	1.0	3.0	7.0	7.5	11.5	20.5	25.0	---	24.0
2	20.0	8.0	4.0	1.0	3.0	6.0	9.5	---	21.0	25.0	27.5	24.0
3	14.0	8.0	4.0	1.0	3.0	7.5	9.5	16.0	19.0	26.5	30.5	23.5
4	12.0	8.0	4.0	1.0	4.0	7.5	10.0	19.5	19.0	---	26.5	20.0
5	10.0	8.0	4.0	1.0	4.0	7.5	11.0	18.0	17.0	23.5	27.5	---
6	13.0	9.0	4.0	1.0	5.0	8.0	13.0	19.0	---	28.0	28.0	14.5
7	14.0	9.0	3.0	1.0	6.0	9.0	12.0	---	17.5	27.0	28.5	17.0
8	14.0	9.0	3.0	1.0	6.0	9.5	13.0	18.0	20.5	26.5	---	18.0
9	15.0	9.0	4.0	1.0	6.0	9.5	14.0	16.0	18.0	25.0	27.0	18.5
10	15.0	10.0	3.0	1.0	6.5	8.0	15.0	16.0	17.0	23.0	28.0	18.0
11	12.0	10.0	4.0	1.0	6.5	8.5	13.0	16.0	18.0	---	29.0	19.5
12	10.0	10.0	3.0	1.0	6.5	8.0	9.5	17.0	19.0	22.5	29.0	---
13	13.0	10.0	3.0	1.0	7.0	8.5	10.5	17.5	---	27.0	28.0	17.5
14	12.0	10.0	3.0	2.0	6.5	7.5	9.5	17.0	---	27.0	27.0	18.0
15	13.0	10.0	3.0	3.0	5.5	8.5	10.5	17.0	20.5	28.5	---	16.5
16	12.0	9.0	3.0	4.0	5.5	9.5	11.0	---	22.5	27.0	27.0	15.5
17	12.0	7.0	4.0	4.0	6.0	8.0	8.5	16.0	23.0	28.5	26.0	15.5
18	14.0	7.0	3.0	5.0	5.0	5.0	---	19.0	24.0	---	25.0	16.0
19	12.0	7.0	3.0	4.0	5.0	6.5	10.0	17.0	24.0	28.5	23.5	---
20	12.0	8.0	4.0	5.0	4.5	5.5	11.0	16.0	26.0	29.0	22.0	16.0
21	11.0	7.0	4.0	5.0	4.5	7.0	10.0	16.5	22.5	26.0	22.5	17.0
22	11.0	8.0	3.0	6.0	5.5	7.0	10.0	16.5	25.5	25.0	---	15.5
23	11.0	6.0	4.0	6.0	7.0	10.0	11.5	---	25.5	24.0	21.0	15.0
24	11.0	6.0	5.0	4.0	8.0	10.5	13.0	15.5	26.0	23.0	25.0	15.0
25	12.0	6.0	5.0	5.0	8.0	10.0	---	18.5	26.5	---	24.0	13.0
26	11.0	6.0	4.0	6.0	8.0	7.5	13.0	18.0	29.0	23.0	24.5	---
27	12.0	6.0	5.0	6.0	6.5	7.0	12.0	18.0	25.0	25.0	25.0	15.5
28	13.0	5.0	3.0	4.0	7.0	4.5	9.5	18.5	---	28.0	24.0	13.0
29	10.0	5.0	2.0	4.0	---	7.0	10.0	21.0	24.0	27.0	---	15.0
30	9.0	5.0	2.0	3.0	---	9.0	10.0	---	24.0	29.0	24.0	16.0
31	10.0	---	1.0	2.0	---	7.5	---	18.0	---	29.0	23.5	---
AVG	12.5	8.0	3.5	3.0	5.5	8.0	11.0	17.0	22.0	26.0	26.0	17.0

09379500 SAN JUAN RIVER NEAR BLUFF, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1590	1260	5410	2400	5250	34000	981	944	2500
2	1550	1300	5440	2320	4850	30400	981	944	2500
3	4380	21400	253000	2240	5340	32300	1230	1570	5210
4	7420	38000	761000	2150	4310	25000	1790	3100	15000
5	4210	25000	284000	2080	4130	23200	1940	3630	19000
6	2700	16900	123000	2140	4310	24900	1980	3700	19800
7	2390	15000	96600	2100	4200	23800	1950	3630	19100
8	2330	10200	64200	2070	4100	22900	1910	3510	18100
9	2340	5060	32000	2090	4090	23100	1870	3330	16800
10	2340	5460	34500	2070	4100	22900	1890	3390	17300
11	2400	5250	34000	2070	4100	22900	1870	3330	16800
12	2520	5730	39000	2010	3890	21100	1820	3220	15800
13	2490	7480	50300	1940	3610	18900	1800	3130	15200
14	2380	5240	33700	1910	3510	18100	1820	3220	15800
15	2310	6320	39400	1890	3490	17800	1840	3260	16200
16	2280	4790	29500	1910	3510	18100	1860	3290	16500
17	2240	4540	27500	2090	6680	37700	1860	3290	16500
18	2240	4630	28000	2180	4490	26400	1870	3330	16800
19	2260	4670	28500	2040	3990	22000	1840	3260	16200
20	2290	11000	67700	1700	2830	13000	1870	3330	16800
21	2390	13000	83900	1340	1820	6580	1840	3260	16200
22	9740	29200	768000	1710	2860	13200	1830	3220	15900
23	13800	80000	2980000	1980	3700	19800	1880	3470	17600
24	4970	50000	671000	2010	3890	21100	1860	3290	16500
25	3310	39000	349000	1970	3680	19600	1830	3220	15900
26	2820	6960	53000	1970	3680	19600	1860	3290	16500
27	2680	8700	63000	1960	3670	19400	1870	3330	16800
28	2570	8700	60400	1940	3630	19000	1820	3220	15800
29	2610	8700	61300	1910	3510	18100	1750	2980	14100
30	2790	8700	65500	1360	1850	6790	1790	3080	14900
31	2510	8700	59000	--	--	--	1710	2860	13200
TOTAL	104840	--	7251050	59550	--	641670	55012	--	471310

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1690	2830	12900	2340	4400	27800	2320	4850	30400
2	1740	2480	14000	2370	5030	32200	2520	5730	39000
3	1680	2420	12400	2340	5060	32000	2480	5600	37500
4	1690	2830	12900	2310	3520	22000	2480	3310	22200
5	1620	2540	11200	2370	5080	32500	2380	4390	28200
6	1670	2790	12600	2370	3010	19300	2370	4440	28400
7	1650	2650	11800	2340	5060	32000	2320	4850	30400
8	1600	2520	10900	2320	4850	30400	2340	5060	32000
9	1090	1190	3500	2340	4030	25500	2320	3520	22000
10	811	639	1400	2360	5080	32400	2280	4790	29500
11	873	747	1760	2360	5080	32400	1950	2460	13000
12	955	892	2300	2360	5080	32400	1790	3080	14900
13	930	796	2000	2380	4390	28200	1760	1830	8700
14	981	951	2520	2440	5460	36000	1720	2890	13400
15	955	892	2300	2490	5580	37500	1720	2890	13400
16	964	922	2400	2420	4130	27000	1700	2920	13400
17	981	951	2520	2340	5060	32000	1710	1270	5860
18	981	951	2520	2300	3840	23800	1770	1870	8940
19	1020	1020	2810	2330	4980	31300	1700	4670	21400
20	998	983	2650	2320	3500	21900	1680	4370	19800
21	990	969	2590	2270	4760	29200	1700	1100	5050
22	990	969	2590	2260	4670	28500	1670	1390	6270
23	990	969	2590	2260	4580	27900	1660	1700	7620
24	1050	1130	3200	2310	4810	30000	1670	1830	8250
25	1050	1130	3200	2280	3420	21100	1590	1900	8160
26	1040	1140	3200	2280	4790	29500	1650	1620	7220
27	1020	1020	2810	2260	2780	17000	1700	1340	6150
28	1020	1020	2810	2250	4600	27900	1540	1370	5700
29	998	983	2650	--	--	--	1340	2640	9550
30	1560	4700	19800	--	--	--	1320	1580	5630
31	2220	5590	33500	--	--	--	1320	1690	6020
TOTAL	37807	--	206720	65370	--	799700	58470	--	508020

09379500 SAN JUAN RIVER NEAR BLUFF, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	APRIL MEAN DISCHARGE (CFS)	APRIL MEAN CONCEN-TRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (CFS)	MAY MEAN CONCEN-TRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (CFS)	JUNE MEAN CONCEN-TRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	1320	2120	7560	836	1240	2800	2620	2540	18000
2	1200	997	3230	750	981	1990	2730	2590	19100
3	1070	1770	5110	669	722	1300	2400	2000	13000
4	827	1380	3080	639	932	1610	2370	2190	14000
5	842	1130	2570	544	526	773	2530	3960	27100
6	811	2480	5430	532	578	830	2670	3240	23400
7	782	1810	3820	522	1250	1760	2150	2490	14500
8	796	1630	3500	1030	1900	5280	2250	2500	15200
9	811	1590	3490	1500	3240	14000	2370	4880	31200
10	834	2060	4640	1520	3380	13900	2490	2630	17700
11	934	1550	3490	1260	2180	7420	2490	2520	16900
12	789	1990	4240	1090	1400	4120	2720	3400	25000
13	774	1370	2860	1120	1450	4380	2650	3050	21800
14	819	1460	3230	1910	3140	16700	2320	2440	15300
15	804	871	1890	2220	3760	22500	2170	1820	10700
16	804	1410	3060	2450	4380	29000	2120	1400	8010
17	863	1520	3540	2760	4580	34100	2060	1340	7450
18	883	1670	3980	3520	5000	47500	2080	1400	7860
19	905	1820	4450	4290	6300	73000	2090	1550	8750
20	894	1520	3670	4440	6220	74600	2240	1260	7620
21	947	2130	4870	4180	6140	69300	2520	2440	16600
22	765	1280	2640	3710	4910	49200	2580	1900	13200
23	700	1130	2140	3670	5130	50800	2490	1930	13000
24	683	1280	2360	3670	5340	52900	2270	1640	10100
25	692	1120	2090	3500	3710	35100	2060	1370	7620
26	653	952	1680	3400	3510	32200	2070	1410	7880
27	642	820	1420	3300	5110	45500	2180	1380	8120
28	568	771	1180	3180	5000	42900	2140	1350	7800
29	606	1130	1850	3020	2400	19600	1930	1380	7190
30	880	1670	3970	2840	2460	19000	2030	1500	8220
31	--	--	--	2490	2520	16900	--	--	--
TOTAL	24698	--	101030	70582	--	790963	69790	--	422320

DAY	JULY MEAN DISCHARGE (CFS)	JULY MEAN CONCEN-TRATION (MG/L)	JULY SEDIMENT DISCHARGE (TONS/DAY)	AUGUST MEAN DISCHARGE (CFS)	AUGUST MEAN CONCEN-TRATION (MG/L)	AUGUST SEDIMENT DISCHARGE (TONS/DAY)	SEPTEMBER MEAN DISCHARGE (CFS)	SEPTEMBER MEAN CONCEN-TRATION (MG/L)	SEPTEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	1930	1800	8890	580	450	705	796	1980	4260
2	1600	1060	4580	580	398	623	674	1930	3510
3	1430	1160	4440	520	245	344	669	4410	7970
4	1280	1160	4010	520	8960	12600	634	4100	7020
5	1160	1150	3600	520	18300	25700	6240	24600	414000
6	1240	1660	5560	600	24700	40000	34700	34300	3210000
7	1350	4300	15700	700	20500	38700	15500	37500	1570000
8	1350	2180	7950	3000	16700	135000	10300	39600	1100000
9	1970	10500	60000	1500	12400	51800	4960	12400	166000
10	2580	10900	79800	1000	10600	28600	3780	4060	41400
11	2080	8150	45800	774	48300	101000	3250	12200	107000
12	1780	5300	25500	724	30500	59600	3770	17000	173000
13	1560	2600	11000	697	10400	20500	10200	49300	1390000
14	1340	2350	8500	645	6380	11100	5620	26900	408000
15	1150	1980	6150	583	3930	6190	7460	35000	705000
16	1060	1150	3290	552	1480	2210	6230	14700	247000
17	971	1480	3880	532	1680	2410	4500	7270	88300
18	945	1330	3400	866	26700	62400	3740	7240	73100
19	967	1180	2760	1430	11200	43200	3300	6150	54800
20	817	1490	3290	2070	69800	390000	3030	5060	41400
21	813	1130	2480	3150	42000	357000	2830	3050	23300
22	861	1500	3490	2360	46200	294000	2550	3000	20700
23	827	1220	2720	1500	50400	204000	2360	4080	31500
24	813	1560	3420	1250	28400	68900	2740	2520	18600
25	829	1610	3600	1200	10400	33700	2650	2770	19800
26	924	1660	4140	1100	8320	24700	2560	2880	19900
27	849	979	2240	976	5850	15400	2510	2980	20200
28	800	689	1490	883	4600	11000	2440	2160	14200
29	804	932	2020	747	4900	9880	2390	2320	15000
30	782	818	1730	735	5210	10300	2320	2750	17200
31	631	492	838	767	2170	4490	--	--	--
TOTAL	37294	--	336304	33061	--	2066052	155203	--	10015160

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 711677
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 23610303

09379500 SAN JUAN RIVER NEAR BLUFF, UTAH--Continued

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 1 1969	1610	17.0	1590	1390	5970	22	22	--	34	--	72	93	100	--	--	--	VPWC
NOV 17.....	1320	7.0	2240	1800	10900	13	15	--	22	--	60	95	100	--	--	--	VPWC
DEC 8.....	1340	4.0	1890	445	2270	17	22	--	--	--	64	96	100	--	--	--	VPWC
JAN 19 1970	1430	3.5	973	212	557	30	37	--	--	--	90	100	--	--	--	--	VPWC
FEB 10.....	1350	11.0	2340	446	2820	16	20	--	28	--	63	97	100	--	--	--	VPWC
MAR 4.....	1340	8.0	2480	3370	22600	6	6	--	8	--	18	52	90	99	100	--	VPWC
APR 16.....	1550	8.0	829	1390	3110	7	9	--	--	--	22	57	95	100	--	--	VPWC
MAY 18.....	1610	16.0	3850	4220	43900	17	18	--	--	--	72	94	99	100	--	--	VPWC
JUN 10.....	1125	14.0	2450	3280	21700	7	9	--	--	--	26	57	91	99	100	--	VPWC
JUL 16.....	1350	23.0	1080	412	1200	36	52	--	--	--	96	99	100	--	--	--	VPWC
AUG 11.....	1600	--	889	48000	119000	57	78	--	--	--	93	97	100	--	--	--	VPWC
AUG 21.....	1600	--	4350	42000	512000	34	37	--	--	--	82	94	97	100	--	--	VPWC
AUG 23.....	1000	--	1550	51000	221000	42	54	--	--	--	77	99	100	--	--	--	VPWC
SEP 1.....	1415	--	726	1680	3290	34	38	--	--	--	98	100	--	--	--	--	VPWC
SEP 6.....	1200	--	53000	37700	5590000	55	67	--	--	--	93	97	100	--	--	--	VPWC
SEP 7.....	1800	--	14800	57700	2390000	43	55	--	--	--	74	86	95	99	100	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (°C)	NUMBER OF SAMPLING 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 ANALYSIS
OCT 1 1969			17	1590	1	7	58	95	100	--	--	--	--	--	--	V
NOV 17.....			17	2240	7	33	95	100	--	--	--	--	--	--	--	V
DEC 8.....			17	1890	--	4	42	89	98	99	99	99	99	100	--	SV
JAN 19 1970			16	973	--	4	48	89	99	100	--	--	--	--	--	SV
FEB 10.....			17	234	--	4	58	97	100	--	--	--	--	--	--	V
MAR 4.....			17	2480	--	3	40	88	100	--	--	--	--	--	--	V
APR 16.....			17	829	--	1	33	92	100	--	--	--	--	--	--	V
MAY 18.....			17	3850	1	4	38	95	100	--	--	--	--	--	--	V
JUN 10.....			17	2450	--	8	43	92	100	--	--	--	--	--	--	V
JUL 16.....			17	1080	--	1	48	97	100	--	--	--	--	--	--	V
SEP 1.....			15	726	7	45	65	78	80	100	--	--	--	--	--	SV

09380000 COLORADO RIVER AT LEES FERRY, ARIZ.
(Irrigation network station)

LOCATION.--Lat 36°51'53", long 111°35'15", in NE¼SE¼ sec.13, T.40 N., R.7 E., Coconino County, in Navajo Indian Reservation, at gaging station at head of Marble Gorge at Lees Ferry, 0.8 mile upstream from Paria River, 16 miles downstream from Glen Canyon Dam, 28 miles downstream from Utah-Arizona State line, and 61.5 miles upstream from Little Colorado River.
DRAINAGE AREA.--107,900 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: January to July 1926, October 1926 to June 1927, October 1928 to September 1930, November 1942 to October 1945, October 1947 to September 1970.
Water temperatures: July 1949 to September 1970.
Sediment records: October 1928 to December 1933, November 1942 to September 1944, October 1947 to September 1968 (daily), October 1968 to September 1970 (partial records).
EXTREMES.--1969-70:
Dissolved solids: Maximum, 705 mg/l Mar. 1-31; minimum, 562 mg/l Dec. 1-31.
Hardness: Maximum, 334 mg/l Apr. 1-30; minimum, 270 mg/l Oct. 1-31.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED SODIUM PLUS POTASSIUM (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT.											
01-31	10200	10	77	19	--	75	--	156	0	222	44
NOV.											
01-30	11900	11	70	24	--	82	--	168	0	229	46
DEC.											
01-31	13200	11	70	24	--	83	--	174	0	224	48
JAN.											
01-31	11500	11	77	26	--	89	--	173	0	253	54
FEB.											
01-28	8010	11	79	28	--	98	--	176	3	269	60
MAR.											
01-31	7910	11	84	30	--	103	--	185	0	294	66
APR.											
02-30A	15800	9.0	86	29	94	--	3.7	166	4	299	72
MAY											
01-31	14600	9.1	85	29	--	95	--	176	0	286	66
JUNE											
01-30	13400	8.7	81	26	--	83	--	159	3	260	57
JULY											
01-31	12500	8.4	73	29	--	83	--	158	2	255	56
AUG.											
01-31	12600	8.2	73	26	--	81	--	152	3	247	54
SEP.											
01-30	11800	8.1	73	24	--	78	--	150	4	237	52
WTD. AVG.	--	9.6	77	26	--	86	--	165	2	257	57
TIME WTD. AVG.	12000	9.7	77	26	--	86	--	166	2	256	56
TOT. LOAD (TONS)	--	113000	913000	309000	--	900000	--	1952000	19300	27000	667000

ANALYSES OF ADDITIONAL SAMPLES
(DISCHARGE AT TIME OF SAMPLING)

OCT.											
21...	17600	--	67	25	67	--	3.7	154	0	215	49
NOV.											
20...	18600	--	68	25	70	--	3.4	156	0	224	45
DEC.											
15...	18700	--	70	26	73	--	3.6	160	0	230	48
JAN.											
20...	14400	--	77	28	83	--	3.9	170	0	260	56
FEB.											
15...	3210	--	81	30	87	--	4.0	174	0	254	65
MAR.											
18...	12700	--	86	33	98	--	4.5	182	0	296	74
APR.											
20...	14000	--	90	30	98	--	4.2	182	0	298	75
MAY											
19...	19700	--	80	31	90	--	3.8	171	0	282	68
JUNE											
16...	6490	--	78	28	82	--	3.8	163	0	262	56
JULY											
17...	14400	--	74	29	80	--	3.9	161	0	258	56
AUG.											
18...	20200	--	72	28	78	--	3.4	158	0	252	55
SEP.											
29...	18400	--	72	25	75	--	3.4	156	0	240	52

A INCLUDES 0.4 MG/L OF DISSOLVED FLUORIDE (F).

09380000 COLORADO RIVER AT LEES FERRY, ARIZ.--Continued

EXTREMES.--1969-70:--Continued
Specific conductance: Maximum daily, 1,080 micromhos Mar. 15, 16, Apr. 22; minimum daily, 783 micromhos Oct. 6.
Water temperatures: Maximum, 18.0°C Nov. 1; minimum, 2.0°C Jan. 29, 30.
Period of record (1965-70):
Dissolved solids: Maximum, 757 mg/l Apr. 1-30, 1967; minimum, 296 mg/l Sept. 1-30, 1965.
Hardness: Maximum, 388 mg/l Apr. 26-30, 1969; minimum, 166 mg/l Aug 1-31, Sept. 1-30, 1965.
Specific conductance: Maximum daily, 1,260 micromhos Apr. 20, 21, 1967; minimum daily, 460 micromhos Aug. 10, 1965.
Water temperatures: Maximum, 21.0°C on several days during August, September, and October 1965, 1967, 1968; minimum, 2.0°C Jan. 29, 30, 1970.

REMARKS.--Because of the regulation of flow by Glen Canyon Dam since Mar. 13, 1963, and the subsequent filling of Lake Powell, extreme values for the period of record include only those obtained after July 31, 1965.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS_ SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180°C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SODIUM AD- SORP- TION RATIO	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)
OCT.											
01-31	4.0	--	569	528	.77	15700	270	142	2.0	835	7.9
NOV.											
01-30	3.4	--	585	548	.80	18700	274	136	2.1	840	8.0
DEC.											
01-31	3.6	--	562	550	.76	20100	274	132	2.2	847	8.0
JAN.											
01-31	4.2	--	617	599	.84	19100	300	158	2.2	936	7.9
FEB.											
01-28	4.4	--	662	639	.90	14300	314	165	2.4	975	8.3
MAR.											
01-31	5.0	--	705	683	.96	15000	332	180	2.4	1040	8.0
APR.											
01-30	4.0	830	693	685	.94	29600	334	192	2.2	1040	8.4
MAY											
01-31	3.5	--	673	661	.92	26800	332	188	2.3	1020	8.1
JUNE											
01-30	3.0	--	634	600	.86	22400	308	172	2.1	933	8.4
JULY											
01-31	3.7	--	629	588	.86	21400	300	167	2.1	916	8.3
AUG.											
01-31	3.7	--	578	571	.79	18900	290	160	2.1	895	8.3
SEP.											
01-30	3.8	--	568	554	.77	--	282	152	1.9	863	8.4
WTD. AVG.	3.8	--	622	601	.85	--	301	163	2.2	929	8.2
TIME WTD. AVG.	3.9	--	623	600	.85	--	301	162	2.2	928	8.2
TOT. LOAD (TONS)	44700	--	7340000	7085000	--	--	--	--	--	--	--

ANALYSES OF ADDITIONAL SAMPLES

OCT.											
21...	--	--	559	--	.76	26600	270	144	1.8	830	8.1
NOV.											
20...	--	--	536	--	.73	26900	273	145	1.8	795	7.9
DEC.											
15...	--	--	554	--	.75	28000	280	149	1.9	835	7.8
JAN.											
20...	--	--	619	--	.84	24100	308	168	2.1	930	7.6
FEB.											
15...	--	--	647	--	.88	5610	324	181	2.1	970	8.0
MAR.											
18...	--	--	698	--	.95	23900	350	201	2.3	1080	8.1
APR.											
20...	--	--	694	--	.94	26200	350	201	2.3	1080	8.0
MAY											
19...	--	--	667	--	.91	35500	326	186	2.2	1000	8.0
JUNE											
16...	--	--	627	--	.85	11000	312	178	2.0	940	8.1
JULY											
17...	--	--	623	--	.85	24200	304	172	2.0	930	7.9
AUG.											
18...	--	--	595	--	.81	32500	294	164	2.0	910	8.1

09380000 COLORADO RIVER AT LEES FERRY, ARIZ.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	836	836	---	---	---	989	---	---	923	928	929	856
2	815	---	804	957	978	1000	1010	1020	946	932	---	---
3	792	838	---	---	992	1000	1030	1020	961	935	903	860
4	797	842	---	---	986	986	1010	1020	953	921	901	862
5	---	846	815	894	954	1030	997	1010	943	930	917	870
6	783	844	---	906	981	1020	1020	1040	943	925	914	870
7	811	840	---	913	---	1040	1030	1030	930	928	910	883
8	837	---	844	915	981	1040	1030	1040	933	921	907	868
9	845	---	836	910	981	1050	1010	1040	954	916	905	869
10	809	861	830	899	978	1030	1010	1040	921	914	912	---
11	---	819	848	888	964	1030	1010	1020	941	919	910	889
12	---	834	860	868	959	1050	1060	1040	933	940	905	873
13	851	846	---	899	954	1050	1060	1040	946	923	882	879
14	838	856	873	910	949	1050	1050	1050	948	921	---	884
15	828	---	854	934	975	1080	1070	---	948	919	---	873
16	855	---	844	934	986	1080	1010	1010	951	914	907	875
17	830	---	852	920	1040	1060	1020	---	946	919	889	875
18	---	918	852	927	1040	1030	1020	1030	948	912	---	866
19	---	886	844	927	1020	1040	1050	1030	943	914	902	867
20	849	827	---	942	972	1060	1050	1020	---	935	886	872
21	835	829	---	932	931	1060	1020	1020	---	910	---	870
22	795	814	840	942	929	1060	1080	1010	921	908	---	856
23	818	---	---	944	---	1070	1060	1010	926	912	---	865
24	851	827	---	944	944	1070	1040	1010	926	923	888	848
25	---	850	---	---	954	1070	1030	985	930	---	882	---
26	---	836	---	952	1000	1030	1030	976	918	---	889	838
27	859	---	---	973	1000	1040	1040	979	---	---	884	838
28	871	815	---	975	1000	1050	1060	976	---	919	---	848
29	889	839	894	1000	---	1050	---	1000	928	905	---	861
30	875	---	877	983	---	1050	---	---	940	916	869	859
31	841	---	873	---	---	---	---	---	---	914	871	---
AVG	---	---	---	930	978	1040	1030	1020	938	920	---	866

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	18.0	---	---	---	7.8	---	---	11.0	12.0	15.0	17.0
2	17.0	---	10.0	9.0	5.0	8.0	9.0	12.0	12.0	12.0	---	---
3	17.0	16.0	---	---	7.5	7.8	9.0	11.0	11.0	12.0	16.0	17.0
4	17.0	15.0	---	---	8.0	8.0	9.0	11.0	11.0	15.0	16.0	17.0
5	---	14.0	10.0	7.0	7.5	8.0	9.0	11.0	12.0	15.0	16.0	15.0
6	15.0	14.0	---	7.0	7.5	8.0	9.0	10.0	12.0	12.0	16.0	14.0
7	17.0	14.0	---	7.0	---	8.0	9.0	10.0	12.0	12.0	16.0	14.0
8	17.0	---	8.0	7.0	8.0	8.0	9.0	10.0	12.0	12.0	16.0	17.0
9	17.0	---	8.0	7.0	8.0	8.0	9.0	10.0	12.0	15.0	16.0	17.0
10	17.0	12.0	8.0	7.0	8.0	8.0	9.0	10.0	12.0	15.0	16.0	---
11	---	14.0	11.0	---	8.0	8.0	9.0	10.0	12.0	15.0	16.0	14.0
12	---	13.0	8.0	7.0	8.0	8.0	9.0	10.0	12.0	15.0	16.0	16.0
13	15.0	13.0	---	6.0	8.0	8.0	9.0	10.0	12.0	15.0	16.0	15.0
14	16.0	13.0	10.0	6.0	8.0	8.0	9.0	10.0	12.0	15.0	---	15.0
15	16.0	---	5.0	6.0	8.0	8.0	9.0	---	12.0	15.0	---	13.0
16	16.0	---	10.0	4.0	8.0	8.0	9.0	10.0	12.0	15.0	16.0	14.0
17	17.0	---	10.0	6.0	7.5	8.0	9.0	---	12.0	15.0	16.0	14.0
18	---	10.0	9.0	5.0	7.5	9.0	9.0	11.0	12.0	15.0	---	15.0
19	---	10.0	8.0	5.0	7.0	9.0	9.0	11.0	12.0	15.0	16.0	15.0
20	16.0	10.0	---	5.0	7.5	9.0	9.0	10.0	---	13.0	16.0	15.0
21	16.0	11.0	---	5.0	8.0	9.0	9.0	10.0	---	14.0	---	15.0
22	16.0	10.0	10.0	5.0	8.0	9.0	9.0	11.0	15.0	15.0	---	14.0
23	16.0	---	---	4.0	---	9.0	10.0	11.0	15.0	15.0	---	14.0
24	16.0	10.0	---	4.0	8.0	9.0	10.0	11.0	15.0	15.0	17.0	15.0
25	---	10.0	---	---	8.0	9.0	11.0	11.0	15.0	---	17.0	---
26	---	10.0	---	4.0	8.5	10.0	11.0	11.0	13.0	---	17.0	16.0
27	16.0	---	---	4.0	8.0	10.0	11.0	11.0	---	---	17.0	16.0
28	16.0	11.0	---	3.0	8.0	9.0	11.0	12.0	---	---	---	16.0
29	16.0	10.0	9.0	2.0	---	9.0	---	11.0	12.0	15.0	---	15.0
30	16.0	---	8.0	2.0	---	9.0	---	---	15.0	15.0	17.0	15.0
31	16.0	---	9.0	---	---	---	---	---	---	15.0	17.0	---
AVG	---	---	---	5.5	7.5	8.5	9.5	10.5	12.5	14.0	---	15.0

09380000 COLORADO RIVER AT LEES FERRY, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	DATE	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCT 8, 1969..	11700	4	126	APR 2.....	14400	39	1520
OCT 13.....	11900	5	161	MAY 2.....	13000	23	807
OCT 27.....	9610	29	752	MAY 28.....	15300	48	1980
NOV 5.....	12500	12	405	JUN 3.....	13800	2	75
NOV 12.....	12700	30	1030	JUN 10.....	13600	4	147
NOV 19.....	16000	18	778	JUN 15.....	11900	6	193
NOV 28.....	11500	19	590	JUN 22.....	16500	45	2000
DEC 5.....	16900	7	319	JUL 2.....	16000	5	216
DEC 13.....	11500	29	900	JUL 9.....	12900	3	104
JAN 9, 1970..	16600	21	941	JUL 19.....	13300	4	144
JAN 23.....	7560	2	41	JUL 23.....	11600	43000	1350000
JAN 26.....	7290	124	2440	JUL 27.....	10700	6	173
FEB 5.....	10800	4	117	AUG 3.....	12000	7	227
MAR 3.....	5270	6	85				

PARIA RIVER BASIN

09382000 PARIA RIVER AT LEES FERRY, ARIZ.

LOCATION.--Lat 36°52'20", long 111°35'38", in NW¼NE¼ sec.13, T.40 N., R.7 E., Coconino County, at gaging station 0.6 mile northwest of Lees Ferry and 1.1 miles upstream from mouth.

DRAINAGE AREA.--1,410 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1947 to February 1950, October 1969 to September 1970 (partial records).
Specific conductance: October 1964 to September 1970.
Water temperatures: October 1956 to September 1970.
Sediment records: October 1947 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 3,300 micromhos Aug. 17; minimum daily, 450 micromhos Apr. 17.
Water temperatures: Maximum, 35.0°C June 26, July 2, 4; minimum, freezing point on Jan. 26-30, Feb. 2, 3.
Sediment concentrations: Maximum daily, 328,000 mg/l Aug. 21; minimum daily, 5 mg/l May 31.
Sediment discharge: Maximum daily, 435,000 tons Aug. 21; minimum daily, 0.03 ton May 31.

Period of record:
Specific conductance: Maximum daily, 4,000 micromhos Aug. 12, 1969; minimum daily, 320 micromhos May 21, 1967.
Water temperatures (1956-61, 1965-70): Maximum, 35.5°C Aug. 11, 1958, July 29, 1960; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 780,000 mg/l Aug. 9, 1968; minimum daily, 1 mg/l June 1-10, 1950.
Sediment discharge: Maximum daily, 5,100,000 tons Sept. 12, 1958; minimum daily, 0 ton on many days of most years.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
OCT.									
21...	1345	21	152	67	61	5.8	166	0	722
JAN.									
21...	1630	30	110	54	100	4.8	190	0	514
APR.									
20...	1345	5.2	52	23	34	2.8	154	3	142
JULY									
17...	1245	4.5	62	28	37	5.2	160	0	191

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
21...	28	1200	1.63	656	520	1.0	1580	7.8	11.0
JAN.									
21...	23	937	1.27	498	342	2.0	1270	7.4	8.0
APR.									
20...	13	394	.54	224	93	1.0	575	8.4	21.0
JULY									
17...	17	484	.66	272	141	1.0	701	8.2	32.5

09382000 PARIA RIVER AT LEES FERRY, ARIZ.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	900	--	--	--	--	1200	1200	--	550	700	800	700
2	700	--	1200	--	1400	1300	1200	--	550	700	--	800
3	650	1400	1400	--	1400	1400	1300	950	550	--	500	800
4	850	1400	--	--	1400	1500	1200	950	550	700	900	1000
5	--	1300	1500	700	1500	1400	1200	900	550	650	3040	900
6	1100	1300	--	600	1400	1400	1200	650	550	1050	1800	900
7	1100	1300	--	650	1400	1300	1200	450	600	900	2070	800
8	850	--	1400	1600	1400	1400	800	550	2350	850	2800	800
9	700	1400	1500	1400	1400	1300	800	600	2500	1200	--	2000
10	750	1450	1600	1400	1400	1300	800	600	2400	1300	2000	1600
11	--	1400	1450	1400	1400	1300	800	600	1800	3000	1900	1000
12	--	1400	--	1500	1300	1200	850	600	1900	--	1000	1100
13	900	1400	--	1400	1200	1200	800	--	1900	3000	1000	2750
14	1000	1400	1400	1400	1200	1300	850	--	1700	1400	800	1900
15	1200	--	1300	1200	1200	1300	700	--	1600	1130	--	2000
16	1200	--	--	1200	1200	1300	600	--	900	750	3000	1500
17	1300	--	1400	1200	1100	1300	450	--	800	700	3300	1500
18	--	1200	1450	1400	1100	1200	550	550	700	800	--	1700
19	1500	1250	1450	1400	1200	1200	600	600	650	800	1950	1600
20	2000	1250	--	1400	1200	1100	600	600	--	700	1500	1000
21	1600	1400	1500	1400	--	1100	550	600	--	--	2730	1000
22	1650	--	1200	1100	1400	1100	600	550	600	1200	2500	950
23	1200	--	--	1200	1400	1200	750	550	600	3000	--	900
24	2000	1500	--	--	--	1200	700	--	600	1500	1800	800
25	--	1400	--	--	1400	1200	550	550	600	--	1700	--
26	--	1300	--	1400	1400	1200	550	550	550	--	1200	750
27	1500	--	--	1400	1400	1200	750	550	--	2500	1450	700
28	1500	1500	--	1400	--	1200	600	550	--	1200	1400	700
29	1500	1300	--	1400	--	1200	--	550	600	1200	1300	700
30	1400	--	1300	1300	--	1200	1400	--	750	1000	--	500
31	1400	--	1300	--	--	1200	--	--	--	1030	1000	--
AVG	1220	--	--	1270	1330	1250	832	--	1050	1270	1740	1150

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	--	--	--	--	5.0	12.0	--	28.0	34.0	25.0	28.0
2	15.0	--	5.0	--	0.0	7.5	10.0	--	30.0	35.0	--	30.0
3	18.0	16.0	5.0	--	3.0	9.0	11.0	18.0	20.0	--	26.0	28.0
4	17.0	6.0	--	--	0.0	8.0	11.0	18.0	20.0	35.0	29.0	26.0
5	--	10.0	5.0	1.0	2.0	6.0	10.0	18.0	25.0	32.0	26.5	21.0
6	19.0	12.0	--	1.0	2.0	7.0	11.0	18.0	28.0	26.5	26.5	21.0
7	21.0	10.0	--	1.0	3.0	12.0	11.0	19.0	24.0	29.0	27.0	15.0
8	14.0	--	6.0	1.0	2.0	12.0	10.0	19.0	23.0	27.0	27.0	23.0
9	13.0	14.0	4.0	1.0	5.0	12.0	10.0	19.0	21.0	27.5	--	23.0
10	15.0	14.0	8.0	1.0	5.0	12.0	10.0	22.0	22.0	28.0	30.0	21.0
11	--	15.0	7.0	1.0	5.0	9.0	10.0	22.0	22.0	25.0	30.0	27.0
12	--	10.0	--	1.0	5.0	10.0	10.0	22.0	24.0	--	29.0	22.0
13	12.0	13.0	--	1.0	8.0	10.0	10.0	--	20.0	24.0	31.0	21.5
14	12.0	8.0	0.0	2.0	0.0	11.0	12.0	--	25.0	26.0	--	20.0
15	19.0	--	0.0	2.0	0.0	10.0	12.0	--	22.0	27.0	--	9.0
16	15.0	--	--	2.0	9.0	10.0	12.0	--	24.0	28.0	--	15.0
17	16.0	--	1.0	3.0	4.0	10.0	12.0	--	25.0	28.0	27.0	16.0
18	--	4.0	2.0	1.0	4.0	9.0	11.0	25.0	25.0	33.0	--	15.0
19	17.0	7.0	4.0	2.0	6.0	10.0	12.0	24.0	27.0	35.0	27.5	23.0
20	9.0	5.0	--	1.0	3.0	10.0	12.0	17.0	--	31.0	20.0	16.0
21	9.0	7.0	7.0	2.0	--	10.0	12.0	14.0	--	--	18.5	15.0
22	11.0	--	5.0	0.5	3.0	10.0	13.0	15.0	30.0	24.5	18.0	23.0
23	13.0	--	--	0.5	4.0	10.0	13.0	17.0	34.0	25.5	--	14.0
24	11.0	8.0	--	--	--	10.0	13.0	--	26.0	25.0	24.0	21.0
25	--	6.5	--	--	4.0	10.0	13.0	14.0	28.0	--	19.0	--
26	--	4.0	--	0.0	2.0	10.0	15.0	20.0	35.0	--	25.0	23.0
27	11.0	--	--	0.0	2.0	11.0	17.0	18.0	--	26.0	21.0	20.0
28	15.0	5.0	--	0.0	--	10.0	15.0	22.0	--	26.0	19.0	20.0
29	10.0	5.0	--	0.0	--	10.0	--	30.0	28.0	26.0	29.0	18.0
30	12.0	--	1.0	0.0	--	10.0	15.0	--	29.0	25.0	--	19.0
31	16.0	--	1.0	--	--	10.0	--	--	--	27.0	25.0	--
AVG	14.0	--	--	1.0	4.5	9.5	12.0	--	25.5	28.5	25.0	20.5

0938 2000 PARIA RIVER AT LEES FERRY, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5.0	111	1.5	18	470	23	20	1150	62
2	6.0	90	1.5	20	500	27	23	1400	87
3	9.4	110	2.8	22	430	26	28	1750	132
4	8.2	110	2.4	21	399	23	30	1550	126
5	7.0	115	2.2	22	370	22	30	1200	97
6	5.0	132	1.8	22	365	22	24	1050	68
7	5.0	110	1.5	23	310	19	18	920	45
8	5.0	66	.89	28	380	29	22	1070	69
9	6.5	88	1.5	29	860	67	26	1700	137
10	6.5	71	1.2	30	590	48	31	1460	122
11	6.0	70	1.1	25	550	37	25	1130	76
12	6.5	90	1.6	25	370	25	22	1390	83
13	6.0	108	1.7	23	350	22	24	1700	110
14	6.5	112	2.0	22	285	17	24	1750	113
15	7.0	170	3.2	22	290	17	25	880	59
16	8.2	238	5.3	28	700	53	25	1270	86
17	8.8	275	6.5	52	4600	646	25	1280	86
18	8.8	190	4.5	28	3950	299	27	1140	83
19	15	1330	54	21	1390	79	26	1060	74
20	20	2150	116	20	1940	105	25	900	61
21	22	1400	83	25	2360	159	22	710	42
22	78	36600	9870	28	2170	164	24	690	45
23	56	25700	3890	25	1300	88	24	650	42
24	42	29200	3310	26	670	47	23	650	40
25	25	17800	1200	24	630	41	23	600	37
26	22	6500	386	25	700	47	22	600	36
27	20	1480	80	25	730	49	23	650	40
28	18	885	43	24	670	43	20	550	30
29	16	660	29	21	650	37	8.5	570	13
30	16	540	23	17	850	39	8.2	440	9.7
31	17	435	20	--	--	--	4.7	500	6.3
TOTAL	488.4	--	19147.19	741	--	2320	702.4	--	2117.0

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.7	200	4.7	19	1600	82	37	3000	300
2	5.5	150	2.2	23	1190	74	102	24700	6800
3	12	200	6.5	19	1200	62	91	27000	6630
4	18	250	12	19	960	49	52	8200	1150
5	16	200	8.6	23	940	58	34	10500	964
6	18	250	12	22	970	58	33	15000	1340
7	24	260	17	21	940	53	25	3400	230
8	26	440	31	22	690	41	28	1000	76
9	30	1400	113	22	630	37	29	2400	188
10	29	1620	127	21	495	28	26	3590	252
11	30	2450	198	22	470	28	30	3330	270
12	25	2580	174	22	460	27	24	1910	124
13	30	2450	198	23	320	20	23	1710	106
14	25	2500	169	24	170	11	22	880	52
15	36	4610	448	32	710	61	21	580	33
16	50	5820	786	22	720	43	22	1000	59
17	59	5290	843	18	375	18	18	2570	125
18	40	1050	113	18	390	19	18	1140	55
19	42	1000	113	18	330	16	18	810	39
20	35	750	71	18	290	14	18	830	40
21	30	1150	93	21	490	28	17	840	39
22	18	924	45	25	540	36	18	830	40
23	26	924	65	30	490	40	18	1440	70
24	30	820	66	26	560	39	15	630	26
25	28	800	60	25	760	51	15	840	34
26	25	861	58	24	520	34	17	460	21
27	23	861	53	23	520	32	22	940	56
28	24	930	60	23	590	37	19	750	38
29	21	950	54	--	--	--	16	450	19
30	14	890	34	--	--	--	17	300	14
31	14	1290	49	--	--	--	20	390	21
TOTAL	812.2	--	4084.0	625	--	1096	865	--	19211

09382000 PARIA RIVER AT LEES FERRY, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	17	375	17	10	200	5.4	2.5	14	.09
2	14	285	11	11	115	3.4	2.7	44	.32
3	17	223	10	7.0	104	2.0	2.2	42	.25
4	17	280	13	6.0	109	1.8	2.5	44	.30
5	14	160	6.0	4.5	74	.90	2.8	48	.36
6	14	200	7.6	4.0	27	.29	5.0	51	.69
7	12	183	5.9	3.6	31	.30	5.5	61	.91
8	8.2	245	5.4	4.0	35	.38	44	651DD	22600
9	8.2	270	6.0	4.0	21	.23	58	219000	34300
10	7.6	160	3.3	3.6	20	.19	15	97500	3950
11	6.5	111	1.9	3.6	22	.21	10	4310	116
12	6.5	94	1.6	3.6	24	.23	8.0	4130	89
13	4.0	78	.84	3.6	20	.19	6.0	3100	50
14	4.5	97	1.2	3.2	20	.17	5.5	2150	32
15	5.0	39	.53	2.8	20	.15	4.5	1820	22
16	5.0	43	.58	3.6	20	.19	4.0	500	5.4
17	5.5	68	1.0	3.6	20	.19	4.0	300	3.2
18	6.0	62	1.0	3.6	19	.18	4.0	180	1.9
19	5.0	40	.54	2.8	16	.12	4.0	150	1.6
20	5.0	40	.54	2.8	23	.17	4.0	145	1.6
21	5.5	42	.62	2.2	27	.16	4.0	130	1.4
22	7.0	100	1.9	2.5	25	.17	4.0	110	1.2
23	6.0	150	2.4	2.8	21	.16	4.0	92	.99
24	5.5	52	.77	4.0	20	.22	3.6	93	.90
25	5.0	25	.34	3.6	16	.16	3.6	75	.73
26	4.0	30	.32	2.5	31	.21	3.2	67	.58
27	4.0	91	.98	3.2	26	.22	3.2	60	.52
28	6.0	72	1.2	3.2	22	.19	3.2	50	.43
29	6.5	80	1.4	2.8	6	.05	3.2	52	.45
30	9.4	194	4.9	3.6	20	.19	3.2	110	.95
31	--	--	--	1.9	5	.03	--	--	--
TOTAL	240.9	--	109.76	123.2	--	18.45	229.4	--	61183.77

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.6	122	1.2	4.5	2800	34	5.0	2300	31
2	4.0	110	1.2	3.6	2500	24	4.0	860	9.3
3	4.0	100	1.1	2.5	2200	15	3.6	470	4.6
4	4.0	70	.76	6.0	14000	227	3.6	375	3.6
5	2.5	85	.57	146	161000	79100	4.0	350	3.8
6	21	40800	2980	36	179000	17400	3.6	340	3.3
7	8.0	22800	628	32	105000	11900	14	510	19
8	49	170000	38100	21	98600	5590	20	430	23
9	22	133000	7900	8.2	57200	1270	11	33700	1000
10	33	65500	5840	13	40800	1430	5.0	31600	427
11	96	153000	45400	6.5	20400	358	4.0	7000	76
12	40	135000	14600	4.0	1230	13	5.5	7960	118
13	13	137000	4810	3.7	1040	9.0	292	243000	265000
14	9.4	118000	2990	4.0	1010	11	50	227000	30600
15	4.0	19400	210	19	52000	2670	18	111000	5390
16	3.6	1950	19	37	106000	10600	10	74900	2020
17	3.6	1410	14	36	95400	9270	8.8	34700	824
18	4.0	1710	18	31	94300	7890	7.6	32600	669
19	2.2	1750	10	135	136000	59000	7.0	12000	227
20	6.0	1760	29	684	140000	350000	4.5	517	6.3
21	6.0	1770	29	490	328000	435000	5.5	220	3.3
22	45	69300	8880	90	140000	34000	5.5	204	3.0
23	17	79400	3870	33	57200	5100	5.5	195	2.9
24	6.5	36700	644	22	18400	1090	5.5	136	2.0
25	15	81600	6710	12	1340	43	4.5	90	1.1
26	21	172000	9750	8.2	3100	69	5.0	52	.70
27	17	140000	6430	32	16800	1450	5.5	64	.95
28	11	52000	1540	28	8700	658	6.0	55	.89
29	10	11000	297	12	21900	710	6.0	50	.81
30	7.0	6700	127	6.5	24500	430	6.0	16	.26
31	4.5	4500	55	6.5	9600	168	--	--	--
TOTAL	492.9	--	161884.83	1972.7	--	1035529.0	536.2	--	306470.81

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 7829.3
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR(TONS) 1613171.81

09382000 PARIA RIVER AT LEES FERRY, ARIZ.--Continued

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 22, 1969	1700	11.0	114	68400	21100	39	49	--	71	--	96	99	100	--	--	--	VPWC
NOV 18.....	1145	04.0	26	4170	293	57	66	--	90	--	96	97	100	--	--	--	SPWC
DEC 21.....	1300	07.0	22	618	37	60	72	--	80	--	88	92	99	100	--	--	S
MAY 2, 1970	1845	19.0	8.8	115	2.7	--	--	--	--	--	86	90	97	100	--	--	VPWC
JUN 9.....	0930	21.0	60	223000	36100	52	60	--	80	--	94	98	100	--	--	--	VPWC
AUG 5.....	2130	26.0	34	116000	10600	42	52	--	71	--	90	98	100	--	--	--	VPWC

LITTLE COLORADO RIVER BASIN

09401200 LITTLE COLORADO RIVER AT CAMERON, ARIZ.

LOCATION.--Lat 35°52'40", long 111°24'40", in NE¼SE¼ sec.22, T.29 N., R.9 E. (unsurveyed), Coconino County, in Navajo Indian Reservation, at bridge on U.S. Highway 89 at Cameron, 2.5 miles upstream from Moenkopi Wash, 9 miles upstream from Coconino Dam site, 12 miles upstream from gaging station near Cameron (station 09402000), and 57.5 miles upstream from mouth.

DRAINAGE AREA.--26,500 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: October 1950 to September 1958.
Specific conductance: October 1964 to September 1970 (discontinued).
Water temperatures: October 1951 to September 1970 (discontinued).
Sediment records: October 1947 to September 1970 (discontinued).

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 3,000 micromhos Mar. 12, 13; minimum daily, 500 micromhos Mar. 27.
Sediment concentrations: Maximum daily, 151,000 mg/l Sept. 7; minimum daily, no flow on many days.
Sediment discharge: Maximum daily, 1,850,000 tons Sept. 7; minimum daily, 0 ton on many days.

Period of record:
Specific conductance: Maximum daily, 3,000 micromhos May 12, 13, 1970; minimum daily, 250 micromhos Dec. 20, 1966.
Sediment concentrations: Maximum daily, 228,000 mg/l Aug. 30, 1966; minimum daily, no flow on many days each year.
Sediment discharge: Maximum daily, 2,580,000 tons Sept. 21, 1952; minimum daily, 0 ton on many days each year.

REMARKS.--Appreciable inflow, mostly from Moenkopi Wash, may occur between sampling site and gaging station during periods of local storm runoff. Sediment loads are computed using discharge at gaging station and include estimated loads from Moenkopi Wash. No flow Oct. 1-3, 15-20, Dec. 31, Jan. 1-14, 28-31, Feb. 1-28, Apr. 29, 30, May 1-31, June 1-30, July 1-6, 9-20, 25-31, Aug. 1, 2, Sept. 30.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	1000	--	--	--	--	650	--	--	--	--	--
2	--	1050	--	--	--	675	550	--	--	--	--	--
3	--	1050	--	--	--	750	675	--	--	--	--	--
4	--	1000	--	--	--	700	650	--	--	--	600	--
5	--	1050	--	--	--	800	625	--	--	--	1000	--
6	--	1100	--	--	--	--	775	--	--	--	1080	1200
7	--	1000	--	--	--	--	1300	--	--	--	1150	1400
8	--	1100	--	--	--	--	1400	--	--	--	1100	900
9	--	1100	--	--	--	--	900	--	--	--	1100	900
10	--	1100	--	--	--	--	900	--	--	--	925	850
11	--	1400	--	--	--	--	700	--	--	--	850	765
12	--	--	--	--	--	3000	650	--	--	--	1100	900
13	--	--	--	--	--	3000	600	--	--	--	1200	800
14	--	--	--	--	--	2800	600	--	--	--	1200	700
15	--	--	--	--	--	1400	600	--	--	--	1200	700
16	--	--	--	--	--	1000	550	--	--	--	1200	1000
17	--	--	--	--	--	1000	650	--	--	--	1200	800
18	--	--	--	--	--	950	600	--	--	--	1100	900
19	--	--	--	--	--	900	730	--	--	--	1000	950
20	--	--	--	--	--	900	600	--	--	--	1200	800
21	--	--	--	--	--	900	600	--	--	--	1050	800
22	533	--	--	--	--	900	600	--	--	--	1200	950
23	725	--	--	--	--	700	650	--	--	--	1300	1000
24	1600	--	--	--	--	600	650	--	--	--	1200	1000
25	1020	1000	--	--	--	650	700	--	--	--	1200	1100
26	950	--	--	--	--	585	1000	--	--	--	1300	1050
27	1020	--	--	--	--	500	975	--	--	--	1230	--
28	1000	--	--	--	--	800	--	--	--	--	1400	--
29	1000	--	--	--	--	700	--	--	--	--	1400	1050
30	1000	--	--	--	--	700	--	--	--	--	--	--
31	1000	--	--	--	--	550	--	--	--	--	--	--
AVG	--	--	--	--	--	1060	736	--	--	--	1130	--

09401200 LITTLE COLORADO RIVER AT CAMERON, ARIZ.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	15.0	--	--	--	--	12.0	--	--	--	--	--
2	--	15.0	--	--	--	13.0	14.0	--	--	--	--	--
3	--	15.0	--	--	--	13.5	15.0	--	--	--	--	--
4	--	15.0	--	--	--	15.0	09.0	--	--	--	29.0	--
5	--	15.0	--	--	--	12.0	17.0	--	--	--	29.5	--
6	--	15.0	--	--	--	--	19.0	--	--	--	26.0	20.0
7	--	15.0	--	--	--	--	18.0	--	--	--	30.5	23.5
8	--	15.0	--	--	--	--	15.0	--	--	--	26.5	24.0
9	--	15.0	--	--	--	--	18.5	--	--	--	29.0	20.5
10	--	15.0	--	--	--	--	19.0	--	--	--	29.0	21.5
11	--	12.0	--	--	--	--	15.0	--	--	--	29.0	23.0
12	--	--	--	--	--	16.0	18.0	--	--	--	26.0	21.5
13	--	--	--	--	--	15.0	18.0	--	--	--	24.5	22.0
14	--	--	--	--	--	16.0	09.0	--	--	--	28.5	21.5
15	--	--	--	--	--	10.0	14.5	--	--	--	25.0	17.5
16	--	--	--	--	--	16.0	11.5	--	--	--	25.0	20.5
17	--	--	--	--	--	14.0	10.5	--	--	--	28.0	17.5
18	--	--	--	--	--	10.0	15.5	--	--	--	25.0	15.5
19	--	--	--	--	--	14.0	09.0	--	--	--	25.0	18.5
20	--	20.0	--	--	--	14.0	18.0	--	--	--	25.0	17.0
21	--	--	--	--	--	15.0	13.0	--	--	--	25.0	15.0
22	16.5	--	--	--	--	14.0	16.5	--	--	--	25.0	14.0
23	15.0	--	--	--	--	15.0	20.0	--	--	--	25.0	18.0
24	14.0	--	--	--	--	17.0	21.0	--	--	--	28.0	15.5
25	15.0	--	--	--	--	14.0	15.0	--	--	--	28.0	11.0
26	16.5	--	--	--	--	11.5	18.0	--	--	--	28.0	18.0
27	16.0	--	--	--	--	11.0	17.5	--	--	--	27.0	--
28	12.5	--	--	--	--	12.5	--	--	--	--	29.5	--
29	13.5	--	--	--	--	13.0	--	--	--	--	20.0	12.5
30	13.5	--	--	--	--	09.0	--	--	--	--	--	--
31	13.5	--	--	--	--	08.0	--	--	--	--	--	--
AVG	--	--	--	--	--	13.0	15.5	--	--	--	26.5	18.5

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
OCT 28, 1969	1200	11.0	89	73400	17600	81	90	--	99	--	100	--	--	--	--	--	SPWC
NOV 25.....	1300	20.0	21	28300	1600	86	98	--	100	--	--	--	--	--	--	--	SPWC
APR 27, 1970	1300	17.0	.50	431	.58	76	78	--	91	--	92	96	100	--	--	--	SPWC
AUG 27.....	1130	23.0	14	53000	2000	92	98	--	100	--	--	--	--	--	--	--	SPWC
SEP 11.....	1500	23.0	824	21800	48500	76	82	--	90	--	98	100	--	--	--	--	VPWC

09401200 LITTLE COLORADO RIVER AT CAMERON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	30	55100	4460	3.1	6000	50
2	0	0	0	25	45400	3060	2.0	4000	22
3	0	0	0	20	43900	2370	1.8	2000	9.7
4	32	12900	2120	20	37200	2010	1.6	2000	8.6
5	26	12000	842	18	29600	1440	1.4	2000	7.6
6	31	10300	862	18	28600	1390	1.2	2000	6.5
7	16	5000	216	16	33200	1430	1.0	1000	2.7
8	9.2	3000	75	16	40300	1740	.70	500	.95
9	5.4	3000	44	15	30100	1220	.60	500	.81
10	2.6	2000	14	14	28000	1060	.50	200	.27
11	1.6	1000	4.3	13	23500	825	.50	200	.27
12	.80	500	1.1	12	20400	661	.50	200	.27
13	.40	500	.54	11	19400	576	.50	200	.27
14	.10	200	.05	10	19400	524	.50	200	.27
15	0	0	0	24	45900	2970	.50	200	.27
16	0	0	0	37	62400	6230	.50	200	.27
17	0	0	0	30	55100	4460	.50	200	.27
18	0	0	0	28	45900	3470	.50	200	.27
19	0	0	0	26	44900	3150	.50	200	.27
20	0	0	0	25	44900	3030	.50	200	.27
21	215	12900	45900	24	40800	2640	.50	200	.27
22	658	59100	116000	23	30600	1900	.50	200	.27
23	148	25500	10200	22	27500	1630	.50	200	.27
24	603	104000	266000	22	27500	1630	.50	200	.27
25	475	102000	131000	21	27500	1560	.50	200	.27
26	292	92800	73200	16	25500	1100	.50	200	.27
27	138	90100	33600	13	20400	716	.50	200	.27
28	71	75900	14600	7.4	10000	200	.50	200	.27
29	50	70200	9480	8.6	12000	279	1.1	200	.59
30	40	65500	7070	4.7	6000	76	.20	88	.05
31	35	63400	5990	--	--	--	0	0	0
TOTAL	2850.10	--	717218.99	569.7	--	57807	24.20	--	114.63

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	32	250	1030
2	--	--	--	--	--	--	407	40400	51200
3	--	--	--	--	--	--	50	29900	4040
4	--	--	--	--	--	--	30	32500	2630
5	--	--	--	--	--	--	20	21800	1180
6	--	--	--	--	--	--	15	18700	757
7	--	--	--	--	--	--	12	18200	590
8	--	--	--	--	--	--	10	16300	440
9	--	--	--	--	--	--	9.0	14800	360
10	--	--	--	--	--	--	8.0	13000	281
11	--	--	--	--	--	--	7.0	9000	170
12	--	--	--	--	--	--	6.0	5900	96
13	--	--	--	--	--	--	5.0	6700	90
14	0	0	0	--	--	--	5.0	6100	82
15	2.0	29600	232	--	--	--	5.0	4800	65
16	4.0	32100	347	--	--	--	5.0	6000	81
17	3.8	23000	236	--	--	--	5.0	6500	88
18	5.7	30600	471	--	--	--	5.0	7100	96
19	3.4	20400	187	--	--	--	5.0	5500	74
20	2.4	20400	132	--	--	--	5.0	4500	61
21	2.2	15000	89	--	--	--	114	24300	10700
22	2.2	15000	89	--	--	--	180	29200	14200
23	2.2	15000	89	--	--	--	133	23500	8440
24	1.8	15000	73	--	--	--	95	17300	4440
25	1.4	12000	45	--	--	--	70	15200	2870
26	.40	10000	11	--	--	--	65	10200	1790
27	.10	5000	1.4	--	--	--	320	20700	31000
28	0	0	0	0	0	0	296	35900	33800
29	--	--	--	--	--	--	157	11000	4660
30	--	--	--	--	--	--	143	9500	3670
31	0	0	0	--	--	--	442	18700	31300
TOTAL	31.60	--	2002.4	0	--	0	2661.0	--	210281

09401200 LITTLE COLORADO RIVER AT CAMERON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	539	18800	31300	0	0	0	0	0	0
2	141	14900	5670	--	--	--	--	--	--
3	88	10300	2450	--	--	--	--	--	--
4	62	9600	1610	--	--	--	--	--	--
5	55	8000	1190	--	--	--	--	--	--
6	67	6000	1090	--	--	--	--	--	--
7	53	4700	673	--	--	--	--	--	--
8	34	5700	523	--	--	--	--	--	--
9	128	14100	5330	--	--	--	--	--	--
10	143	16200	6250	--	--	--	--	--	--
11	121	12900	4210	--	--	--	--	--	--
12	121	12800	4180	--	--	--	--	--	--
13	126	14000	4760	--	--	--	--	--	--
14	101	9400	2560	--	--	--	--	--	--
15	99	9800	2620	--	--	--	--	--	--
16	93	10500	2640	--	--	--	--	--	--
17	95	7700	1980	--	--	--	--	--	--
18	77	5800	1210	--	--	--	--	--	--
19	60	5600	907	--	--	--	--	--	--
20	45	3600	437	--	--	--	--	--	--
21	30	5000	405	--	--	--	--	--	--
22	23	3200	199	--	--	--	--	--	--
23	15	2400	97	--	--	--	--	--	--
24	10	1400	38	--	--	--	--	--	--
25	5.0	1100	15	--	--	--	--	--	--
26	2.0	700	3.8	--	--	--	--	--	--
27	.30	473	.38	--	--	--	--	--	--
28	.10	100	.03	--	--	--	--	--	--
29	0	0	0	--	--	--	--	--	--
30	0	0	0	--	--	--	0	0	0
31	--	--	--	0	0	0	--	--	--
TOTAL	2333.40	--	82348.21	0	--	0	0	--	0

09401200 *LITTLE COLORADO RIVER AT CAMERON, ARIZ.*--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	.30	20400	17
2	--	--	--	0	0	0	2.0	52000	281
3	--	--	--	92	13500	30900	1.2	25500	83
4	--	--	--	596	87900	183000	.30	10000	8.1
5	--	--	--	75	38800	7860	.71	13600	11500
6	0	0	0	27	24500	1790	3860	115000	1520000
7	6.6	7060	570	177	74900	35800	3880	151000	1850000
8	.10	6100	1.6	121	76400	25000	3320	78000	699000
9	0	0	0	554	130000	202000	4560	72300	890000
10	--	--	--	351	108000	102000	6130	59200	980000
11	--	--	--	250	98000	66200	1200	31100	101000
12	--	--	--	150	111000	45000	385	17300	18000
13	--	--	--	50	103000	13900	180	17300	8410
14	--	--	--	20	92200	4980	192	22300	11600
15	--	--	--	10	89600	2420	260	23500	16500
16	--	--	--	5.0	89000	1200	375	24500	24800
17	--	--	--	294	87800	75300	226	40300	24600
18	--	--	--	642	110000	190000	124	45900	15400
19	--	--	--	985	84800	268000	73	36700	7230
20	0	0	0	991	147000	411000	48	26300	3410
21	184	24500	54800	553	124000	185000	32	22400	1940
22	171	51200	34900	532	142000	201000	19	18300	939
23	5.0	12300	166	141	107000	40700	14	25400	960
24	1.0	2000	5.4	119	107000	34400	8.6	32100	745
25	0	0	0	61	85900	14100	4.0	32700	353
26	--	--	--	28	60700	4590	1.4	25500	96
27	--	--	--	14	56200	2120	.60	12200	20
28	--	--	--	6.6	55100	982	.20	12000	6.5
29	--	--	--	3.1	52500	439	.10	14000	3.8
30	--	--	--	1.6	52000	225	0	0	0
31	0	0	0	.60	25500	41	--	--	--
TOTAL	367.70	--	90443.0	6849.90	--	2149947	24967.70	--	6186902.4

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 40655.30
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 9497064.63

09402500 COLORADO RIVER NEAR GRAND CANYON, ARIZ.

LOCATION.--Lat 36°06'05", long 112°05'08", in sec.5, T.31 N., R.3 E (unsurveyed), Coconino County, in Grand Canyon National Park, at lower gaging station upstream from Kaibab Bridge, 0.4 mile upstream from Bright Angel Creek, 4.5 miles northeast of village of Grand Canyon, 26 miles downstream from Little Colorado River, 104 miles downstream from Glen Canyon Dam, and 267 miles upstream from Hoover Dam.
DRAINAGE AREA.--137,800 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: August 1925 to November 1942, September 1943 to September 1970.
Water temperatures: October 1936 to October 1942, September 1943 to September 1970.
Sediment records: October 1925 to November 1942, September 1943 to September 1970.
EXTREMES.--1969-70:
Dissolved solids: Maximum, 1,060 mg/l Sept. 7; minimum, 615 mg/l Aug. 22-31.
Hardness: Maximum, 544 mg/l Sept. 7; minimum, 284 mg/l Oct. 1-31.
Specific conductance: Maximum daily, 1,470 micromhos Sept. 7; minimum daily, 859 micromhos Dec. 4.
Water temperatures: Maximum, 19.0°C Sept. 11; minimum, 8.0°C Jan. 30, 31.
Sediment concentrations: Maximum daily, 47,100 mg/l Sept. 7; minimum daily, 6 mg/l Jan. 26.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.											
01-31	10800	11	75	24	--	91	--	172	0	214	80
NOV.											
01-30	12600	9.5	66	30	--	89	--	166	0	232	72
DEC.											
01-31	13500	10	70	28	--	94	--	176	0	233	74
JAN.											
01-18	14400	11	81	25	--	94	--	186	0	237	75
19-26	9400	11	91	25	--	105	--	194	0	249	95
27-28	9200	12	91	27	--	138	--	188	4	272	133
29-31	11300	12	90	27	--	108	--	182	6	262	95
FEB.											
01-28	8890	11	85	29	--	115	--	189	0	264	104
MAR.											
01-31	8290	12	89	30	--	119	--	189	0	282	106
APR.											
01-30A	16300	9.1	86	31	101	--	3.8	183	1	276	86
MAY											
01-31	15400	8.9	87	31	--	109	--	192	1	286	88
JUNE											
01-30	13800	8.7	81	28	--	103	--	167	4	272	80
JULY											
01-31	13200	8.3	80	27	--	101	--	171	0	267	78
AUG.											
01-18	11800	8.7	78	27	--	100	--	169	2	252	81
19-21	14200	11	111	24	--	115	--	186	0	336	82
22-31	14800	9.1	82	25	--	88	--	171	0	238	77
SEP.											
01-06	12900	8.0	73	27	--	90	--	148	5	239	77
07...	12100	12	156	38	--	145	--	224	0	544	76
08-30	12700	8.1	74	25	--	101	--	177	0	232	82
WTD. AVG.	--	9.6	80	28	--	101	--	178	1	256	83
TIME WTD. AVG.	12600	9.7	80	28	--	102	--	178	1	256	84
TOT. LOAD (TONS)	--	119000	995000	347000	--	119000	--	2207000	10000	182000	032000

A INCLUDES 0.4 MG/L OF DISSOLVED FLUORIDE (F).

09402500 COLORADO RIVER NEAR GRAND CANYON, ARIZ.--Continued

EXTREMES.--1969-70:--Continued
Sediment discharge: Maximum daily, 1,460,000 tons Sept. 7; minimum daily, 55 tons Jan. 26.
Period of record (1965-70):
Dissolved solids: Maximum, 1,060 mg/l Sept. 7, 1970; minimum, 360 mg/l Aug. 7-31, 1965.
Hardness: Maximum, 544 mg/l Sept. 7, 1970; minimum, 184 mg/l Sept. 1-30, 1965.
Specific conductance: Maximum daily, 1,570 micromhos Jan. 30, 1968; minimum daily, 561 micromhos Sept. 3, 1965.
Water temperatures: Maximum, 23.0°C Sept. 4, 1967, Sept. 9, 10, 1968; minimum, 4.0°C Jan. 4, 1966, Jan. 7, 1968.
Sediment concentrations: Maximum daily, 47,100 mg/l Sept. 7, 1970; minimum daily, 4 mg/l Nov. 7, 1966.
Sediment discharge: Maximum daily, 1,460,000 tons Sept. 7, 1970; minimum daily, 55 tons Nov. 7, 1966, Jan. 26, 1970.
REMARKS.--Because of the regulation of flow by Glen Canyon Dam since Mar. 13, 1963, and the subsequent filling of Lake Powell, extreme values for the period of record include only those obtained after July 31, 1965.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180°C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SODIUM AD- SORP- TION RATIO	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)
OCT.											
01-31	5.3	--	633	585	.86	18400	284	143	2.3	957	8.1
NOV.											
01-30	3.1	--	646	584	.88	22000	288	152	2.3	932	7.9
DEC.											
01-31	3.3	--	628	599	.85	22900	290	146	2.4	942	8.1
JAN.											
01-18	5.6	--	648	620	.88	25200	304	152	2.4	970	8.2
19-26	5.1	--	712	676	.97	18100	328	169	2.5	1050	8.1
27-28	7.2	--	876	776	1.19	21800	336	176	3.3	1200	8.3
29-31	7.0	--	727	696	.99	22200	336	177	2.6	1090	8.4
FEB.											
01-28	6.7	--	725	708	.99	17400	332	177	2.8	1110	8.2
MAR.											
01-31	7.0	--	758	738	1.03	17000	344	189	2.8	1120	7.9
APR.											
01-30	3.8	160	740	688	1.01	32500	342	190	2.4	1100	8.3
MAY											
01-31	4.0	--	711	709	.97	29500	346	187	2.6	1080	8.3
JUNE											
01-30	3.2	--	679	662	.92	25300	318	174	2.5	1020	8.4
JULY											
01-31	3.0	--	653	648	.89	23400	310	170	2.5	1000	8.2
AUG.											
01-18	3.2	--	638	635	.87	20300	304	162	2.5	1000	8.3
19-21	8.4	--	791	778	1.08	30300	376	224	2.6	1190	8.0
22-31	1.0	--	615	604	.84	24600	306	166	2.2	994	8.1
SEP.											
01-06	3.6	--	666	596	.91	23300	294	164	2.3	948	8.2
07...	2.5	--	1060	1080	1.44	34600	544	360	2.7	1480	7.6
08-30	4.3	--	671	613	.91	23000	286	141	2.6	980	8.2
WTD. AVG.	4.1	--	680	651	.93	--	315	168	2.5	1020	8.2
TIME WTD. AVG.	4.3	--	682	653	.93	--	315	167	2.5	1020	8.2
TOT. LOAD (TONS)	51500	--	8442000	8079000	--	--	--	--	--	--	--

09402500 COLORADO RIVER NEAR GRAND CANYON, ARIZ.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	872	945	916	938	1090	1100	1140	1120	1060	1050	1000	928
2	937	---	888	994	1080	1110	1120	1120	1050	1000	984	941
3	1010	920	865	936	1200	1170	1130	1130	1010	1040	997	967
4	---	949	859	946	1080	1090	1110	1130	1020	997	976	949
5	937	914	880	1060	1110	1150	---	1090	1050	991	1010	967
6	1010	916	875	1060	1100	1200	1060	1090	---	997	---	992
7	1100	914	884	997	1100	1130	1080	1070	1080	980	---	1470
8	954	909	927	975	1140	1160	---	1100	1060	997	---	1050
9	934	---	---	---	1080	1160	---	1110	1060	1000	---	986
10	929	---	---	967	1240	1230	---	1090	1030	1010	---	989
11	---	---	---	992	1110	1200	---	1140	1020	---	---	938
12	---	---	---	983	1050	1110	---	1100	1010	1010	---	980
13	949	---	897	1020	1040	1150	1100	1100	---	1030	---	972
14	944	---	1010	---	1070	---	1090	1090	1030	1060	---	975
15	---	923	960	---	1110	1200	1100	1070	1020	991	984	1070
16	920	968	960	1000	1040	---	1120	1080	1000	977	1000	1040
17	922	952	925	994	1170	1210	1080	1070	1030	986	1030	1030
18	927	940	897	997	1100	1200	1100	1060	1050	972	1040	1020
19	967	965	902	1100	1150	1180	1100	---	1040	969	1120	972
20	---	955	893	1030	1100	1200	1120	1090	1020	1000	1140	972
21	981	925	950	1010	1130	1190	1110	1070	---	1010	1260	951
22	942	895	932	1090	1120	1130	1120	1080	994	1060	1020	967
23	903	950	920	1120	1120	1130	1140	1070	1010	986	1020	1010
24	896	923	947	1110	---	---	1130	1090	994	983	1060	951
25	1070	906	1010	1070	1210	---	1090	1060	1030	---	1020	919
26	981	930	1010	1140	1050	1130	1100	1040	1020	1040	940	914
27	967	925	1100	1280	1080	1190	---	1060	988	1010	940	924
28	1010	932	1010	1200	1100	1130	1080	1080	---	991	981	944
29	957	975	1020	1090	---	1110	1130	---	994	1000	---	986
30	952	927	1050	1120	---	1060	1140	1050	980	1060	986	914
31	947	---	945	1110	---	1060	---	1090	---	972	936	---
AVG	958	---	942	1050	1110	1150	---	1090	1030	1010	---	990

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT 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
OCT 17, 1969	1305	18.0	17600	470	22300	--	--	--	--	--	11	65	94	100	--	--	VWC
NOV 22.....	1345	13.0	18200	477	23400	10	10	--	12	--	20	46	88	100	--	--	VPWC
DEC 19.....	1440	12.0	19400	368	19300	--	--	--	--	--	6	37	80	100	--	--	VN
APR 23, 1970	1405	10.0	22000	882	52400	2	2	--	2	--	11	60	90	100	--	--	VPWC
SEP 10.....	1130	18.0	24100	21200	1380000	42	48	50	53	63	84	98	100	--	--	--	VPWC
SEP 10.....	1130	18.0	24100	21200	1380000	2	5	19	55	64	84	98	100	--	--	--	VPN

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (°C)	NUMBER OF SAMPLING 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 ANALYSIS
NOV 22, 1969	1500	13.0			1	2	27	98	100	--	--	--	--	--	--	S
FEB 16, 1970	1420	10.0			--	1	15	92	99	100	--	--	--	--	--	S
JUN 1.....	0840	13.5			--	--	11	84	98	99	100	--	--	--	--	S
SEP 14.....	0910	16.0			1	3	18	80	98	99	100	--	--	--	--	S

09402500 COLORADO RIVER NEAR GRAND CANYON, ARIZ.--Continued

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

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.5	18.5	15.0	15.0	12.0	11.5	9.5	9.5	8.5	8.5	9.5	9.5
2	18.5	18.5	15.0	15.0	11.5	11.5	9.5	9.5	8.5	8.5	9.5	9.0
3	18.5	17.5	15.0	15.0	12.0	11.5	9.5	9.0	8.5	8.5	9.5	9.5
4	17.5	16.5	15.0	14.5	12.0	12.0	9.0	9.0	9.0	8.5	9.5	9.5
5	16.5	16.0	15.0	15.0	12.0	12.0	9.0	8.5	9.0	9.0	9.5	9.5
6	16.0	15.5	15.0	15.0	12.0	11.5	9.0	8.5	9.0	9.0	10.0	9.5
7	15.5	15.5	15.0	14.5	11.5	11.5	9.0	9.0	9.0	9.0	10.0	10.0
8	16.5	15.5	14.5	14.5	11.5	11.5	9.0	9.0	9.0	9.0	10.5	10.0
9	17.0	16.5	14.5	14.5	11.5	11.0	9.0	9.0	9.0	9.0	10.5	10.0
10	17.0	17.0	14.5	14.5	11.5	11.0	9.0	9.0	9.5	9.0	10.5	10.0
11	17.0	17.0	14.5	14.5	11.5	11.5	9.5	9.0	9.5	9.5	10.0	9.5
12	17.0	16.0	14.5	14.5	11.5	11.0	9.5	9.5	9.5	9.5	9.5	9.5
13	16.0	15.0	14.5	14.5	11.0	11.0	9.5	9.5	9.5	9.5	10.0	9.5
14	16.0	15.5	14.5	14.5	11.0	10.5	9.5	9.5	9.5	9.5	10.0	10.0
15	16.5	16.0	14.5	14.0	10.5	10.5	9.5	9.5	9.5	9.5	10.5	10.0
16	17.0	16.5	14.0	14.0	10.5	10.5	9.5	9.5	9.5	9.5	10.5	10.5
17	17.0	17.0	14.0	13.5	11.0	10.5	9.5	9.5	9.5	9.5	10.5	10.5
18	17.0	16.5	13.5	12.0	11.0	11.0	9.5	9.5	9.5	9.5	10.5	9.5
19	16.5	16.5	13.0	11.5	11.0	11.0	9.5	9.5	9.5	9.0	9.5	9.0
20	16.5	15.0	11.5	11.5	11.0	11.0	9.5	9.5	9.0	9.0	9.5	9.0
21	15.0	15.0	12.0	11.5	11.0	11.0	9.5	9.0	9.0	9.0	10.0	9.5
22	16.0	15.0	13.0	12.0	11.0	11.0	9.5	9.0	9.0	9.0	10.0	10.0
23	16.0	16.0	13.0	13.0	11.0	11.0	9.5	9.5	9.5	9.0	10.0	10.0
24	16.5	16.0	13.0	12.0	11.0	10.5	9.5	9.5	10.0	9.5	10.5	10.0
25	16.5	16.5	13.0	12.0	10.5	10.5	9.5	9.5	10.0	10.0	10.5	10.5
26	16.5	16.5	13.0	13.0	10.5	10.5	9.5	9.5	10.0	10.0	10.5	10.0
27	16.5	16.0	13.0	13.0	10.5	10.5	0.0	9.5	10.0	10.0	10.5	10.0
28	16.0	16.0	13.0	12.0	10.5	10.0	9.5	9.0	10.0	9.5	10.5	10.0
29	16.0	16.0	12.0	11.5	10.0	9.0	9.0	8.5	--	--	10.5	10.0
30	16.0	15.0	12.0	11.5	9.5	9.0	8.5	8.0	--	--	10.5	10.0
31	15.0	15.0	--	--	9.5	9.5	8.5	8.0	--	--	10.5	10.5
AVG	16.5	16.0	14.0	13.5	11.0	11.0	9.5	9.0	9.5	9.0	10.0	10.0

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.5	9.5	10.5	9.5	13.5	13.0	15.0	14.0	16.5	16.0	16.0	16.0
2	9.5	9.5	10.5	10.0	13.5	13.0	14.5	14.0	16.0	16.0	16.0	15.5
3	10.0	9.5	10.5	10.5	13.0	12.0	14.5	14.5	16.5	16.0	16.5	16.0
4	10.0	9.5	11.5	10.5	13.0	12.0	14.5	14.0	16.5	16.5	16.5	15.5
5	10.0	9.5	11.5	11.5	12.0	12.0	14.5	14.5	16.5	16.0	16.0	15.5
6	10.5	10.0	11.5	11.5	12.0	12.0	15.0	14.5	16.0	16.0	16.0	16.0
7	10.5	10.5	11.5	11.5	12.0	12.0	15.0	14.5	16.5	16.0	18.0	16.0
8	10.5	10.5	11.5	11.5	13.5	12.0	14.5	14.5	16.5	16.0	18.0	17.0
9	10.5	10.5	11.5	11.5	13.5	13.5	15.5	14.5	16.5	16.0	18.0	17.0
10	10.5	10.5	11.5	11.5	13.5	13.5	15.5	15.0	18.0	16.5	18.0	18.0
11	10.5	10.5	11.5	11.5	13.5	13.0	15.0	15.0	18.0	17.0	19.0	17.0
12	11.0	10.5	11.5	11.5	13.0	13.0	15.5	15.0	17.0	16.5	17.0	15.5
13	10.5	10.0	11.5	11.0	13.0	13.0	16.5	15.5	17.0	16.5	16.0	16.0
14	10.0	10.0	11.0	11.0	13.0	13.0	16.5	16.0	16.5	16.5	16.5	16.0
15	10.0	9.5	11.0	11.0	14.0	13.0	16.0	16.0	16.5	16.0	16.5	15.5
16	9.5	9.5	11.0	11.0	14.0	14.0	16.0	15.5	16.5	16.0	15.5	15.5
17	10.0	9.5	11.5	11.0	14.0	14.0	16.0	15.0	16.5	16.0	15.5	15.5
18	10.0	9.5	12.0	11.5	14.0	13.5	15.5	15.0	17.0	16.5	15.5	15.5
19	10.0	10.0	12.0	11.5	13.5	13.5	15.5	15.5	17.0	16.5	15.5	15.5
20	10.5	10.0	12.0	11.5	14.0	13.5	15.5	15.5	17.0	16.0	15.5	15.5
21	10.5	10.0	11.5	11.0	14.0	14.0	16.0	15.5	16.5	15.5	15.5	15.5
22	10.0	10.0	11.5	11.0	14.5	14.0	16.5	16.0	16.0	15.0	15.5	15.0
23	10.0	9.5	11.5	11.0	14.5	14.0	16.5	16.0	16.5	16.0	15.0	15.0
24	10.0	9.5	12.0	11.5	14.5	14.0	16.0	15.5	16.5	16.0	15.0	15.0
25	10.5	10.0	11.5	11.5	14.5	14.5	16.0	16.0	16.5	16.5	15.0	15.0
26	10.5	10.0	11.5	11.0	14.5	14.5	16.0	16.0	16.5	15.5	15.0	14.5
27	11.0	10.5	12.0	11.5	14.5	14.5	16.5	16.0	16.0	15.5	15.0	14.5
28	10.5	9.5	12.0	12.0	15.0	14.5	16.5	16.0	16.0	15.5	15.0	15.0
29	9.5	9.0	12.0	12.0	15.0	15.0	16.0	16.0	15.5	15.5	15.5	15.0
30	9.5	9.5	12.0	12.0	15.0	15.0	16.0	16.0	16.0	15.5	16.0	15.5
31	--	--	13.0	12.0	--	--	16.0	16.0	16.5	16.0	--	--
AVG	10.0	10.0	11.5	11.0	13.5	13.5	15.5	15.5	16.5	16.0	16.0	15.5

09402500 COLORADO RIVER NEAR GRAND CANYON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13800	338	12600	14500	450	17600	7500	125	2530
2	9530	115	2950	13600	290	10600	15300	375	15500
3	8880	312	7480	7740	250	5220	16200	455	19900
4	7700	249	5180	12700	359	12300	17400	715	33600
5	5250	77	1090	12900	235	8190	17600	720	34200
6	4180	25	282	12800	170	5880	17500	560	26500
7	5660	112	1710	14000	398	16800	16200	452	20700
8	10300	396	11000	13900	270	10100	10000	110	2970
9	12200	459	15100	12600	250	8510	16500	500	22300
10	12400	362	12100	7840	100	2120	16400	400	17700
11	11700	346	10900	13600	300	11000	16800	300	13600
12	12100	349	11400	13100	250	8840	16100	300	13000
13	7850	78	1660	13200	250	8910	15000	263	10700
14	12600	234	7960	14100	250	9520	12100	220	7190
15	12400	243	8140	14100	249	9480	8080	65	1420
16	12300	243	7870	12500	187	6310	13600	243	8920
17	13200	284	10100	7730	155	3240	13800	221	8230
18	13300	352	12600	13600	508	21300	14600	240	9460
19	11300	185	5490	14600	715	28200	14900	240	9660
20	7570	98	2000	16400	940	43100	15000	225	9110
21	11500	227	7050	16000	565	24400	12600	120	4080
22	14600	1750	69000	14600	253	9970	8290	65	1450
23	12600	2790	94900	11700	240	7580	13600	320	11800
24	11400	1640	50500	8080	245	5340	15000	340	13800
25	11000	3230	95900	13400	380	13700	12100	134	4380
26	10600	6670	191000	15000	370	15000	5830	36	567
27	7520	3760	76300	12700	195	6690	10300	114	3170
28	11100	2800	83900	7173	40	774	12600	125	4250
29	11530	1400	43500	12600	280	9530	8430	61	1390
30	12800	800	27600	11700	260	8210	14100	244	10300
31	15600	510	21500	--	--	--	15900	405	17900
TOTAL	333760	--	908742	378460	--	348414	419330	--	360277

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	16400	381	16900	9170	59	1460	7380	240	4780
2	9220	94	2340	5090	16	220	7090	250	4790
3	16100	340	15700	10900	100	2940	7750	3160	72900
4	16800	398	18800	11000	115	3420	5730	1600	24800
5	10400	54	1520	10600	62	1770	4790	810	10500
6	16200	329	15700	11700	128	4040	5340	378	5450
7	15900	333	14300	10900	93	2740	5240	275	3890
8	17200	439	20400	9330	88	2220	4880	184	2420
9	16530	390	17400	4086	11	121	4630	104	1300
10	17200	444	21500	9220	70	1740	8210	179	3970
11	13500	207	7550	11100	156	4680	10600	379	12400
12	7880	53	1130	13400	335	13900	10100	135	3680
13	15100	232	9460	14500	450	17600	9780	81	2140
14	13200	200	7130	10100	358	9760	9140	72	1780
15	13600	200	7340	10200	140	3860	6820	26	479
16	14800	444	18700	4730	45	575	6120	30	496
17	15300	300	12400	9110	103	2530	8470	36	823
18	14200	240	9200	9260	58	1450	10100	91	2480
19	11100	75	2250	8700	30	705	10700	99	2860
20	14100	170	6470	8880	23	551	10800	100	2920
21	12700	140	4800	8650	24	561	9430	73	1860
22	11500	76	2360	6670	22	396	8720	184	5240
23	8680	55	1290	4410	18	214	8290	453	10100
24	8410	40	908	5110	32	442	10300	472	13100
25	5300	7	100	9140	34	839	9780	389	10300
26	3380	6	55	7670	30	621	9500	293	7520
27	8100	68	1490	7750	26	544	9320	197	4960
28	10300	144	4000	7540	16	326	11400	375	11500
29	11200	99	2990	--	--	--	8580	1330	30800
30	11500	116	3600	--	--	--	8150	560	12300
31	11300	110	3360	--	--	--	9890	450	12000
TOTAL	387070	--	251143	248910	--	80225	257030	--	284538

09402500 COLORADO RIVER NEAR GRAND CANYON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11200	270	8160	17800	310	14900	9410	43	1090
2	13300	1090	43500	16400	300	13300	11300	95	2900
3	15000	750	30400	13100	210	7430	16200	899	44800
4	16300	680	29900	11600	129	4040	13800	215	8010
5	16800	320	14500	15700	262	11100	15800	230	9810
6	15400	250	10400	14400	220	8550	15100	243	9780
7	17100	400	18500	15500	300	12600	11800	139	4430
8	16100	400	17400	14800	305	12200	9570	90	2330
9	15600	500	21100	14800	178	7110	12400	155	5190
10	17000	500	23000	13200	237	9190	12500	361	12900
11	16300	400	17600	11300	80	2440	14000	755	26400
12	17400	300	14100	14900	209	9340	13200	200	7130
13	14000	250	9450	15300	218	9010	15600	273	11400
14	15200	350	14400	15800	229	9770	12400	105	3520
15	16800	500	22700	16500	288	12800	9590	60	1550
16	17000	320	14700	17100	492	24900	12200	120	3950
17	19000	560	28700	15800	260	11100	13400	100	3670
18	17500	430	20300	14500	171	7940	15200	130	5340
19	14400	210	8160	17200	286	14500	15700	165	6990
20	11700	190	6000	17000	311	16100	16000	190	8210
21	14800	270	10800	18400	426	23800	14400	185	7190
22	13800	150	5590	17900	360	19300	12600	100	3400
23	17300	530	24800	18100	449	24300	17200	275	12800
24	19800	710	38000	15900	223	9570	15400	160	6650
25	20600	700	38900	15300	155	6490	14700	140	5560
26	17300	390	18200	18400	477	26200	16600	210	9410
27	16800	260	11800	17100	353	18400	15900	195	8370
28	18200	230	11300	14600	154	6070	15200	170	6980
29	19000	470	24100	16000	215	9290	11800	110	3500
30	17700	390	18600	12600	100	3400	14900	250	10100
31	--	--	--	9780	59	1560	--	--	--
TOTAL	488400	--	575060	476980	--	366700	413870	--	253310

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13800	155	5780	14900	290	11700	14900	650	26100
2	13000	110	3860	13200	213	7590	14500	600	23500
3	18000	420	20400	9640	180	4690	15100	400	16300
4	18900	360	18400	13000	250	8780	13400	360	13000
5	14900	130	5230	12800	2100	72600	11500	350	10900
6	13500	100	3650	12500	2000	67500	8260	7480	167000
7	16900	310	14100	12400	2000	67000	12100	47100	1460000
8	13300	205	7360	15000	3000	122000	10100	28200	769000
9	13400	110	3983	12800	2000	69100	14500	15800	619000
10	13600	255	9360	8890	500	12000	17900	18800	909000
11	11500	200	6210	12000	3000	97200	17500	20400	964000
12	10900	165	4860	13100	2000	70700	15200	4100	168000
13	8560	620	14300	11600	1000	31300	10700	1200	34700
14	11800	530	16900	11500	1000	31100	7500	930	18800
15	13500	240	8750	12000	525	17000	12100	2310	75500
16	15800	220	9390	8650	450	10500	10800	1950	56900
17	16600	275	12300	6940	430	8060	11100	1850	55400
18	17000	515	23600	10400	450	13100	10900	1300	38300
19	16700	230	10100	12800	10300	421000	11900	1380	44300
20	12300	63	2090	14500	12700	497000	12100	1400	45700
21	11000	62	1840	15300	9300	384000	9600	1050	27200
22	11600	195	6110	14900	6450	259000	12400	1290	43200
23	11300	869	30500	12900	5250	183000	12600	875	29800
24	12500	1200	42600	8470	4600	105000	14200	1200	46000
25	11900	642	21000	16100	4500	196000	14300	1100	42500
26	10700	192	5550	18100	1100	53800	14200	860	33000
27	9160	70	1730	19100	1350	69600	13900	550	20600
28	11500	440	13700	17500	800	37800	8400	223	4990
29	11900	550	17700	14700	500	19800	13600	630	23100
30	11600	210	6580	15100	450	18300	15900	950	40800
31	14000	769	33600	11000	280	8320	--	--	--
TOTAL	410620	--	381530	402190	--	2974540	381160	--	5826590

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 4597780
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 12611069

09403000 BRIGHT ANGEL CREEK NEAR GRAND CANYON, ARIZ.

LOCATION.--Lat 36°06'11", long 112°05'44", in sec.5, T.31 N., R.3 E. (unsurveyed), Coconino County, at gaging station in Grand Canyon National Park, 0.4 mile upstream from mouth and 4 miles northeast of village of Grand Canyon.

DRAINAGE AREA.--101 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1952 to September 1970.
Sediment records: November 1966 (partial records).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.								
13...	1420	22	221	0	2.3	349	7.6	13.0
NOV.								
16...	1030	45	170	0	3.4	297	7.8	10.0
DEC.								
28...	1405	22	227	0	2.5	354	7.9	4.0
JAN.								
11...	1100	20	220	0	3.0	354	8.1	6.0
FEB.								
12...	1050	20	221	0	2.4	341	7.9	9.0
MAR.								
18...	1120	22	224	0	3.4	361	7.9	6.0
APR.								
16...	1220	28	174	2	1.7	278	8.3	10.5
MAY								
09...	1440	74	135	6	1.0	264	8.5	17.0
JULY								
17...	1115	17	181	2	2.6	299	8.3	22.0
AUG.								
15...	1240	18	174	4	1.4	284	8.5	25.0
SEP.								
18...	1005	16	198	4	3.2	320	8.4	14.6

09403780 KANAB CREEK NEAR FREDONIA, ARIZ.

LOCATION.--Lat 36°51'50", long 112°34'45", in SE¼ sec.14, T.40 N., R.3 W. (unsurveyed), Coconino County, in Kaibab Indian Reservation, at gaging station at Nagles Crossing, 0.2 mile downstream from Johnson Wash and 6.5 miles southwest of Fredonia.

DRAINAGE AREA.--1,085 sq mi.

PERIOD OF RECORD.--Specific conductance: October 1967 to September 1970.
Water temperatures: October 1967 to September 1970.
Sediment records: October 1963 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 5,000 micromhos Feb. 3; minimum daily, 1,000 micromhos Mar. 4.
Water temperatures: Maximum, 16.0°C Aug. 21; minimum, freezing point Feb. 3.
Sediment concentrations: Maximum daily, 165,000 mg/l Aug. 22; minimum daily, no flow on many days.
Sediment discharge: Maximum daily, 551,000 tons Aug. 18; minimum daily, 0 ton on many days.

Period of record:
Specific conductance: Maximum daily, 7,000 micromhos Apr. 16, 17, 23, 24, 1968; minimum daily, 550 micromhos Feb. 15, 1968.
Water temperatures: Maximum, 28.0°C June 8, 1968; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 230,000 mg/l July 28, 1968; minimum daily, no flow on many days each year.
Sediment discharge: Maximum daily, 551,000 tons Aug. 18, 1970; minimum daily, 0 ton on many days each year.

REMARKS.--No flow for many days each month.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	--	--	--	--	2700	--	--	--	--	--	--
2	--	--	--	--	--	2000	3000	--	--	--	--	--
3	--	--	--	--	5000	2000	3000	--	--	--	--	--
4	--	--	--	--	2500	1000	--	--	--	--	--	--
5	--	--	--	--	--	1700	--	--	--	--	--	--
6	--	--	--	--	2500	1900	--	--	--	--	--	--
7	--	--	--	--	--	2200	--	--	--	--	--	--
8	--	--	--	--	--	2200	--	--	--	--	--	--
9	--	--	--	--	--	2000	--	--	--	--	--	--
10	--	--	--	--	--	2000	--	--	--	--	--	--
11	--	--	--	--	--	2000	--	--	--	--	--	--
12	--	--	--	--	--	1800	--	--	--	--	--	--
13	--	--	--	--	--	1800	--	--	--	--	--	--
14	--	--	--	--	--	1900	--	--	--	--	--	--
15	--	--	--	--	--	2000	--	--	--	--	--	--
16	--	1400	--	--	--	2200	--	--	--	--	--	--
17	--	1850	--	2500	--	2500	--	--	--	--	--	--
18	--	1400	--	2500	--	--	--	--	--	--	--	--
19	--	1400	--	2100	--	--	--	--	--	--	--	--
20	--	--	--	2300	--	--	--	--	--	--	1680	--
21	--	--	--	2500	--	--	--	--	--	--	1710	--
22	--	--	--	--	1900	--	--	--	--	--	1230	--
23	--	--	--	--	2800	--	--	--	--	--	2000	--
24	--	--	--	2400	2500	--	--	--	--	--	--	--
25	--	--	--	1900	--	--	--	--	--	--	--	--
26	--	--	--	1880	--	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--	--	--	--	--	--
28	--	--	--	1950	--	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--	--	--	--	--	--
AVG	--	--	--	--	--	--	--	--	--	--	--	--

09403780 KANAB CREEK NEAR FREDONIA, ARIZ.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	--	--	--	--	6.0	--	--	--	--	--	--
2	--	--	--	--	--	7.0	10.0	--	--	--	--	--
3	--	--	--	--	0.0	7.0	10.0	--	--	--	--	--
4	--	--	--	--	4.0	6.0	--	--	--	--	--	--
5	--	--	--	--	--	8.0	--	--	--	--	--	--
6	--	--	--	--	9.0	7.0	--	--	--	--	--	--
7	--	--	--	--	--	6.0	--	--	--	--	--	--
8	--	--	--	--	--	6.0	--	--	--	--	--	--
9	--	--	--	--	--	3.0	--	--	--	--	--	--
10	--	--	--	--	--	5.0	--	--	--	--	--	--
11	--	--	--	--	--	4.0	--	--	--	--	--	--
12	--	--	--	--	--	8.0	--	--	--	--	--	--
13	--	--	--	--	--	2.0	--	--	--	--	--	--
14	--	--	--	--	--	2.0	--	--	--	--	--	--
15	--	--	--	--	--	3.0	--	--	--	--	--	--
16	--	15.0	--	--	--	4.0	--	--	--	--	--	--
17	--	--	--	3.0	--	7.0	--	--	--	--	--	--
18	--	12.0	--	11.0	--	--	--	--	--	--	--	--
19	--	12.0	--	4.0	--	--	--	--	--	--	--	--
20	--	--	--	4.0	--	--	--	--	--	--	12.0	--
21	--	--	--	6.0	--	--	--	--	--	--	16.0	--
22	--	--	--	--	4.0	--	--	--	--	--	13.5	--
23	--	--	--	--	1.0	--	--	--	--	--	--	--
24	--	--	--	6.0	7.0	--	--	--	--	--	--	--
25	--	--	--	4.0	--	--	--	--	--	--	--	--
26	--	--	--	3.5	--	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--	--	--	--	--	--
28	--	--	--	6.0	--	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--	--	--	--	--	--
AVG	--	--	--	--	--	--	--	--	--	--	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	--	0	0	--	0	0	--	0
2	--	--	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--	--	--
4	--	--	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--	--	--
6	--	--	--	0	--	0	--	--	--
7	--	--	--	.10	1760	1.0	--	--	--
8	--	--	--	0	--	0	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--	--
12	--	--	--	--	--	--	--	--	--
13	--	--	--	--	--	--	0	--	0
14	--	--	--	--	--	--	.10	521	.96
15	--	--	--	0	--	0	.60	3440	17
16	--	--	--	1.2	13800	34	.40	5000	5.4
17	--	--	--	2.6	13900	113	.10	3000	.81
18	--	--	--	.50	6000	8.1	.10	2000	.54
19	--	--	--	.10	3000	.81	.30	4000	3.2
20	--	--	--	0	--	0	.20	3000	1.6
21	0	--	0	--	--	--	1.0	7000	19
22	.60	1130	2.9	--	--	--	.50	4000	5.4
23	.20	700	.38	--	--	--	.10	1000	.27
24	.10	500	.14	--	--	--	0	--	0
25	0	--	0	--	--	--	--	--	--
26	--	--	--	--	--	--	--	--	--
27	--	--	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--	--	--
30	--	--	--	0	--	0	--	--	--
31	0	--	0	--	--	--	0	--	0
TOTAL	.90	--	3.42	4.50	--	156.91	3.40	--	54.18

09403780 KANAB CREEK NEAR FREDONIA, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	--	0	0	--	0	1.8	6570	50
2	--	--	--	0	--	0	21	15900	902
3	--	--	--	.80	683	1.8	15	14500	587
4	--	--	--	1.3	850	3.0	8.0	55100	1190
5	0	--	0	1.7	910	4.2	5.0	39100	528
6	1.6	3000	13	.60	560	.91	2.5	5800	39
7	4.6	5000	62	0	--	0	2.3	5900	37
8	3.6	4000	39	--	--	--	3.3	3300	29
9	2.5	3000	20	--	--	--	3.6	3000	29
10	2.0	2000	11	--	--	--	3.6	2900	28
11	3.0	3000	24	--	--	--	6.2	3900	65
12	1.5	2000	8.1	--	--	--	4.6	8100	101
13	1.5	2000	8.1	0	--	0	5.0	3550	48
14	.50	1000	1.4	.50	750	1.4	2.0	1650	8.9
15	.10	1000	.27	.70	750	1.4	1.0	1500	4.1
16	.10	1000	.27	.20	300	.16	.50	1100	1.5
17	8.7	3320	101	0	--	0	.30	300	.24
18	2.1	3880	27	--	--	--	.10	200	.05
19	.80	1400	1.8	--	--	--	0	--	0
20	1.0	2140	9.8	--	--	--	--	--	--
21	.10	1000	.27	0	--	0	--	--	--
22	0	--	0	.40	1060	3.7	--	--	--
23	0	--	0	2.5	2690	18	0	--	0
24	3.3	43700	456	.50	630	.85	.20	300	.16
25	9.0	41300	1000	.10	140	.04	0	--	0
26	5.4	13500	197	0	--	0	--	--	--
27	.50	8400	11	.70	9.7	4.7	--	--	--
28	.10	4000	1.1	.20	1700	.92	--	--	--
29	0	--	0	--	--	--	--	--	--
30	--	--	--	--	--	--	0	--	0
31	0	--	0	--	--	--	.40	83	.34
TOTAL	52.00	--	1992.11	10.20	--	41.08	86.40	--	3648.29

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.0	244	1.0	0	--	0	0	--	0
2	.80	400	.86	--	--	--	--	--	--
3	.60	495	.80	--	--	--	--	--	--
4	.20	210	.11	--	--	--	--	--	--
5	0	--	0	--	--	--	--	--	--
6	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--	--
12	--	--	--	--	--	--	--	--	--
13	0	--	0	--	--	--	--	--	--
14	.10	33	.11	--	--	--	--	--	--
15	.20	108	.08	--	--	--	--	--	--
16	0	--	0	--	--	--	--	--	--
17	--	--	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--	--	--
21	0	--	0	--	--	--	--	--	--
22	.10	238	.08	--	--	--	--	--	--
23	0	--	0	--	--	--	--	--	--
24	--	--	--	--	--	--	--	--	--
25	--	--	--	--	--	--	--	--	--
26	--	--	--	--	--	--	--	--	--
27	0	--	0	--	--	--	--	--	--
28	.30	183	.18	--	--	--	--	--	--
29	0	--	0	--	--	--	--	--	--
30	0	--	0	--	--	--	0	--	0
31	--	--	--	0	--	0	--	--	--
TOTAL	3.30	--	3.22	0	--	0	0	--	0

09403780 KANAB CREEK NEAR FREDONIA, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	--	0	0	--	0	0	--	0
2	--	--	--	--	--	--	--	--	--
3	--	--	--	0	--	0	0	--	0
4	--	--	--	180	29100	59000	9.0	20400	496
5	0	--	0	97	57000	18400	1.0	10000	27
6	26	2360	271	76	56300	13000	0	--	0
7	.60	1250	2.0	40	26500	2860	--	--	--
8	3.0	800	6.5	10	10000	270	--	--	--
9	1.0	500	1.4	5.0	5000	68	--	--	--
10	9.2	1430	86	2.0	3000	16	--	--	--
11	4.0	2000	22	1.0	1500	4.1	0	--	0
12	2.0	750	4.1	0	--	0	25	60400	6970
13	1.0	420	1.1	--	--	--	3.0	51700	419
14	.50	430	.58	--	--	--	.50	13000	18
15	.20	350	.19	0	--	0	0	--	0
16	.10	100	.03	50	52000	7020	--	--	--
17	0	--	0	20	20400	1100	--	--	--
18	--	--	--	441	130000	551000	--	--	--
19	--	--	--	38	154000	26300	--	--	--
20	--	--	--	359	137000	152000	--	--	--
21	--	--	--	67	144000	26900	--	--	--
22	--	--	--	68	165000	31100	--	--	--
23	--	--	--	5.0	144000	1940	--	--	--
24	--	--	--	1.0	52000	140	--	--	--
25	--	--	--	0	--	0	--	--	--
26	--	--	--	0	--	0	--	--	--
27	--	--	--	1.2	16000	3370	--	--	--
28	--	--	--	2.0	33700	182	--	--	--
29	--	--	--	0	--	0	--	--	--
30	--	--	--	--	--	--	0	--	0
31	0	--	0	0	--	0	--	--	--
TOTAL	47.60	--	394.90	1471.2	--	894670.1	38.50	--	7930

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 1718.00
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 908894.21

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
JAN 24, 1970	0530	06.0	4.1	53100	602	56	75	--	93	--	97	99	100	--	--	--	VPWC

09406000 VIRGIN RIVER AT VIRGIN, UTAH

LOCATION.--Lat 37°11'54", long 113°12'25", in SE¼NW¼NE¼ sec.28, T.41 S., R.12 W., Washington County, at gaging station 1.1 miles west of Virgin and 2.3 miles downstream from North Creek.

DRAINAGE AREA.--934 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1950 to September 1956.
Water temperatures: October 1950 to September 1956, May 1962 to September 1970.
Sediment records: May 1962 to September 1970.

EXTREMES.--1969-70:
Sediment concentrations: Maximum daily, 120,000 mg/l Aug. 6; minimum daily, 39 mg/l May 30.
Sediment discharge: Maximum daily, 251,000 tons Aug. 5; minimum daily, 8.5 tons June 3.

Period of record:
Sediment concentrations: Maximum daily, 150,000 mg/l Sept. 5, 1965; minimum daily, 19 mg/l July 11, 1969.
Sediment discharge: Maximum daily, 1,300,000 tons Dec. 6, 1966; minimum daily, 4.6 tons July 11, 1969.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	11.0	7.0	---	---	9.0	---	---	---	20.0	---	27.0
2	---	---	---	0.0	---	---	12.0	18.0	26.0	24.5	---	17.5
3	16.0	---	8.0	0.0	5.0	---	---	---	26.5	24.0	25.5	---
4	14.0	---	---	0.0	---	5.0	13.0	15.0	---	26.0	23.5	---
5	13.0	---	---	---	---	---	---	---	19.0	26.0	---	18.0
6	18.0	---	---	---	10.0	8.5	---	12.0	---	18.0	18.0	---
7	---	---	8.5	---	---	---	13.0	---	25.0	27.0	26.0	---
8	17.0	11.0	---	5.0	---	10.0	---	---	17.5	21.5	30.0	16.0
9	---	11.0	7.0	---	9.0	---	---	11.5	---	22.0	---	---
10	---	12.5	---	---	8.0	---	---	---	19.0	---	25.5	26.0
11	---	13.5	6.0	---	---	9.0	17.0	11.0	17.5	26.0	---	---
12	14.0	---	---	6.0	12.0	---	16.0	17.5	18.0	29.0	---	25.5
13	---	---	---	---	10.0	---	14.0	13.5	---	19.0	---	---
14	---	11.0	---	---	---	12.0	---	---	20.0	20.0	---	15.0
15	---	9.5	6.5	10.0	11.0	---	13.0	---	13.0	24.0	21.5	---
16	---	10.0	---	---	---	5.0	---	20.0	24.0	---	20.5	17.5
17	15.0	---	---	---	---	---	---	12.0	21.5	26.5	---	---
18	12.0	8.0	10.0	8.0	---	---	---	---	26.5	26.0	23.5	---
19	---	---	---	---	9.0	---	---	19.0	---	---	---	24.0
20	13.0	---	---	---	---	10.0	13.0	20.5	24.5	27.5	---	---
21	---	---	9.0	8.0	---	---	---	23.0	27.5	19.0	---	26.0
22	15.0	---	---	---	8.0	14.0	7.5	21.0	18.0	26.0	15.0	---
23	---	---	---	---	9.0	---	12.0	24.5	28.0	---	21.5	21.0
24	15.0	8.0	---	---	---	---	---	16.0	21.0	19.0	---	---
25	11.0	8.0	---	8.0	---	---	---	18.5	---	25.5	20.5	---
26	17.0	17.0	---	9.0	10.0	11.0	17.0	21.5	29.0	---	20.0	21.0
27	14.0	---	5.5	10.0	---	---	---	20.0	21.0	19.0	24.0	---
28	14.0	---	---	---	---	8.0	10.0	24.5	---	---	20.0	---
29	---	7.0	2.0	5.0	---	---	---	---	24.5	24.5	---	24.0
30	---	9.0	---	---	---	8.0	18.0	---	26.0	---	26.5	---
31	13.0	---	0.0	8.0	---	---	---	---	---	28.5	---	---

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	82	1000	221	144	999	388	150	812	329
2	86	720	167	141	856	326	151	949	387
3	90	518	126	139	734	275	156	111[illegible]	468
4	92	518	129	135	600	219	161	1020	443
5	101	518	141	136	600	220	158	935	400
6	105	916	260	132	600	214	149	862	347
7	101	748	204	187	1100	555	152	792	325
8	101	611	167	174	1600	752	156	394	166
9	101	666	182	163	946	416	163	196	86
10	101	725	198	167	650	293	156	433	182
11	105	790	224	165	242	108	147	957	380
12	108	861	251	155	502	210	152	713	293
13	100	832	225	152	1040	427	146	531	209
14	103	804	224	148	2160	863	148	396	158
15	105	777	220	152	2060	845	148	295	118
16	108	751	219	259	4370	3060	148	408	163
17	110	751	223	342	3500	3230	153	564	233
18	120	751	243	257	1300	902	153	779	322
19	140	740	280	152	1090	447	152	718	295
20	135	729	266	168	915	415	151	661	269
21	140	730	276	175	768	363	150	629	247
22	162	1850	809	171	645	298	155	512	214
23	154	1550	644	164	541	240	154	43	179
24	149	1130	455	159	454	195	149	361	145
25	141	700	266	156	223	94	148	303	121
26	144	413	161	157	233	99	151	255	104
27	138	900	335	152	243	100	151	214	87
28	136	900	330	145	253	99	130	231	81
29	139	708	266	143	264	102	118	249	79
30	140	558	211	142	200	77	121	322	105
31	145	439	172	---	---	---	122	416	137
TOTAL	3682	---	8095	5032	---	15832	4599	---	7772

09406000 VIRGIN RIVER AT VIRGIN, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	JANUARY MEAN DISCHARGE (CFS)	JANUARY MEAN CONCENTRATION (MG/L)	JANUARY SEDIMENT DISCHARGE (TONS/DAY)	FEBRUARY MEAN DISCHARGE (CFS)	FEBRUARY MEAN CONCENTRATION (MG/L)	FEBRUARY SEDIMENT DISCHARGE (TONS/DAY)	MARCH MEAN DISCHARGE (CFS)	MARCH MEAN CONCENTRATION (MG/L)	MARCH SEDIMENT DISCHARGE (TONS/DAY)
1	124	350	117	132	300	107	312	6800	5730
2	116	328	103	127	272	93	480	10400	13500
3	102	357	98	124	247	83	410	6100	6850
4	108	318	93	137	223	82	405	1040	1140
5	110	283	84	134	201	73	403	869	946
6	102	252	69	132	181	65	271	726	531
7	114	225	69	133	230	83	156	573	242
8	116	200	63	133	292	105	157	455	193
9	130	269	94	128	406	140	148	469	187
10	144	362	141	128	192	66	156	483	203
11	143	487	188	135	242	88	151	497	203
12	140	655	248	149	305	123	138	492	183
13	138	655	244	144	403	157	134	488	177
14	133	654	235	134	442	160	143	483	186
15	155	654	274	127	484	166	151	530	216
16	150	600	243	121	399	130	143	581	224
17	186	800	402	121	329	107	146	478	188
18	163	590	260	117	271	86	134	393	142
19	144	661	257	118	223	71	122	323	106
20	142	740	284	114	200	62	126	266	90
21	143	829	320	125	200	68	125	223	99
22	137	765	283	191	2500	1290	122	323	105
23	147	706	280	165	1500	668	124	329	110
24	150	651	264	135	814	297	124	332	111
25	145	601	235	129	442	154	136	337	124
26	137	601	222	129	240	84	131	342	121
27	136	601	221	131	310	110	127	293	100
28	137	297	106	139	400	140	119	251	81
29	124	137	46	--	--	--	124	195	65
30	119	219	70	--	--	--	129	151	53
31	131	351	124	--	--	--	120	150	49
TOTAL	4166	--	5737	3723	--	4858	5671	--	32255

DAY	APRIL MEAN DISCHARGE (CFS)	APRIL MEAN CONCENTRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (CFS)	JUNE MEAN CONCENTRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	111	150	45	116	250	78	79	150	32
2	109	181	53	119	356	114	78	265	56
3	116	176	55	139	167	63	79	4[illegible]	8.5
4	114	172	53	167	78	35	76	91	19
5	116	248	78	182	242	119	80	205	44
6	126	358	122	182	750	369	95	20[illegible]	51
7	148	516	206	205	2100	1160	147	3673	1460
8	143	587	227	177	1800	860	89	2200	529
9	138	668	249	191	2100	1080	91	2400	590
10	151	761	310	209	2400	1350	98	2650	701
11	166	866	388	238	2100	1350	103	1680	467
12	143	344	133	198	769	411	98	894	237
13	119	191	61	178	1280	615	89	781	188
14	120	133	43	190	1050	539	86	682	158
15	107	92	27	179	856	414	83	813	182
16	102	74	20	192	700	363	79	416	89
17	102	59	16	196	2600	1380	75	60[illegible]	122
18	102	47	13	181	1240	606	76	337	69
19	103	67	19	157	592	251	74	360	72
20	103	96	27	136	333	122	74	384	77
21	97	75	20	119	292	94	84	771	175
22	101	59	16	106	248	71	83	758	170
23	98	48	13	106	258	74	83	391	88
24	92	81	20	103	375	104	81	385	84
25	97	136	36	107	257	74	82	379	84
26	112	230	70	93	143	36	81	373	82
27	184	286	142	90	212	52	85	556	128
28	167	355	160	84	61	14	92	594	148
29	133	249	89	83	49	11	88	635	151
30	121	175	57	89	39	9.4	90	678	165
31	--	--	--	84	118	27	--	--	--
TOTAL	3641	--	2768	4596	--	11845.4	2598	--	6426.5

09406000 VIRGIN RIVER AT VIRGIN, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	94	2500	635	82	3500	775	73	252[illegible]	497
2	94	2500	635	89	3800	913	85	205[illegible]	470
3	94	2500	635	102	4120	1130	87	2000	470
4	119	6600	2120	236	38200	155000	100	2000	540
5	124	1800	603	950	98000	251000	840	32000	72600
6	131	3000	1060	520	120000	168000	350	13000	12300
7	109	2600	765	240	55000	35600	150	6440	2610
8	165	14700	6510	112	4790	1450	100	3190	861
9	307	12000	11800	119	4500	1450	82	2350	520
10	351	6930	6570	113	4230	1290	79	1730	369
11	630	4000	6800	108	6020	1760	75	1440	292
12	100	752	203	106	7030	2010	73	1200	256
13	79	756	161	125	8200	2770	172	11000	5110
14	77	700	146	127	9570	3280	83	7900	1570
15	77	539	112	176	20000	9600	77	2900	603
16	89	2540	610	450	33000	40100	75	1200	243
17	92	12000	2980	150	19000	7700	78	1240	261
18	125	36000	12200	650	50000	87800	88	1290	307
19	112	17000	5140	500	65000	87800	88	1330	316
20	114	4290	1320	350	5000	4730	86	1040	241
21	336	51300	46500	300	10000	8100	85	808	185
22	263	11000	7810	360	60000	58300	88	968	230
23	102	10000	2750	150	5330	2160	92	1160	288
24	204	11300	62200	92	3930	976	88	1130	268
25	121	12100	3950	80	2890	624	81	1090	238
26	100	8720	2350	105	5000	1420	78	1060	223
27	99	6280	1680	130	14000	4910	79	978	209
28	90	4820	1170	150	6220	2520	78	903	190
29	82	3700	819	100	4610	1240	78	833	175
30	88	3350	796	83	3420	766	80	900	173
31	82	3040	673	74	2500	500	--	--	--
TOTAL	4650	--	191703	6929	--	945574	3674	--	102615

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 52961
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 1334780.9

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
NOV 18, 1969	1735	5.0	144	1100	428	7	11	--	20	--	42	82	100	--	--	--	VPWC
JAN 12, 1970	1520	6.0	142	655	251	4	5	--	--	--	25	51	93	100	--	--	VPWC
FEB 9.....	1310	8.0	135	406	148	9	14	--	--	--	38	58	93	100	--	--	VPWC
MAR 6.....	1300	8.5	166	726	325	12	17	--	--	--	37	68	95	100	--	--	VPWC
APR 20.....	1340	13.0	101	124	34	13	20	--	--	--	40	52	95	100	--	--	VPWC
MAY 19.....	1645	19.0	147	574	228	14	18	--	--	--	44	67	95	100	--	--	VPWC
JUN 12.....	1605	18.0	104	2060	578	8	10	--	--	--	48	59	69	89	92	98	VPWC
JUL 8.....	2030	21.5	135	33000	12000	66	71	--	--	--	96	99	100	--	--	--	VPWC
JUL 13.....	1515	27.0	79	601	128	39	34	--	--	--	85	100	--	--	--	--	VPWC
JUL 24.....	0900	19.0	255	213000	147000	42	47	--	--	--	89	97	99	100	--	--	VPWC
AUG 4.....	2000	23.5	1270	106000	363000	14	16	--	--	--	51	86	99	100	--	--	VPWC
AUG 6.....	0700	18.0	318	160000	137000	39	42	--	--	--	82	95	100	--	--	--	VPWC
AUG 18.....	1945	23.5	1190	167000	537000	17	19	--	--	--	52	82	98	100	--	--	VPWC
SEP 1.....	1830	27.0	73	2520	497	14	16	--	--	--	55	91	100	--	--	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (C)	NUMBER OF SAMPLING 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 ANALYSIS
NOV 18, 1969	1735	5.0		144	1	12	82	99	100	--	--	--	--	--	--	SV
FEB 9, 1970	1310	8.0		135	--	5	55	93	97	98	100	--	--	--	--	SV
APR 23.....	1340	13.0		101	--	2	45	95	99	99	100	--	--	--	--	SV
JUL 13.....	1515	27.0		79	5	52	79	92	94	95	96	97	99	100	--	SV
SEP 1.....	1830	27.0		73	4	26	85	99	100	--	--	--	--	--	--	SV

09408150 VIRGIN RIVER NEAR HURRICANE, UTAH

LOCATION.--Lat 37°09'45", long 113°23'42", in NE¼NE¼SW¼ sec.2, T.42 S., R.14 W., Washington County, at gaging station, at bridge on State Highway 17, 1.8 miles downstream from Quail Creek and 6.2 miles west of Hurricane.

DRAINAGE AREA.--1,530 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: March 1967 (miscellaneous).
Water temperatures: March 1967 to September 1970.
Sediment records: March 1967 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 30.0°C July 15; minimum, freezing point Dec. 29, 31, Jan. 2
Sediment concentrations: Maximum daily, 219,000 mg/l Aug. 5; minimum daily, 78 mg/l June 2.
Sediment discharge: Maximum daily, 388,000 tons Aug. 5; minimum daily, 17 tons June 2.

Period of record:
Water temperatures: Maximum, 31.0°C July 3, 25, 1967, Aug. 1, 8, 1969; minimum, freezing point Dec. 14, 1967. Dec. 29, 31, 1969, Jan. 2, 1970.
Sediment concentrations: Maximum daily, 219,000 mg/l Aug. 5, 1970; minimum daily, 37 mg/l July 12, 1969.
Sediment discharge: Maximum daily, 756,000 tons Jan. 25, 1969; minimum daily, 9.0 tons July 15, 1969.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.0	---	4.0	5.0	---	14.0	17.0	24.0	26.0	27.0	28.0
2	17.0	10.0	5.0	0.0	9.0	---	16.0	20.0	18.0	17.5	29.0	21.0
3	14.0	14.5	8.5	3.5	3.0	---	13.5	15.5	26.0	26.0	21.0	23.0
4	9.0	9.0	6.5	---	9.5	7.5	7.0	21.0	17.5	20.0	26.0	18.0
5	18.0	15.0	7.0	4.0	5.5	8.0	8.5	13.5	23.0	23.0	19.0	18.0
6	10.0	10.0	6.0	3.5	11.5	12.0	17.5	19.0	22.5	24.5	20.0	17.5
7	20.0	15.0	5.0	0.5	12.0	13.5	15.0	12.0	14.5	19.5	27.0	14.5
8	12.0	14.0	6.5	5.5	7.0	8.5	17.0	20.0	21.0	26.0	20.5	23.5
9	16.0	11.5	5.0	6.0	---	14.0	10.0	19.5	16.5	20.5	29.5	17.5
10	19.0	14.0	7.5	8.0	---	9.0	19.0	13.0	22.0	22.0	19.0	25.5
11	15.0	10.5	4.0	3.0	10.5	10.5	17.0	19.0	13.0	26.5	28.5	27.0
12	---	15.5	8.5	6.0	10.0	8.0	8.0	12.0	20.5	22.0	20.0	22.0
13	8.5	10.5	9.0	9.0	13.0	14.0	---	19.5	21.0	29.0	27.0	19.0
14	16.5	14.5	4.0	4.5	10.0	16.0	7.5	11.5	13.0	27.5	21.0	13.5
15	10.5	12.0	9.0	7.5	4.5	9.5	11.0	20.5	24.0	30.0	29.0	22.5
16	17.5	11.0	4.5	8.5	11.0	14.0	10.5	22.0	16.5	22.0	21.0	11.0
17	17.0	9.5	10.0	10.0	---	9.0	15.5	19.0	27.0	29.0	28.0	11.5
18	15.0	6.5	6.0	6.5	6.5	9.5	16.0	22.0	17.0	29.0	21.5	24.0
19	10.5	10.0	10.0	10.0	---	6.0	9.0	19.5	25.5	24.5	19.0	23.0
20	14.5	5.5	10.5	7.0	2.0	13.5	16.5	21.5	27.0	28.5	25.0	17.0
21	11.0	10.5	8.0	9.0	---	14.0	13.5	24.0	22.0	22.0	19.5	17.5
22	15.0	9.0	11.5	5.5	8.0	7.5	16.0	24.0	25.5	20.0	19.0	10.5
23	11.0	5.5	7.0	11.5	7.0	17.0	10.0	23.0	19.0	20.5	27.0	19.0
24	17.0	10.0	10.0	11.0	11.5	9.0	18.0	17.0	29.0	19.5	18.5	11.5
25	18.5	10.0	---	7.0	7.0	7.0	19.0	15.0	19.5	---	26.5	16.5
26	12.5	5.5	---	11.0	14.5	13.0	15.0	16.0	29.0	---	20.0	9.5
27	19.0	---	8.5	6.5	8.0	12.0	11.0	24.0	27.0	24.5	27.0	20.0
28	13.0	---	4.0	8.5	---	13.5	7.0	17.0	25.5	19.5	26.5	13.5
29	15.0	---	0.0	2.0	---	8.0	14.0	23.5	17.0	20.0	28.0	23.5
30	8.5	---	5.0	8.5	---	8.0	8.0	---	14.5	21.0	27.5	14.0
31	14.5	---	0.0	9.0	---	12.5	---	---	---	29.0	19.5	---
AVG	14.5	11.0	6.5	6.5	8.5	11.0	13.0	18.5	21.5	24.0	24.0	18.5

09408150 VIRGIN RIVER NEAR HURRICANE, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	117	500	158	156	1020	430	196	1100	582
2	138	783	278	155	1160	485	192	1180	612
3	130	496	134	150	930	377	188	1070	543
4	106	399	114	145	862	337	190	961	493
5	115	580	180	149	920	370	196	1220	646
6	117	599	189	151	1040	424	212	1210	693
7	123	1290	428	186	1960	984	210	1090	618
8	119	785	252	210	2770	1570	209	1290	728
9	118	688	219	181	1840	899	200	1170	632
10	116	730	229	190	2580	1320	200	1030	556
11	120	794	257	182	1710	840	194	861	451
12	126	600	204	177	1450	693	201	1110	602
13	125	659	222	173	1260	589	198	1050	561
14	123	676	224	174	1050	493	197	1090	580
15	129	570	199	175	1200	567	201	1060	575
16	133	911	327	241	3600	2340	196	1030	545
17	142	1080	414	347	13000	13200	201	1130	613
18	148	1170	468	202	2270	1240	207	1100	615
19	157	1550	657	203	1840	1010	204	1040	573
20	152	1410	579	213	1830	1050	205	952	527
21	152	1620	665	207	2110	1180	199	832	447
22	172	6130	2830	201	1580	857	213	1440	828
23	179	3180	1540	193	1200	625	218	1220	718
24	176	2180	1040	192	1430	741	200	863	466
25	164	1820	806	192	1200	622	198	855	457
26	159	1830	786	198	1150	615	198	847	453
27	155	1300	544	199	1100	591	205	934	517
28	152	1200	492	198	1100	588	207	938	524
29	151	1110	453	189	1100	561	199	941	506
30	155	1270	531	193	1100	573	203	1150	630
31	162	1460	631	--	--	--	209	954	538
TOTAL	4269	--	16000	5727	--	36171	6246	--	17829

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	210	1290	731	182	817	401	304	6000	4920
2	195	764	402	176	734	349	529	10000	14300
3	170	878	403	174	802	377	389	4000	4200
4	163	786	346	176	852	405	290	2800	2190
5	156	703	296	176	801	381	232	2130	1330
6	158	763	325	172	687	319	242	1450	947
7	162	618	270	167	659	297	220	1280	760
8	171	848	392	167	833	376	218	1330	783
9	183	1080	534	163	761	335	210	1450	822
10	191	1140	588	159	696	299	214	1120	647
11	196	1110	587	158	636	271	213	1070	615
12	192	1010	524	164	688	305	181	790	386
13	193	1210	631	167	1030	464	169	750	342
14	188	1010	513	169	986	450	170	858	394
15	294	1180	650	171	908	419	168	798	362
16	199	1180	634	161	702	305	165	826	368
17	227	1800	1100	159	713	306	163	814	358
18	214	1550	896	152	653	268	166	812	351
19	197	1100	585	152	648	266	147	787	312
20	187	1130	571	153	845	349	139	571	214
21	191	1200	619	157	1070	454	134	587	212
22	191	1080	557	200	1360	734	128	949	190
23	192	919	476	214	2770	1600	124	481	161
24	198	1330	711	175	1020	482	119	527	169
25	195	1150	605	170	700	321	129	644	224
26	190	922	473	169	863	394	125	620	209
27	189	870	444	175	755	357	142	623	239
28	186	800	402	172	1000	464	118	479	153
29	176	891	423	--	--	--	111	401	120
30	171	1020	471	--	--	--	117	510	161
31	179	975	471	--	--	--	115	406	126
TOTAL	5814	--	16630	4750	--	11748	5885	--	36565

09408150 VIRGIN RIVER NEAR HURRICANE, UTAH--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	106	262	75	121	534	174	86	134	31
2	102	324	89	120	298	97	83	78	17
3	99	347	93	132	450	160	81	83	18
4	104	422	118	153	890	368	79	86	18
5	96	267	69	161	1340	582	80	131	28
6	102	367	101	161	950	413	87	112	26
7	121	270	88	175	900	425	214	14700	9920
8	119	489	157	160	860	372	119	3160	1020
9	118	717	228	169	980	447	111	994	298
10	123	629	209	184	1040	517	107	675	195
11	134	936	339	204	1350	744	108	1580	461
12	129	519	181	181	1340	655	103	518	144
13	115	436	135	166	990	444	93	359	90
14	113	366	112	165	790	352	86	217	50
15	105	262	74	159	650	279	81	172	38
16	97	179	47	166	630	282	76	313	64
17	93	195	49	169	820	374	72	168	33
18	94	168	43	166	720	323	72	149	29
19	93	175	44	149	548	220	69	127	24
20	95	209	54	138	428	159	67	106	19
21	93	303	76	128	284	98	73	189	37
22	97	192	50	115	280	87	73	167	33
23	95	178	46	112	264	80	72	169	33
24	88	88	21	109	197	53	68	155	28
25	92	139	35	106	154	44	68	144	26
26	94	187	47	100	161	43	67	119	22
27	126	440	150	88	173	41	66	164	29
28	181	1860	909	83	99	22	69	197	37
29	133	630	226	78	159	33	69	185	34
30	121	274	90	86	150	35	71	120	23
31	--	--	--	82	140	31	--	--	--
TOTAL	3278	--	3955	4277	--	7954	2570	--	12825

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	70	202	38	56	592	90	55	2420	359
2	71	204	39	57	577	89	65	4790	665
3	71	168	32	67	1100	199	68	6770	1240
4	84	311	71	88	10600	11800	81	3800	831
5	92	900	224	491	219000	388000	583	63900	178000
6	104	4800	1350	321	70300	68400	311	34000	28500
7	87	2800	658	140	37000	14000	109	10000	2940
8	104	3600	1010	88	6270	1490	84	3010	683
9	193	11800	7250	88	3450	820	71	2560	491
10	208	9500	5340	82	3080	682	67	2310	418
11	184	8360	4780	81	2730	597	61	1560	257
12	83	2740	614	78	2410	508	61	1460	240
13	70	438	82	86	3650	848	138	8000	2980
14	72	370	72	91	15000	3690	78	12000	2530
15	67	310	56	128	29100	31600	66	4000	713
16	67	300	54	287	53800	71800	62	2040	341
17	70	388	73	128	26700	11600	63	1870	318
18	112	9630	2900	582	51600	181000	74	2980	595
19	96	14000	3630	438	51000	60300	79	2150	459
20	81	4000	875	175	6010	2840	81	2050	448
21	286	9740	10100	135	11300	4120	72	1500	292
22	224	8400	5080	333	171000	154000	74	1840	368
23	104	5000	1400	113	32000	9760	82	1910	423
24	133	4200	1510	73	5610	1110	76	1430	293
25	116	3070	946	61	2800	461	75	2160	437
26	77	2170	451	91	8800	2160	71	1520	291
27	67	1560	282	106	14600	4180	68	1340	246
28	64	1140	197	125	23300	9850	67	1390	251
29	57	978	151	70	5500	1040	66	1670	298
30	62	1250	209	59	3820	609	65	1220	214
31	57	1240	191	58	3120	489	--	--	--
TOTAL	3233	--	49665	4776	--	1038132	2973	--	226121

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 53793
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 1473595

09408150 VIRGIN RIVER NEAR HURRICANE, UTAH--Continued

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT 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
NOV 20, 1969	1125	5.5	214	1980	1140	4	8	--	13	--	32	83	99	100	--	--	VPWC
JAN 5, 1970	1455	4.[illegible]	141	738	281	3	6	--	--	--	31	65	98	--	--	--	VPWC
FEB 4.....	1725	10.[illegible]	189	783	400	6	9	--	--	--	34	73	100	--	--	--	VPWC
MAR 6.....	1705	12.[illegible]	232	1440	902	14	20	--	33	--	48	78	99	--	--	--	VPWC
APR 21.....	1430	13.5	87	240	56	8	14	--	--	--	70	77	100	--	--	--	VPWC
MAY 19.....	1940	19.5	157	592	213	17	27	--	--	--	55	78	100	--	--	--	VPWC
JUN 17.....	1715	27.[illegible]	74	169	34	10	13	--	--	--	45	51	81	99	100	--	VPWC
JUL 10.....	1100	22.[illegible]	202	10100	5510	--	--	--	--	--	--	--	--	--	--	--	
JUL 18.....	1945	29.[illegible]	98	12600	333	54	72	--	--	--	97	99	100	--	--	--	VPWC
JUL 21.....	1630	24.[illegible]	476	47600	61250	21	33	--	--	--	93	98	100	--	--	--	VPWC
AUG 5.....	0745	19.[illegible]	467	300000	378000	29	35	--	--	--	71	90	99	100	--	--	VPWC
AUG 18.....	1940	21.[illegible]	3070	142000	1180000	18	23	--	--	--	66	93	100	--	--	--	VPWC
AUG 22.....	0815	19.[illegible]	345	192000	1790000	32	40	--	--	--	80	94	99	100	--	--	VPWC
SEP 2.....	1125	21.[illegible]	68	4020	738	9	14	--	--	--	52	90	100	--	--	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (C)	NUMBER OF SAMPLING 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 ANALYSIS
NOV 20, 1969	1125	5.5		214	3	16	42	61	73	77	80	84	94	100	--	SV
FEB 4, 1970	1725	10.[illegible]		189	2	11	63	79	82	83	84	86	93	100	--	SV
APR 21.....	1430	13.5		87	1	6	69	92	95	96	96	96	96	100	--	SV
JUL 14.....	1540	27.5		70	3	12	65	84	88	89	90	91	93	100	--	SV
SEP 2.....	1125	21.[illegible]		68	9	43	86	92	92	92	92	92	94	100	--	SV

09415000 VIRGIN RIVER AT LITTLEFIELD, ARIZ.
(Irrigation network station)

LOCATION.--Lat 36°53', long 113°56', in SW¼SW¼ sec.4, T.40 N., R.15 W., Mohave County, at gaging station 0.4 mile downstream from Beaver Dam Wash, 0.4 mile upstream from Littlefield, and 36 miles upstream from waterline of Lake Mead at elevation 1,221 ft above mean sea level.

DRAINAGE AREA.--5,090 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: July 1949 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: October 1947 to September 1970.
Sediment records: October 1947 to September 1968.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 3,890 micromhos Aug. 28; minimum daily, 1,640 micromhos Mar. 3.
Water temperatures: Maximum, 30.0°C July 13, 14, Aug. 15; minimum, 5.0°C Dec. 7.

Period of record:
Dissolved solids (1949-50, 1953-69): Maximum, 4,250 mg/l Aug. 12, 1964; minimum, 477 mg/l May 1-17, 1969.
Hardness (1949-50, 1953-69): Maximum, 2,250 mg/l Aug. 12, 1964, Aug. 21, 1966; minimum, 290 mg/l May 1-17, 1969.
Specific conductance: Maximum daily, 4,650 micromhos Aug. 21, 1966; minimum daily, 689 micromhos May 14, 15, 1969.
Water temperatures: Maximum, 33.5°C July 7, 1953; minimum, 1.5°C Jan. 4, 1949, Jan. 4, 1950.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
02...	1100	73	21.5	19	353	102	281	28	330	0	1070	410
04...	--	40	21.0	19	337	146	216	28	286	0	1130	390
DEC.												
09...	1620	195	11.0	--	224	95	214	20	347	0	656	310
JAN.												
19...	1230	238	11.0	17	208	75	185	17	328	0	589	285
FEB.												
18...	1215	132	12.5	17	253	83	254	23	393	0	692	333
MAR.												
20...	1030	137	12.5	17	262	85	238	21	412	0	802	322
APR.												
23...	1230	68	18.5	23	343	118	285	27	345	0	1160	400
MAY												
21...	1120	66	21.0	18	349	112	287	27	337	0	1070	369
JUNE												
18...	0930	70	20.0	19	357	116	256	29	327	0	1120	375
JULY												
15...	1200	68	28.0	19	345	122	250	27	315	0	1110	370
AUG.												
27...	0945	76	23.5	18	378	112	273	27	512	0	1060	365
SEP.												
25...	1100	68	16.5	12	361	158	280	26	518	0	1160	405

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CON-DUCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.												
02...	1.1	1.8	930	2640	2430	3.30	478	1300	1030	3.4	3240	7.7
04...	1.6	1.0	990	2610	2410	3.28	260	1440	1210	2.5	3190	7.9
DEC.												
09...	--	--	--	1790	--	2.43	942	950	665	3.0	2430	7.9
JAN.												
19...	1.1	3.6	610	1650	1540	2.09	988	830	561	2.8	2250	8.0
FEB.												
18...	.8	3.4	760	1960	1850	2.52	659	973	651	3.5	2620	7.6
MAR.												
20...	.7	2.9	780	1970	1950	2.65	720	1000	666	3.3	2620	7.9
APR.												
23...	1.9	1.0	980	2720	2530	3.44	464	1340	1060	3.4	3140	7.7
MAY												
21...	1.0	1.3	1100	2520	2400	3.26	427	1330	1050	3.4	3160	7.6
JUNE												
18...	1.1	1.2	1100	2630	2440	3.58	461	1360	1100	3.0	3210	7.5
JULY												
15...	1.0	--	1010	2540	2400	3.26	466	1360	1100	3.0	3210	7.5
AUG.												
27...	1.0	2.2	1000	2510	2490	3.39	510	1400	984	3.2	3220	7.8
SEP.												
25...	1.1	1.8	1000	2660	2660	3.62	488	1550	1130	3.1	3300	7.7

09415000 VIRGIN RIVER AT LITTLEFIELD, ARIZ.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3170	2780	2550	2430	2450	2330	2760	3100	3130	3060	3100	3210
2	3180	2740	2500	2390	2440	1810	2870	3140	3180	3060	3110	3220
3	3140	2700	2510	2440	2500	1640	3000	3040	3120	3080	3020	3200
4	3130	2700	2360	2520	2450	1820	3080	3130	3110	3110	3020	3200
5	3150	2650	2530	2510	2490	1990	3150	3200	3130	3130	2590	2650
6	3270	--	2470	2400	2410	2180	3170	3170	3130	3070	2590	2670
7	3170	2700	2440	2510	2530	2170	3230	3160	3090	3100	2950	2900
8	3250	2560	--	2450	2620	2250	3180	3090	3280	3020	3150	3260
9	3150	2540	2430	2450	2540	2230	3110	3000	3290	3090	3160	3100
10	3220	2470	2410	2430	2680	2250	3080	3000	3080	3010	3150	3400
11	3230	2430	2450	2410	2650	2250	3130	2830	3110	2530	3170	3200
12	3210	2430	2390	2280	2630	2280	3100	2800	3140	2960	3160	3190
13	3140	2530	2430	2450	2630	2350	3190	2860	3130	3080	3150	3230
14	3090	2540	2470	2420	2600	2400	3140	2960	3120	3050	3150	3220
15	3070	2590	2460	2310	2610	2460	3110	3010	3070	3090	3650	3160
16	3090	2530	2450	2340	2580	2370	3170	3000	3120	3040	2830	3230
17	2950	2200	2490	2240	2680	2520	3140	2990	3060	3060	2770	3200
18	3050	2020	2440	2260	2720	2550	3170	2960	3080	3140	3280	3160
19	2850	2330	2390	2250	2780	2500	3200	3040	3090	3150	2090	3160
20	2880	2390	2450	2350	2750	2610	3170	3170	3090	3110	2390	3170
21	2820	2320	2440	2390	2780	2610	3220	3140	3090	3860	2960	3210
22	2760	2240	2370	2370	2550	2690	3150	3110	3110	2750	2610	3180
23	2710	2380	2410	2330	2450	2780	3170	3180	3140	2900	2790	3190
24	2590	2440	--	2360	2450	2860	3180	3200	3130	3030	3190	3230
25	2660	2460	--	2360	2510	2890	3220	3200	3110	3130	3120	3230
26	2540	2520	2200	2380	2510	2860	3270	3170	3190	3190	3190	3220
27	2660	2470	2410	2380	2550	2570	3230	3210	3170	3190	3330	3170
28	2740	2480	2330	2390	2550	2720	--	3210	3190	3120	3890	3160
29	2730	2400	2360	2410	--	3020	3160	3200	3150	3020	3560	3170
30	2720	2500	2470	2470	--	3030	3190	3200	3110	3090	3210	--
31	2640	--	2470	2470	--	2870	--	3170	--	3060	3280	--
AVG	2970	2480	2430	2400	2570	2450	3140	3090	3130	3070	3050	3150

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	19.0	12.0	6.0	11.0	14.0	16.0	22.0	25.0	27.0	26.0	26.0
2	22.0	19.0	12.0	6.0	11.0	11.0	18.0	22.0	27.0	28.0	27.0	23.0
3	18.0	19.0	11.0	6.0	12.0	12.0	16.0	23.0	28.0	27.0	27.0	23.0
4	22.0	17.0	12.0	6.0	12.0	14.0	19.0	23.0	26.0	27.0	25.0	20.0
5	21.0	16.0	10.0	6.0	12.0	14.0	21.0	24.0	23.0	27.0	26.0	18.0
6	21.0	--	10.0	6.0	14.0	15.0	22.0	20.0	22.0	27.0	27.0	20.0
7	21.0	15.0	5.0	6.0	14.0	16.0	21.0	23.0	23.0	27.0	27.0	22.0
8	21.0	15.0	--	8.0	16.0	16.0	21.5	--	21.0	27.0	27.0	24.0
9	21.0	15.0	11.0	8.0	14.0	16.0	22.0	22.0	24.0	27.0	29.0	26.0
10	21.0	16.0	11.0	12.0	14.0	12.0	22.0	22.0	23.0	24.0	29.0	25.0
11	21.0	16.0	9.5	9.0	18.0	14.0	21.0	20.0	24.0	25.0	28.0	25.0
12	18.0	16.0	11.0	10.0	17.0	14.0	21.0	21.0	24.0	28.0	29.0	23.0
13	20.0	17.0	11.0	11.0	18.0	16.0	16.0	24.0	24.0	30.0	29.0	20.5
14	19.0	17.0	10.5	12.0	16.0	17.0	17.0	22.0	25.0	30.0	28.0	20.0
15	19.0	16.0	11.0	12.0	16.0	16.0	20.0	23.0	26.0	26.0	30.0	21.0
16	19.0	12.0	11.0	11.0	16.0	16.0	18.0	23.0	25.0	29.0	25.0	22.0
17	19.0	10.0	12.0	11.0	14.0	13.0	18.0	24.0	25.0	29.0	26.0	23.0
18	17.0	10.0	12.0	12.0	13.0	13.0	22.0	23.0	27.0	29.0	25.0	22.0
19	17.0	10.0	12.0	11.0	13.0	15.0	18.0	21.0	27.0	28.0	25.0	21.0
20	17.0	10.0	12.0	13.0	13.0	15.5	19.0	23.0	27.0	28.0	25.0	23.0
21	17.0	10.0	12.0	13.0	14.0	16.0	15.0	23.0	27.5	26.0	27.0	23.0
22	17.0	11.0	13.0	12.0	14.0	18.0	19.0	25.0	27.0	26.0	28.0	23.0
23	17.0	10.0	13.0	13.0	15.0	18.0	21.0	24.0	28.0	25.0	26.0	22.0
24	17.0	11.0	--	14.0	16.0	19.0	22.0	22.0	28.5	25.0	27.0	22.0
25	20.0	11.0	--	13.0	15.0	18.0	21.0	26.0	30.0	25.0	25.0	22.0
26	20.0	12.0	10.0	13.0	15.0	15.0	20.0	24.0	28.0	26.0	25.0	22.0
27	20.0	10.0	8.0	13.0	14.0	10.0	13.0	24.0	26.0	24.0	25.0	24.0
28	20.0	10.0	7.0	9.0	14.0	12.0	--	24.0	25.0	24.0	25.0	24.0
29	20.0	10.0	7.0	9.0	--	11.0	16.0	25.0	22.0	25.0	26.0	24.0
30	20.0	11.0	6.0	11.0	--	11.0	20.0	25.0	25.0	26.0	27.0	--
31	20.0	--	6.0	11.0	--	15.0	--	23.0	--	26.0	26.0	--
AVG	19.5	13.4	10.2	10.0	14.3	14.5	19.1	23.0	25.4	26.7	26.6	22.5

09415200 VIRGIN RIVER NEAR RIVERSIDE, NEV.

LOCATION (revised).--Lat 36°41'13", long 114°16'20", in NW¼SW¼ sec.27, T.14 S., R.69 E., Clark County, 4.6 miles downstream from Riverside bridge, 14 miles southwest of Mesquite, and about 10 miles upstream from high waterline of Lake Mead at elevation 1,221.4 ft above mean sea level.

DRAINAGE AREA.--5,920 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--This station was operated by the Environmental Protection Agency, during the period January 1964 to September 1969, 0.9 miles upstream from the present site.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
OCT.									
08...	1500	70	21.0	357	134	350	32	230	0
NOV.									
15...	1200	A175	12.0	260	94	272	23	264	0
DEC.									
04...	1145	A175	8.0	248	89	265	22	340	0
JAN.									
06...B	1145	200	1.0	260	86	260	22	292	0
FEB.									
25...	1130	A185	15.5	260	92	270	22	274	0
MAR.									
16...	1110	A170	17.5	238	91	270	20	230	0
APR.									
08...	1130	31	21.0	377	164	416	27	240	0
MAY									
11...	1200	A90	22.0	362	131	370	28	218	0
JUNE									
03...	0945	A1.3	26.0	423	182	515	37	198	0
JULY									
09...C	1100	A.7	34.0	412	188	527	40	144	0

DATE	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	LAB PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	FIELD PH (UNITS)
OCT.										
08...	1260	500	3000	567	1440	4.0	3770	7.9	7.7	8.1
NOV.										
15...	880	380	2120	1000	1040	3.7	2380	8.0	9.9	8.2
DEC.										
04...	810	345	2010	950	985	3.7	2780	7.6	10.4	8.2
JAN.										
06...	805	355	2050	1110	1000	3.6	2780	7.6	13.0	8.2
FEB.										
25...	850	350	2080	1040	1030	3.7	2850	7.9	9.9	8.1
MAR.										
16...	870	368	2060	946	968	3.8	2780	7.7	9.4	8.0
APR.										
08...	1370	582	3310	280	1420	4.5	4200	7.7	8.5	8.1
MAY										
11...	1290	505	2860	695	1440	4.2	3700	7.9	8.3	8.1
JUNE										
03...	1770	690	3950	13.9	1800	5.3	4810	7.8	6.6	--
JULY										
09...	1690	710	3990	7.5	1800	5.4	5000	7.9	7.4	--

A ESTIMATED.

B INCLUDES 0.62 MG/L OF NITRATE (AS N) AND 0.03 MG/L OF TOTAL DISSOLVED PHOSPHORUS (AS P). DATA FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY, ALAMEDA, CALIF.

C INCLUDES LESS THAN 0.01 MG/L OF TOTAL DISSOLVED PHOSPHORUS (AS P). DATA FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY, ALAMEDA, CALIF.

09419510 MUDDY RIVER BELOW OVERTON, NEV.

LOCATION.--Lat 36°29'31", long 114°23'32", in SW¼SE¼ sec.33, T.16 S., R.68 E., Clark County, 4 miles southeast of Overton and about 3.8 miles downstream from high waterline of Lake Mead at elevation 1,221.4 ft above mean sea level.

DRAINAGE AREA.--6,920 sq mi, approximately.

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

REMARKS.--Discharge includes all return flow from Overton State Wildlife Management Area.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
OCT.									
09...	1030	20	21.5	142	79	245	23	348	0
JAN.									
06...A	1430	38	7.0	142	77	236	21	346	0
APR.									
08...	1400	18	20.0	220	146	426	34	406	0
JULY									
09...B	1210	2.5	26.0	230	146	473	38	430	0

DATE	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	LAB PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	FIELD PH (UNITS)
OCT.										
09...	670	170	1680	90.7	680	4.1	2210	8.0	9.5	8.3
JAN.										
06...	656	150	1530	157	671	4.0	2110	7.9	11.2	8.2
APR.										
08...	1240	300	2740	133	1150	5.5	3490	7.9	8.7	8.1
JULY										
09...	1280	325	2890	195	1170	6.0	3680	7.8	7.3	--

A INCLUDES 0.55 MG/L OF NITRATE (AS N) AND 0.09 MG/L OF TOTAL DISSOLVED PHOSPHORUS (AS P). DATA FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY, ALAMEDA, CALIF.
B INCLUDES 0.22 MG/L OF NITRATE (AS N) AND 0.12 MG/L OF TOTAL DISSOLVED PHOSPHORUS (AS P). DATA FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY, ALAMEDA, CALIF.

09419700 LAS VEGAS WASH NEAR HENDERSON, NEV.

LOCATION.--Lat 36°05'20", long 114°59'05", in SE¼SW¼ sec.30, T.21 S., R.63 E., Clark County, 3.5 miles north of Henderson and 6.0 miles upstream from high waterline of Lake Mead at elevation 1,221.4 ft above mean sea level.

DRAINAGE AREA.--2,125 sq mi, of which 1,518 sq mi contribute directly to surface runoff.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Discharge includes waste water and sewage effluent from industrial plants. This station was operated by the Environmental Protection Agency, during the period January 1964 to June 1970. All data prior to July 1970, and nutrient data thereafter, furnished by Environmental Protection Agency, Alameda, Calif.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
NOV.									
19...	--	--	--	--	--	534	30	227	0
DEC.									
03...	--	--	--	--	--	510	29	240	0
16...	--	--	--	--	--	486	28	211	0
JAN.									
06...	--	--	--	--	--	460	30	236	0
JULY									
09...	1100	34	24.0	295	116	598	35	312	0
AUG.									
24...	1330	33	23.0	293	118	612	35	290	0
SEP.									
21...	1235	37	17.0	210	94	294	20	280	0

DATE	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC-COND-UCTANCE (MICRO-MHOS)	LAB PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	FIELD PH (UNITS)
NOV.										
19...	961	776	--	--	1130	--	4210	7.3	--	--
DEC.										
03...	894	726	--	--	1040	--	4010	7.2	--	--
16...	908	695	--	--	1050	--	3880	7.4	--	--
JAN.										
06...	857	654	--	--	958	--	3730	7.4	--	--
JULY										
09...	1040	849	3300	303	1210	7.5	4660	7.4	4.2	--
AUG.										
24...	1050	840	3330	297	1220	7.6	4760	7.6	5.9	7.8
SEP.										
21...	710	370	2090	209	910	4.2	2530	7.6	6.9	8.1

DATE	AMMONIA AS N (MG/L)	NITRATE AS N (MG/L)	NITRITE AS N (MG/L)	ORGANIC NITROGEN AS N (MG/L)	ORTHO PHOSPHATE AS P (MG/L)	TOTAL DIS-SOLVED PHOS-PHORUS AS P (MG/L)
NOV.						
19...	--	6.0	.27	--	6.8	7.3
DEC.						
03...	4.8	6.1	.52	.76	7.4	8.5
16...	--	7.4	.06	--	6.8	6.8
JAN.						
06...	--	5.2	.10	--	6.8	6.8
JULY						
09...	--	3.1	--	--	--	7.0

09419750 LAS VEGAS WASH BELOW HENDERSON, NEV.

LOCATION.--Lat 36°05'55", long 114°56'40", in NW¼NE¼ sec.28, T.21 S., R.21 E., Clark County, 5 miles northeast of Henderson, and 3.5 miles upstream from high waterline of Lake Mead at elevation 1,221.4 ft above mean sea level.

DRAINAGE AREA.--2,179 sq mi, of which 1,571 sq mi contribute directly to surface runoff.

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

REMARKS.--Discharge includes waste water and sewage effluent from industrial plants. This station was operated by the Environmental Protection Agency, during the period March 1969 to June 1970. All data prior to July 1970, and nutrient data thereafter, furnished by Environmental Protection Agency, Alameda, Calif.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
NOV.									
18...	--	--	--	--	--	624	61	226	0
DEC.									
03...	--	--	--	--	--	596	55	225	0
16...	--	--	--	--	--	633	52	203	0
JAN.									
06...	--	--	--	--	--	648	52	204	0
JULY									
09...	1000	A 34	23.0	484	198	715	72	278	0
AUG.									
24...	1230	A 34	23.0	--	--	--	--	--	--
SEPT.									
21...	1105	A 40	17.0	--	--	--	--	--	--

DATE	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	LAB PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	FIELD PH (UNITS)
NOV.										
18...	1340	1070	--	--	1750	--	5600	7.8	--	--
DEC.										
03...	1300	1010	--	--	1620	--	5280	7.7	--	--
16...	1400	1050	--	--	1690	--	5450	7.4	--	--
JAN.										
06...	1320	1050	--	--	1580	--	5460	7.4	--	--
JULY										
09...	1550	1240	4850	445	2020	6.9	6390	7.8	8.2	--
AUG.										
24...	--	--	--	--	--	--	B 5800	--	8.4	8.2
SEPT.										
21...	--	--	--	--	--	--	B 5500	--	9.1	8.2

DATE	AMMONIA AS N (MG/L)	NITRATE AS N (MG/L)	NITRITE AS N (MG/L)	ORGANIC NITROGEN AS N (MG/L)	ORTHO PHOSPHATE AS P (MG/L)	TOTAL DIS-SOLVED PHOS-PHORUS AS P (MG/L)
NOV.						
18...	--	14	.06	--	4.8	4.8
DEC.						
03...	.58	12	.14	.36	5.2	5.5
16...	--	13	.09	--	4.6	4.6
JAN.						
06...	--	11	.04	--	4.9	4.9
JULY						
09...	--	12	---	--	--	3.4

A ESTIMATED.
B FIELD DATA.

09419800 LAS VEGAS WASH NEAR BOULDER CITY, NEV.

LOCATION.--Lat 36°07'20", long 114°54'15", in NE¼SE¼ sec.14, T.21 S., R.63 E., Clark County, about 0.8 mile upstream from high waterline of Lake Mead at elevation 1,221.4 ft above mean sea level and 11 miles northwest of Boulder City.

DRAINAGE AREA.--2,193 sq mi, of which 1,586 sq mi contribute directly to surface runoff.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Discharge includes waste water and sewage effluent from industrial plants. This station was operated by the Environmental Protection Agency, during the period January 1964 to September 1969. Nutrient and trace-element data furnished by Environmental Protection Agency, Alameda, Calif.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
OCT.									
09...	1515	52	16.0	465	186	670	64	244	0
NOV.									
15...	1445	52	12.0	449	183	666	61	240	0
DEC.									
02...	1300	56	8.2	384	160	598	53	234	0
JAN.									
07...	1115	56	3.0	372	156	637	50	216	0
FEB.									
20...	1030	51	9.5	409	178	667	54	232	0
MAR.									
15...	1300	45	17.0	452	184	730	62	226	0
APR.									
17...	1410	59	17.0	435	169	715	52	248	0
MAY									
11...	1430	47	21.0	440	182	647	58	222	0
JUNE									
03...	1315	36	26.0	470	192	695	62	268	0
JULY									
09...	0800	34	23.0	480	193	701	70	290	0
AUG.									
24...	1110	36	24.0	478	194	690	65	282	0
SEPT.									
21...	1050	45	18.0	456	186	642	57	266	0

DATE	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	LAB PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	FIELD PH (UNITS)
OCT.										
09...	1540	1110	4640	651	1920	6.6	6000	7.9	9.0	8.1
NOV.										
15...	1530	1120	4340	609	1870	6.7	5590	8.0	10.0	--
DEC.										
02...	1380	940	3860	591	1620	6.5	5240	7.8	10.6	8.1
JAN.										
07...	1310	990	3920	598	1570	7.0	5300	7.1	12.0	8.2
FEB.										
20...	1430	1040	4110	573	1750	6.9	5560	7.9	10.5	8.3
MAR.										
15...	1600	1190	4500	553	1880	7.3	6030	7.6	9.3	8.1
APR.										
17...	1470	955	3970	622	1710	7.5	5310	7.8	9.4	8.1
MAY										
11...	1720	1060	4280	543	1850	6.5	5670	8.1	8.5	8.5
JUNE										
03...	1650	1130	4580	445	1960	6.8	6010	8.0	8.5	--
JULY										
09...	1570	1180	4770	438	1990	6.8	6240	7.8	7.8	--
AUG.										
24...	1560	1100	4640	451	1990	6.7	5930	7.7	8.0	8.2
SEPT.										
21...	1390	1130	4700	571	1900	6.4	5200	8.0	9.2	8.4

DATE	AMMONIA AS N (MG/L)	NITRATE AS N (MG/L)	NITRITE AS N (MG/L)	ORGANIC NITROGEN AS N (MG/L)	ORTHO-PHOSPHATE AS P (MG/L)	TOTAL DIS-SOLVED PHOS-PHORUS AS P (MG/L)	IRON (FE) (MG/L)	MANGA-NESE (MN) (MG/L)	COPPER (CU) (MG/L)	ZINC (ZN) (MG/L)	ARSENIC (AS) (MG/L)	VANA-DIUM (V) (MG/L)
NOV.												
19...	--	13	.04	--	4.8	5.0	--	--	--	--	--	--
DEC.												
04...	.71	10	.11	.47	5.0	5.5	--	--	--	--	--	--
16...	--	12	.08	--	4.6	4.6	--	--	--	--	--	--
JAN.												
06...	--	9.8	.04	--	4.9	4.9	--	--	--	--	--	--
JULY												
09...	--	12	--	--	--	3.5	.032	.16	.036	.010	<.01	<1

09420900 LAKE MEAD NEAR LAS VEGAS BEACH, NEV.

LOCATION.--Lat 36°06'30", long 114°49'10" (unsurveyed), Clark County, 2.8 miles east-southeast of Las Vegas Beach and 10 miles northeast of Henderson.

DRAINAGE AREA.--167,800 sq mi, approximately, at Hoover Dam site.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--This station has been operated by the Environmental Protection Agency, and Bureau of Reclamation since July 1968. Samples collected and field data furnished by Bureau of Reclamation, Boulder City, Nev.; nutrient data furnished by Environmental Protection Agency, Alameda, Calif.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DEPTH (FT)	WATER TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)	FIELD PH (UNITS)	DISSOLVED OXYGEN (MG/L)	AMMONIA AS N (MG/L)	NITRATE AS N (MG/L)	NITRITE AS N (MG/L)	ORGANIC NITROGEN AS N (MG/L)	ORTHO PHOSPHATE AS P (MG/L)	TOTAL DISSOLVED PHOSPHORUS AS P (MG/L)
NOV											
25...	10	17.5	1160	7.7	7.8	.11	.34	<.01	.28	.01	.02
25...	175	14.0	1180	7.7	1.8	--	--	--	--	--	--
FEB											
26...	10	13.5	1080	7.6	9.6	.04	.41	<.01	.10	.01	.02
26...	160	12.0	1160	7.8	10.2	--	--	--	--	--	--
MAY											
27...	10	23.0	1145	8.9	10.0	.08	.41	--	.22	<.01	.01
27...	175	13.5	1200	7.3	7.1	--	--	--	--	--	--
AUG											
24...	10	30.5	--	8.5	10.1	.06	.02	--	--	<.01	.04
24...	175	14.5	--	7.9	4.2	--	--	--	--	--	--

09420950 LAKE MEAD AT SADDLE ISLAND, NEV.

LOCATION.--Lat 36°03'45", long 114°47'40", in NE¼ sec.11, T.22 S., R.64 E., Clark County, directly offshore from Southern Nevada Water Project intake structure on Saddle Island, and 7 miles north-northeast of Boulder City.

DRAINAGE AREA.--167,800 sq mi, approximately, at Hoover Dam site.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--This station has been operated by the Environmental Protection Agency, and Bureau of Reclamation since July 1968. Samples collected and field data furnished by Bureau of Reclamation, Boulder City, Nev.; nutrient data furnished by Environmental Protection Agency, Alameda, Calif.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DEPTH (FT)	WATER TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)	FIELD PH (UNITS)	DISSOLVED OXYGEN (MG/L)	AMMONIA AS N (MG/L)	NITRATE AS N (MG/L)	NITRITE AS N (MG/L)	ORGANIC NITROGEN AS N (MG/L)	ORTHO PHOSPHATE AS P (MG/L)	TOTAL DISSOLVED PHOSPHORUS AS P (MG/L)
NOV											
26...	10	18.0	1150	8.2	7.1	.09	.38	<.01	.18	.01	.02
26...	125	17.5	1170	8.3	7.1	--	--	--	--	--	--
26...	195	14.0	1110	8.2	4.3	--	--	--	--	--	--
FEB											
26...	10	13.0	1060	--	--	--	--	--	--	--	--
26...	100	12.0	1080	7.5	9.0	--	--	--	--	--	--
26...	180	12.0	1090	8.3	8.9	--	--	--	--	--	--
MAY											
27...	10	21.0	1150	5.6	9.4	<.08	.61	--	.20	<.01	<.01
27...	100	15.0	1140	8.5	8.8	--	--	--	--	--	--
27...	195	13.0	1130	8.4	8.8	--	--	--	--	--	--
AUG											
24...	10	30.5	--	8.7	11.0	--	.02	--	--	<.01	.04
24...	100	18.0	--	8.2	3.2	--	--	--	--	--	--
24...	195	13.5	--	7.9	5.8	--	--	--	--	--	--

09421000 LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.

LOCATION.--Lat 36°00'58", long 114°44'13", in NE¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, on state line between Mohave County, Ariz., and Clark County, Nev., at gaging station midway between Hoover Dam intake towers.
DRAINAGE AREA.--167,800 sq mi, approximately.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DEPTH (FT)	STAGE (FT ABOVE DATUM)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
OCT.										
23...	.0	1147	8.5	84	34	118	4.0	132	0	341
23...	10	1137	--	--	--	--	--	132	--	--
23...	25	1122	--	--	--	--	--	132	--	--
23...	75	1072	8.9	84	34	118	4.0	132	0	342
23...	125	1022	8.9	91	32	116	4.0	157	0	332
23...	175	972	8.9	91	31	116	4.0	159	0	332
23...	225	922	--	--	--	--	--	162	--	--
23...	250	897	8.9	90	31	113	4.0	163	0	328
23...	275	872	--	--	--	--	--	163	--	--
23...	325	822	--	--	--	--	--	163	--	--
23...	375	772	8.9	89	32	111	4.0	163	--	321
23...	425	722	--	--	--	--	--	167	--	--
NOV.										
26...	.0	1149	10	88	33	114	4.0	139	0	340
26...	10	1139	--	--	--	--	--	139	0	--
26...	25	1124	--	--	--	--	--	139	0	--
26...	75	1074	--	--	--	--	--	140	0	--
26...	125	1024	7.8	88	33	110	4.0	139	0	330
26...	175	974	8.0	91	31	105	4.0	159	0	312
26...	225	924	8.3	91	31	103	4.0	161	1	307
26...	250	899	8.5	90	31	98	4.0	161	1	297
26...	275	874	--	--	--	--	--	165	0	--
26...	325	824	--	--	--	--	--	165	0	--
26...	375	774	8.0	90	31	96	4.0	162	1	291
26...	425	724	--	--	--	--	--	168	0	--
JAN.										
02...	.0	1153	8.9	88	32	113	4.0	145	0	337
02...	10	1143	--	--	--	--	--	145	0	--
02...	25	1128	--	--	--	--	--	145	0	--
02...	75	1078	--	--	--	--	--	145	0	--
02...	125	1028	--	--	--	--	--	144	0	--
02...	175	978	8.5	90	33	110	4.0	146	0	325
02...	225	928	8.4	90	32	108	4.0	156	0	320
02...	250	903	8.7	90	32	106	4.0	163	0	312
02...	275	878	8.5	89	32	106	4.0	165	0	311
02...	325	828	--	--	--	--	--	163	0	--
02...	375	778	9.2	89	31	105	4.0	165	0	302
02...	425	728	--	--	--	--	--	165	0	--
29...	.0	1154	9.2	90	33	109	4.0	149	0	330
29...	10	1144	--	--	--	--	--	--	--	--
29...	25	1129	--	--	--	--	--	--	--	--
29...	75	1079	--	--	--	--	--	--	--	--
29...	125	1029	--	--	--	--	--	--	--	--
29...	175	979	--	--	--	--	--	--	--	--
29...	225	929	9.7	90	33	109	4.0	148	0	330
29...	250	904	9.2	90	33	105	4.0	149	0	323
29...	275	879	9.7	90	33	105	4.0	159	0	321
29...	325	829	9.2	90	32	104	4.0	160	0	312
29...	375	779	--	--	--	104	--	--	--	--
29...	425	729	10	90	31	101	4.0	166	0	305
FEB.										
26...	.0	1153	7.0	90	33	108	5.0	151	0	329
26...	10	1143	--	--	--	--	--	151	--	--
26...	25	1128	7.0	90	33	108	5.0	151	0	330
26...	75	1078	--	--	--	--	--	151	--	--
26...	125	1028	--	--	--	--	--	151	--	--
26...	175	978	--	--	--	--	--	151	--	--
26...	225	928	8.0	89	33	108	5.0	154	0	323
26...	250	903	8.2	89	32	108	5.0	156	0	319
26...	275	878	8.5	88	32	104	5.0	160	0	310
26...	325	828	--	--	--	--	--	160	--	--
26...	375	778	8.5	86	31	99	5.0	161	0	296
26...	425	728	--	--	--	--	--	162	--	--
MAR.										
31...	.0	1151	7.4	91	32	108	5.0	153	0	330
31...	10	1141	--	--	--	--	--	154	--	--
31...	25	1126	--	--	--	--	--	154	--	--
31...	75	1076	--	--	--	--	--	154	--	--
31...	125	1026	--	--	--	--	--	154	--	--
31...	175	976	8.0	89	32	109	5.0	154	0	325
31...	225	926	8.3	89	32	106	5.0	157	0	315
31...	250	901	8.3	90	31	104	5.0	157	0	315
31...	275	875	8.3	90	31	103	5.0	159	0	314
31...	325	826	--	--	--	--	--	159	--	--
31...	375	776	--	--	--	--	--	160	--	--
31...	425	726	8.3	89	31	100	5.0	161	0	299

09421000 LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.--Continued

PERIOD OF RECORD.--Chemical analyses: October 1940 to September 1970.
REMARKS.--Samples collected by Bureau of Reclamation and analyzed by the Metropolitan Water District of Southern California, LaVerne, Calif.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.										
23...	104	1.0	761	1.03	350	242	2.7	1190	7.8	20.0
23...	102	--	--	--	349	241	--	1190	7.8	19.5
23...	102	--	--	--	349	0	--	1190	7.8	19.5
23...	102	1.2	760	1.03	350	242	2.7	1190	7.9	20.0
23...	100	1.8	764	1.04	359	230	2.7	1180	7.8	18.0
23...	96	2.0	760	1.03	355	225	2.7	1160	7.9	14.5
23...	94	--	--	--	353	220	--	1150	7.8	13.5
23...	94	1.6	753	1.02	354	220	2.6	1150	7.7	12.0
23...	94	--	--	--	353	219	--	1150	7.8	12.0
23...	94	--	--	--	353	219	--	1150	8.0	12.0
23...	94	1.4	743	1.01	353	220	2.6	1150	8.1	12.0
23...	94	--	--	--	353	216	--	1150	7.5	12.0
NOV.										
26...	98	1.9	759	1.03	355	241	2.6	1190	7.9	18.0
26...	98	--	--	--	--	--	--	1200	7.7	18.0
26...	98	--	--	--	--	--	--	1200	8.1	18.0
26...	98	--	--	--	--	--	--	1200	7.8	18.0
26...	98	2.3	743	1.01	355	241	2.5	1200	8.0	18.0
26...	92	3.0	726	.99	355	225	2.4	1180	8.1	14.5
26...	89	2.9	718	.98	355	221	2.4	1160	8.3	13.5
26...	88	2.9	701	.95	352	218	2.3	1150	8.3	13.0
26...	89	--	--	--	--	--	--	1160	8.1	12.0
26...	89	--	--	--	--	--	--	1150	8.2	12.0
26...	89	2.7	694	.94	352	217	2.2	1150	8.3	12.0
26...	89	--	--	--	--	--	--	1150	7.5	12.0
JAN.										
02...	98	1.6	756	1.03	353	234	2.6	1200	7.6	14.5
02...	101	--	--	--	--	--	--	1200	7.7	14.5
02...	100	--	--	--	--	--	--	1200	7.6	14.5
02...	100	--	--	--	--	--	--	1200	7.6	14.5
02...	98	--	--	--	--	--	--	1200	7.6	14.5
02...	100	1.7	745	1.01	360	240	2.5	1200	7.6	14.5
02...	96	2.2	739	1.01	358	230	2.5	1160	7.9	13.5
02...	92	2.3	729	.99	356	222	2.4	1150	7.9	13.0
02...	90	2.6	726	.99	356	221	2.4	1150	7.8	13.0
02...	90	--	--	--	--	--	--	1150	7.6	12.0
02...	90	2.1	715	.97	352	217	2.4	1150	7.6	12.0
02...	89	--	--	--	--	--	--	1150	7.6	12.0
29...	99	2.0	751	1.02	360	238	2.5	1210	7.9	13.5
29...	99	--	--	--	--	--	--	1230	7.9	13.0
29...	99	--	--	--	--	--	--	1240	7.9	13.0
29...	98	--	--	--	--	--	--	1240	7.9	13.0
29...	98	--	--	--	--	--	--	1230	7.9	13.0
29...	98	--	--	--	--	--	--	1230	7.9	13.0
29...	98	2.2	750	1.02	360	239	2.5	1230	7.9	13.0
29...	98	2.2	739	1.01	360	238	2.4	1230	7.9	13.0
29...	96	2.1	738	1.00	360	230	2.4	1220	7.9	12.5
29...	92	2.6	726	.99	356	225	2.4	1200	7.8	12.0
29...	91	--	--	--	--	--	--	1190	7.5	12.0
29...	91	2.7	718	.98	354	218	2.3	1180	7.6	12.0
FEB.										
26...	97	1.4	746	1.01	360	236	2.5	1230	8.3	14.0
26...	98	--	--	--	--	--	--	1230	8.3	14.0
26...	97	1.3	747	1.02	360	236	2.5	1230	8.3	13.5
26...	97	--	--	--	--	--	--	1230	8.2	12.5
26...	98	--	--	--	--	--	--	1210	8.1	12.5
26...	97	--	--	--	--	--	--	1210	8.0	15.0
26...	96	2.2	741	1.01	358	232	2.5	1210	8.0	12.0
26...	96	2.2	--	--	356	228	2.5	1200	8.0	12.0
26...	91	2.3	721	.98	351	220	2.4	1190	8.0	12.0
26...	91	--	--	--	--	--	--	1160	8.0	11.5
26...	87	2.6	696	.95	344	344	2.3	1150	8.0	11.5
26...	87	--	--	--	--	--	--	1150	8.0	11.5
MAR.										
31...	96	1.7	748	1.02	361	235	2.5	1180	7.9	14.0
31...	97	--	--	--	--	--	--	1180	8.0	14.0
31...	97	--	--	--	--	--	--	1190	8.0	14.0
31...	97	--	--	--	--	--	--	1190	8.1	13.5
31...	96	--	--	--	--	--	--	1180	8.1	13.0
31...	96	2.3	744	1.01	356	230	2.5	1150	7.8	12.0
31...	94	1.8	730	.99	354	225	2.5	1150	8.2	12.0
31...	92	2.1	726	.99	354	225	2.4	1150	7.9	12.0
31...	91	2.3	725	.99	354	224	2.4	1150	8.0	12.0
31...	91	--	--	--	--	--	--	1150	7.9	12.0
31...	91	--	--	--	--	--	--	1140	8.2	11.5
31...	91	2.3	706	.96	350	218	2.3	1150	8.0	11.5

09421000 LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DEPTH (FT)	STAGE (FT ABOVE DATUM)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
APR.										
28...	.0	1151	7.8	90	33	109	5.0	155	0	325
28...	10	1141	--	--	--	--	--	155	0	--
28...	25	1126	--	--	--	--	--	154	0	--
28...	75	1076	--	--	--	--	--	154	0	--
28...	125	1026	--	--	--	--	--	154	0	--
28...	175	976	--	--	--	--	--	155	0	--
28...	225	926	7.8	90	32	108	5.0	154	0	320
28...	250	901	7.8	90	32	108	5.0	155	0	321
28...	275	876	7.8	90	32	108	5.0	155	0	317
28...	325	826	--	--	--	--	--	156	0	--
28...	375	776	8.0	89	31	106	5.0	157	0	310
28...	425	726	--	--	--	--	--	160	0	--
MAY										
28...	.0	1151	7.0	91	33	109	5.0	155	0	322
28...	10	1141	--	--	--	--	--	154	0	--
28...	25	1126	--	--	--	--	--	155	0	--
28...	75	1076	--	--	--	--	--	155	0	--
28...	125	1026	--	--	--	--	--	155	0	--
28...	175	976	7.0	90	33	109	5.0	155	0	321
28...	225	926	8.0	90	31	107	5.0	157	0	314
28...	250	901	7.8	90	31	106	5.0	157	0	316
28...	275	876	--	--	--	--	--	159	0	--
28...	325	826	7.6	89	31	106	5.0	159	0	312
28...	375	776	--	--	--	--	--	160	0	--
28...	425	726	7.6	89	31	105	5.0	160	0	307
28...	435	716	--	--	--	--	--	160	0	--
JUNE										
30...	.0	1151	7.6	87	32	109	5.0	143	0	324
30...	10	1141	--	--	--	--	--	144	0	--
30...	25	1126	--	--	--	--	--	143	0	--
30...	75	1076	7.4	90	31	109	5.0	153	0	323
30...	125	1026	--	--	--	--	--	157	0	--
30...	175	976	8.2	91	31	107	5.0	157	0	316
30...	225	926	--	--	--	--	--	159	0	--
30...	250	901	7.6	90	31	107	5.0	160	0	314
30...	275	876	--	--	--	--	--	160	0	--
30...	325	826	--	--	--	--	--	161	0	--
30...	375	776	--	--	--	--	--	160	0	--
30...	425	726	8.0	90	31	107	5.0	161	0	313
30...	438	713	--	--	--	--	--	161	0	--
JULY										
30...	.0	1151	8.8	78	34	112	5.0	122	0	335
30...	10	1141	--	--	--	--	--	--	--	--
30...	25	1126	8.5	80	33	110	5.0	126	0	332
30...	75	1076	8.5	90	33	106	5.0	155	0	323
30...	125	1026	--	--	--	--	--	--	--	--
30...	175	976	--	--	--	--	--	--	--	--
30...	225	926	8.8	89	32	104	5.0	159	0	311
30...	250	901	8.8	89	32	104	5.0	159	0	312
30...	275	876	--	--	--	--	--	--	--	--
30...	325	826	--	--	--	--	--	--	--	--
30...	375	776	9.0	89	32	104	5.0	159	0	312
30...	420	731	--	--	--	--	--	--	--	--
AUG.										
25...	.0	1151	8.2	78	34	112	5.0	115	0	336
25...	10	1141	--	--	--	--	--	116	--	--
25...	25	1126	8.9	79	34	112	5.0	117	0	336
25...	75	1076	8.5	89	33	108	5.0	153	0	325
25...	125	1026	--	--	--	--	--	155	--	--
25...	225	926	8.5	90	32	102	5.0	160	0	311
25...	250	901	8.7	90	32	102	5.0	159	0	312
25...	275	876	--	--	--	--	--	161	--	--
25...	325	826	--	--	--	--	--	159	--	--
25...	375	776	8.9	90	32	102	5.0	160	0	312
28...	175	976	--	--	--	--	--	156	--	--
28...	430	721	--	--	--	--	--	160	--	--
SEP.										
25...	.0	1152	8.0	81	33	110	5.0	124	0	329
25...	10	1142	--	--	--	--	--	126	0	--
25...	25	1127	--	--	--	--	--	124	0	--
25...	75	1077	9.0	81	34	114	5.0	126	0	337
25...	125	1027	8.2	92	32	94	4.0	157	0	295
25...	175	977	--	--	--	--	--	157	0	--
25...	225	927	8.5	90	31	102	4.0	161	0	306
25...	250	902	8.8	90	31	98	4.0	161	0	294
25...	275	877	--	--	--	--	--	161	0	--
25...	325	827	--	--	--	--	--	161	0	--
25...	375	777	--	--	--	--	--	161	0	--
25...	425	727	10	90	31	103	4.0	163	0	308
25...	432	720	--	--	--	--	--	165	0	--

09421000 LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
APR.										
28...	95	2.1	744	1.01	360	233	2.5	1150	8.2	15.0
28...	95	--	--	--	--	--	--	1160	7.7	14.5
28...	95	--	--	--	--	--	--	1160	7.7	14.5
28...	96	--	--	--	--	--	--	1160	7.8	13.5
28...	95	--	--	--	--	--	--	1160	7.9	13.5
28...	95	--	--	--	--	--	--	1150	7.7	13.0
28...	95	2.6	737	1.00	356	230	2.5	1150	8.1	13.0
28...	94	1.9	737	1.00	356	229	2.5	1150	7.0	12.5
28...	94	1.8	733	1.00	356	229	2.5	1150	8.0	12.5
28..	94	--	--	--	--	--	--	1150	7.8	12.0
28..	92	2.1	722	.98	352	223	2.5	1140	7.8	12.0
28...	91	--	--	--	--	--	--	1130	7.8	12.0
MAY										
28...	96	2.3	743	1.01	363	236	2.5	1150	8.1	16.5
28...	96	--	--	--	--	--	--	1160	8.1	16.0
28...	95	--	--	--	--	--	--	1160	8.0	16.0
28...	96	--	--	--	--	--	--	1160	7.9	15.5
28...	96	--	--	--	--	--	--	1160	7.9	14.5
28...	96	2.0	741	1.01	360	233	2.5	1160	7.8	13.5
28...	93	2.3	729	.99	354	225	2.5	1150	7.8	12.0
28...	93	2.2	730	.99	354	225	2.5	1150	7.8	12.0
28...	92	--	--	--	--	--	--	1140	7.8	12.0
28...	90	2.3	723	.98	352	222	2.5	1140	7.7	12.0
28...	90	--	--	--	--	--	--	1140	7.7	12.0
28...	90	2.3	717	.98	352	221	2.4	1130	7.7	12.0
28...	91	--	--	--	--	--	--	1140	7.8	12.0
JUNE										
30...	96	1.4	734	1.00	349	232	2.5	1150	8.1	24.0
30...	96	--	--	--	--	--	--	1150	7.9	24.0
30...	96	--	--	--	--	--	--	1150	7.9	24.0
30...	95	1.8	739	1.01	354	229	2.5	1150	7.7	19.0
30...	95	--	--	--	--	--	--	1150	7.9	14.0
30...	95	2.2	734	1.00	357	228	2.5	1150	7.9	13.5
30...	93	--	--	--	--	--	--	1140	7.8	13.0
30...	92	2.2	729	.99	352	221	2.5	1120	7.7	12.5
30...	91	--	--	--	--	--	--	1100	7.7	12.0
30...	92	--	--	--	--	--	--	1120	7.7	12.0
30...	92	--	--	--	--	--	--	1130	7.8	11.5
30...	92	2.2	729	.99	352	220	2.5	1130	7.6	12.0
30...	92	--	--	--	--	--	--	1130	7.7	12.0
JULY										
30...	96	.5	730	.99	335	235	2.7	1150	7.9	28.0
30...	96	--	--	--	--	--	--	1150	7.9	28.5
30...	94	.8	727	.99	338	235	2.6	1150	7.8	28.0
30...	93	2.4	738	1.00	360	233	2.4	1150	7.6	18.0
30...	92	--	--	--	--	--	--	1150	7.7	15.5
30...	92	--	--	--	--	--	--	1150	7.8	14.0
30...	90	2.3	722	.98	354	224	2.4	1130	7.8	12.5
30...	90	2.5	723	.98	354	224	2.4	1130	7.8	12.5
30...	90	--	--	--	--	--	--	1130	7.9	12.0
30...	90	--	--	--	--	--	--	1130	7.7	12.0
30...	90	2.2	723	.98	354	224	2.4	1130	8.1	12.0
30...	90	--	--	--	--	--	--	1130	7.7	12.0
AUG.										
25...	97	.9	729	.99	335	241	2.7	1130	7.8	29.0
25...	98	--	--	--	--	--	--	1130	7.6	29.0
25...	97	1.0	732	1.00	339	243	2.6	1130	7.7	28.5
25...	94	2.1	741	1.01	358	232	2.5	1150	7.9	21.0
25...	95	--	--	--	--	--	--	1150	7.6	15.5
25...	89	2.4	720	.98	356	225	2.4	1120	7.8	13.0
25...	89	2.0	720	.98	356	226	2.4	1120	7.6	12.5
25...	90	--	--	--	--	--	--	1120	7.6	12.5
25...	90	--	--	--	--	--	--	1130	7.6	12.0
25...	90	2.0	722	.98	356	225	2.4	1130	7.7	12.0
28...	94	--	--	--	--	--	--	1150	7.8	1.4
28...	90	--	--	--	--	--	--	1130	7.7	12.0
SEP.										
25...	97	.9	726	.99	340	238	2.6	1130	7.8	24.5
25...	97	--	--	--	--	--	--	1150	7.8	24.5
25...	98	--	--	--	--	--	--	1150	7.9	24.5
25...	98	2.6	744	1.01	342	239	2.7	1150	7.8	24.5
25...	94	2.4	700	.95	361	232	2.2	1150	7.6	17.5
25...	94	--	--	--	--	--	--	1150	8.0	14.5
25...	89	2.7	714	.97	354	222	2.4	1130	7.7	13.5
25...	89	2.2	698	.95	352	220	2.3	1130	8.0	13.0
25...	89	--	--	--	--	--	--	1130	7.9	12.5
25...	89	--	--	--	--	--	--	1130	7.8	12.0
25...	90	--	--	--	--	--	--	1140	7.8	12.0
25...	91	2.1	721	.98	354	220	2.4	1140	7.6	12.0
25...	90	--	--	--	--	--	--	1140	7.6	12.0

09421500 COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.
(Irrigation network station)

LOCATION (revised).--Lat 36°00'55", long 114°44'16", in NE¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, on state line between Mohave County, Ariz., and Clark County, Nev., downstream from gaging station in Hoover Dam powerhouse.

DRAINAGE AREA.--167,800 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1939 to September 1970.
Water temperatures: October 1941 to September 1965.

REMARKS.--During period October to March samples were collected on or about the fifth, fifteenth, and twenty-fifth of each month and composited for analysis; samples were collected monthly for the remainder of the water year. Records of specific conductance and temperature of individual samples available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	SODIUM PLUS POTASSIUM (NA+K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
OCT.											
01-31	8504	10	93	32	--	--	107	169	0	312	94
NOV.											
01-30	7154	9.6	78	40	--	--	111	174	0	312	93
DEC.											
01-31	7374	10	80	40	--	--	113	177	0	315	95
JAN.											
01-31	9799	9.3	92	34	--	--	116	167	0	332	99
FEB.											
01-28	9644	9.2	90	34	--	--	116	164	0	330	98
MAR.											
01-31	12250	9.0	90	33	--	--	117	163	0	329	98
APR.											
21...	19600	8.8	88	34	110	4.7	--	163	0	322	96
MAY											
19...	18400	6.3	85	33	--	--	108	140	6	312	94
JUNE											
16...	15300	8.6	90	33	--	--	110	165	0	316	96
JULY											
21...	15700	8.7	89	34	--	--	106	168	0	306	94
AUG.											
17...	19100	8.7	100	27	--	--	107	164	0	314	93
SEP.											
21...	10500	9.2	96	27	--	--	105	160	0	300	94
ANALYSES OF ADDITIONAL SAMPLES											
OCT.											
23...A	12790	--	94	29	105	5.2	--	167	0	310	99
NOV.											
17...A	10500	--	93	30	110	5.2	--	168	0	308	99
DEC.											
16...	8120	--	91	29	119	5.4	--	167	0	312	104
JAN.											
20...	12100	--	91	34	114	5.5	--	160	0	318	104

DATE	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.											
01-31	--	2.5	--	--	734	1.00	364	226	2.4	1110	8.1
NOV.											
01-30	--	3.0	--	782	729	1.06	360	218	2.5	1140	7.7
DEC.											
01-31	--	3.3	--	797	743	1.08	364	219	2.6	1160	7.8
JAN.											
01-31	--	1.2	--	810	766	1.10	370	233	2.6	1180	7.6
FEB.											
01-28	--	1.5	--	791	760	1.08	364	230	2.6	1170	7.6
MAR.											
01-31	--	2.3	--	800	758	1.09	362	228	2.7	1150	7.5
APR.											
21...	.4	2.6	160	801	747	1.09	360	226	2.5	1150	8.1
MAY											
19...	--	1.3	--	768	715	1.04	348	234	2.5	1130	8.6
JUNE											
16...	--	2.7	--	769	737	1.05	362	227	2.5	1160	8.2
JULY											
21...	--	2.7	--	760	723	1.03	360	222	2.4	1150	8.2
AUG.											
17...	--	2.8	--	780	734	1.06	362	228	2.5	1120	8.2
SEP.											
21...	--	3.0	--	715	713	.97	350	219	2.4	1110	8.0
ANALYSES OF ADDITIONAL SAMPLES											
OCT.											
23...	--	--	--	760	--	1.03	356	219	2.4	1140	8.1
NOV.											
17...	--	--	--	753	--	1.02	358	220	2.5	1120	8.1
DEC.											
16...	--	--	--	769	--	1.05	348	211	2.8	1160	7.8
JAN.											
20...	--	--	--	775	--	1.05	366	235	2.6	1160	7.8

A DISCHARGE AT TIME OF SAMPLING.

09423000 COLORADO RIVER BELOW DAVIS DAM, ARIZ.-NEV.

LOCATION.--Lat 35°11'30", long 114°34'17", in SE¼NE¼ sec.1, T.32 S., R.66 E., Mount Diablo meridian, in Clark County, Nev., at gaging station on right bank, 0.5 mile downstream from Davis Dam, 29 miles west of Kingman, Ariz., and 68 miles downstream from Hoover Dam.

DRAINAGE AREA.--169,300 sq mi, approximately.

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

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
JULY 1969									
31...	1520	19900	8.0	87	37	104	154	320	97
OCT.									
20...	1530	10080	8.0	86	35	105	138	325	97
APR 1970									
30...	1605	19890	6.0	87	35	116	156	340	93
JULY									
16...	1310	--	7.0	90	31	122	160	340	93
AUG.									
20...	1535	15570	8.0	87	32	119	158	335	93
SEP.									
15...	1330	--	8.0	86	38	104	148	330	93

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
JULY 1969									
31...	--	730	.99	370	244	2.4	1150	8.1	19.0
OCT.									
20...	--	725	.99	360	247	2.4	1170	8.1	20.0
APR 1970									
30...	784	755	1.07	360	232	2.7	1180	8.1	15.0
JULY									
16...	776	763	1.06	350	219	2.8	1180	7.9	19.0
AUG.									
20...	780	753	1.06	350	220	2.8	1170	8.0	19.0
SEP.									
15...	768	733	1.04	370	248	2.3	1150	8.1	21.0

09424000 COLORADO RIVER NEAR TOPOCK, ARIZ.

LOCATION.--Lat 34°41'15", long 114°27'43", in SW¼NW¼ sec.13, T.15 N., R.21 W., Gila and Salt meridian, Mohave County, at gaging station on left bank in Mohave Canyon, 2.7 miles downstream from Topock, 39.5 miles upstream from Parker Dam, and 49 miles downstream from Davis Dam.

DRAINAGE AREA.--172,300 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: August 1969 to September 1970.
Water temperatures: July 1952 to July 1962.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
AUG 1969									
01...	1150	14800	8.0	87	35	111	150	325	99
OCT.									
16...	1100	8140	8.0	86	35	111	144	330	99
MAY 1970									
01...	1005	15530	6.0	92	32	119	156	345	93
21...	1305	--	6.0	87	35	113	158	335	91
JUNE									
16...	0915	--	6.0	90	33	112	160	330	91
JULY									
01...	--	17170	7.0	92	29	119	160	335	92
AUG.									
20...	1015	12580	8.0	89	31	118	156	335	93
SEP.									
16...	0810	--	9.0	84	33	117	150	335	90

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG 1969									
01...	--	740	1.01	360	237	--	1150	7.9	20.0
OCT.									
16...	--	741	1.01	360	242	2.5	1170	8.1	22.0
MAY 1970									
01...	804	765	1.09	360	232	2.7	1180	8.1	16.0
21...	784	746	1.07	360	230	2.6	1180	7.9	18.0
JUNE									
16...	788	742	1.07	360	229	2.6	1170	8.1	18.0
JULY									
01...	780	754	1.06	350	219	2.8	1180	8.1	19.0
AUG.									
20...	784	752	1.07	350	222	2.7	1160	7.9	19.0
SEP.									
16...	776	743	1.06	345	222	2.7	1150	8.0	20.0

09424150 COLORADO RIVER AQUEDUCT NEAR PARKER DAM, ARIZ.-CALIF.

LOCATION.--Lat 34°18'58", long 114°09'23", in NW¼SW¼ sec.28, T.3 N., R.27 E., San Bernardino meridian, San Bernardino County, at gaging station at intake pumping plant of Metropolitan Water District of Southern California on Lake Havasu, 1.8 miles upstream from Parker Dam and 154 miles downstream from Hoover Dam.

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

REMARKS.--Records furnished by California Department of Water Resources and reviewed by U.S. Geological Survey.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.											
08...	--	1670	23.3	8.0	85	32	108	5.0	143	0	315
NOV.											
23...	1045	1920	--	9.0	86	33	113	5.0	148	0	325
DEC.											
08...	1000	1640	13.3	9.0	87	33	113	4.0	144	2	325
JAN.											
07...	--	1670	10.6	9.0	87	34	116	5.0	145	2	333
FEB.											
08...	--	1860	10.0	6.0	85	33	116	5.0	142	0	328
MAR.											
08...	--	1390	13.9	8.0	87	33	116	4.0	150	1	329
APR.											
08...	--	1750	17.2	9.0	89	34	112	4.0	146	2	331
MAY											
06...	0925	1790	20.0	7.0	92	33	113	4.0	151	2	332
JULY											
08...	--	1790	26.7	9.0	85	34	111	5.0	137	2	333
AUG.											
08...	--	1730	28.9	9.0	83	34	112	4.0	129	2	328
SEP.											
08...	--	1700	26.7	9.0	82	34	112	5.0	134	0	331

DATE	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
08...	97	.4	1.0	723	3260	344	117	227	2.5	1150	8.2
NOV.											
23...	100	.5	1.1	746	3870	350	121	229	2.6	1190	8.3
DEC.											
08...	100	.5	1.0	746	3300	353	121	232	2.6	1220	8.4
JAN.											
07...	100	.5	1.4	760	3430	357	122	235	2.7	1180	8.4
FEB.											
08...	100	.4	1.3	745	3740	348	116	232	2.7	1200	8.2
MAR.											
08...	98	.4	1.0	752	2820	353	125	228	2.7	1190	8.4
APR.											
08...	100	.3	1.2	755	3570	362	123	239	2.6	1230	8.5
MAY											
06...	98	.4	1.4	759	3670	365	127	238	2.6	1200	8.4
JULY											
08...	100	.5	1.3	749	3620	352	116	236	2.6	1160	8.4
AUG.											
08...	98	.4	.9	735	3430	347	109	238	2.6	1110	8.4
SEP.											
08...	98	.4	1.1	739	3390	345	110	235	2.6	1150	8.3

09427520 COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.

LOCATION.--Lat 34°17'44", long 114°08'22", in NW¼NW¼ sec.3, T.2 N., R.27 E., San Bernardino meridian, San Bernardino County, Calif., at gaging station on north end of powerplant at Parker Dam, 13 miles northeast of Parker, Ariz., and 14 miles upstream from Headgate Rock Dam.

DRAINAGE AREA.--178,000 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1963 to September 1970.
Water temperatures: February 1954 to September 1970 (discontinued).

EXTREMES.--1969-70:
Water temperatures: Maximum, 27.0°C on many days in August; minimum, 10.0°C on several days during January.

Period of record:
Water temperatures: Maximum, 28.5°C Aug. 12, 13, 18, 1955; minimum (1954-65, 1966-70), 8.0°C Jan. 12, 1964.

REMARKS.--Prior to October 1968, samples collected 3.9 miles downstream from Parker Dam. Formerly published as station 09428000.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM PLUS PO-TAS-SIUM (NA+K) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.											
24...	4610	--	87	33	110	--	5.6	153	0	316	103
NOV.											
18...	1840	--	90	33	119	--	5.8	159	0	322	108
DEC.											
17...	4630	--	90	33	117	--	5.8	156	0	320	109
JAN.											
07...	9300	9.6	89	34	--	117	--	159	0	327	102
21...	4590	--	90	34	114	--	5.9	158	0	322	106
FEB.											
11...	1860	8.8	89	34	--	120	--	166	0	328	101
MAR.											
11...	--	--	--	--	--	--	--	--	--	--	--
16...A	13800	7.0	89	34	--	118	--	160	--	340	93
17...	18700	8.9	91	32	--	115	--	151	4	322	98
APR.											
07...	18500	--	89	34	117	--	5.0	159	0	332	100
13...A	14200	6.0	94	31	--	120	--	156	--	345	95
20...	18100	7.0	82	40	114	--	5.0	163	0	334	98
MAY											
11...A	11500	6.0	90	34	--	119	--	158	--	350	93
18...	17800	9.6	91	35	--	113	--	165	0	324	100
JUNE											
08...A	12300	6.0	92	32	--	120	--	162	--	340	95
15...	15500	8.2	92	34	--	114	--	168	0	322	100
JULY											
13...A	14200	8.0	86	35	--	117	--	158	--	340	93
20...	18700	8.8	89	34	--	111	--	162	0	316	98
AUG.											
10...A	13100	7.0	89	31	--	115	--	154	--	330	93
18...	11500	9.3	100	26	--	114	--	156	0	323	98
SEP.											
14...A	10200	7.0	86	35	--	113	--	148	--	340	93
22...	9200	--	84	33	116	--	5.0	141	0	327	101

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
24...	--	--	--	764	--	1.04	354	228	2.5	1170	8.1
NOV.											
18...	--	--	--	782	--	1.06	361	231	2.7	1160	7.6
DEC.											
17...	--	--	--	789	--	1.07	360	232	2.7	1170	7.7
JAN.											
02...	--	1.0	--	--	758	1.03	362	232	2.7	1190	8.1
21...	--	--	--	781	--	1.06	364	234	2.6	1190	8.1
FEB.											
11...	--	2.3	--	--	765	1.04	362	226	2.7	1190	7.9
MAR.											
11...	--	--	--	754	--	1.03	--	--	--	1170	--
16...	--	--	--	768	761	1.04	360	229	2.7	1180	8.1
17...	--	1.8	--	--	750	1.02	360	225	2.6	1170	8.3
APR.											
07...	.6	2.2	160	782	--	1.06	362	232	2.7	1210	8.1
13...	--	--	--	784	769	1.07	360	232	2.7	1190	8.1
20...	.3	2.0	190	822	767	1.12	368	234	2.6	1160	8.0
MAY											
11...	--	--	--	804	771	1.09	365	236	2.7	1200	8.1
18...	--	1.8	--	792	755	1.08	370	235	2.5	1200	8.2
JUNE											
08...	--	--	--	772	766	1.05	360	227	2.7	1200	8.0
15...	--	2.1	--	796	755	1.08	368	230	2.6	1200	8.1
JULY											
13...	--	--	--	792	758	1.08	360	230	2.7	1180	8.0
20...	--	1.2	--	770	738	1.05	360	227	2.5	1180	7.8
AUG.											
10...	--	--	--	780	742	1.06	350	224	2.7	1170	8.0
18...	--	1.0	--	786	748	1.07	356	228	2.6	1150	7.6
SEP.											
14...	--	--	--	772	748	1.05	360	238	2.6	1170	8.0
22...	.6	2.0	100	740	--	1.01	345	229	2.7	1150	8.0

A DAILY MEAN DISCHARGE.

09427520 COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.--Continued

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

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	21.0	20.0	15.0	15.0	12.0	11.0	11.0	11.0	12.0	12.0
2	---	---	21.0	20.0	15.0	15.0	12.0	12.0	11.0	11.0	13.0	12.0
3	---	---	20.0	20.0	15.0	14.0	12.0	12.0	11.0	11.0	13.0	13.0
4	---	---	20.0	19.0	14.0	14.0	12.0	12.0	11.0	11.0	13.0	13.0
5	---	---	19.0	19.0	14.0	14.0	12.0	12.0	11.0	11.0	13.0	13.0
6	---	---	19.0	19.0	14.0	14.0	12.0	12.0	11.0	11.0	13.0	13.0
7	24.0	23.0	19.0	19.0	14.0	14.0	12.0	11.0	11.0	11.0	14.0	13.0
8	24.0	23.0	19.0	19.0	14.0	14.0	11.0	11.0	11.0	11.0	14.0	14.0
9	23.0	23.0	19.0	18.0	14.0	13.0	11.0	11.0	11.0	11.0	14.0	14.0
10	23.0	23.0	18.0	18.0	13.0	13.0	11.0	11.0	11.0	11.0	14.0	14.0
11	23.0	22.0	18.0	18.0	13.0	13.0	11.0	10.0	12.0	11.0	14.0	14.0
12	22.0	22.0	18.0	18.0	13.0	13.0	10.0	10.0	12.0	12.0	14.0	14.0
13	22.0	22.0	18.0	18.0	13.0	13.0	10.0	10.0	12.0	12.0	14.0	14.0
14	22.0	22.0	18.0	18.0	13.0	13.0	10.0	10.0	12.0	11.0	14.0	14.0
15	22.0	22.0	---	---	13.0	13.0	10.0	10.0	12.0	11.0	15.0	14.0
16	23.0	22.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	15.0
17	22.0	22.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	15.0
18	22.0	22.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	15.0
19	22.0	22.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	15.0
20	22.0	22.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	15.0
21	22.0	21.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	14.0
22	21.0	21.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	15.0
23	21.0	20.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	15.0	15.0
24	21.0	20.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	16.0	15.0
25	21.0	21.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	16.0	16.0
26	21.0	21.0	---	---	13.0	13.0	10.0	10.0	12.0	12.0	16.0	16.0
27	21.0	21.0	---	---	13.0	13.0	11.0	10.0	13.0	12.0	16.0	16.0
28	21.0	21.0	---	---	13.0	13.0	11.0	11.0	13.0	12.0	16.0	16.0
29	21.0	20.0	---	---	13.0	12.0	11.0	11.0	---	---	16.0	16.0
30	21.0	20.0	---	---	12.0	12.0	11.0	11.0	---	---	16.0	16.0
31	21.0	20.0	---	---	12.0	11.0	11.0	11.0	---	---	16.0	16.0
MONTH	24.0	20.0	---	---	15.0	11.0	12.0	10.0	13.0	11.0	16.0	12.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	16.0	18.0	18.0	24.0	23.0	25.0	24.0	26.0	26.0	---	---
2	16.0	16.0	18.0	18.0	24.0	23.0	24.0	24.0	26.0	26.0	---	---
3	16.0	16.0	18.0	18.0	24.0	23.0	24.0	24.0	26.0	26.0	---	---
4	16.0	16.0	18.0	18.0	23.0	23.0	25.0	24.0	26.0	26.0	---	---
5	17.0	16.0	18.0	18.0	23.0	23.0	25.0	24.0	27.0	26.0	---	---
6	17.0	16.0	18.0	18.0	23.0	23.0	25.0	24.0	27.0	27.0	---	---
7	17.0	17.0	18.0	17.0	23.0	23.0	24.0	24.0	27.0	27.0	---	---
8	17.0	17.0	18.0	18.0	23.0	23.0	24.0	24.0	27.0	26.0	---	---
9	17.0	17.0	18.0	18.0	23.0	23.0	25.0	24.0	26.0	26.0	---	---
10	18.0	17.0	18.0	18.0	23.0	23.0	26.0	25.0	26.0	26.0	---	---
11	18.0	17.0	18.0	18.0	24.0	23.0	26.0	25.0	26.0	25.0	---	---
12	18.0	18.0	18.0	18.0	24.0	23.0	26.0	26.0	26.0	25.0	---	---
13	18.0	18.0	19.0	18.0	23.0	23.0	26.0	26.0	27.0	26.0	---	---
14	18.0	18.0	20.0	19.0	23.0	23.0	26.0	25.0	27.0	26.0	---	---
15	18.0	18.0	20.0	20.0	23.0	23.0	26.0	25.0	27.0	26.0	---	---
16	18.0	18.0	21.0	20.0	23.0	23.0	26.0	25.0	27.0	26.0	---	---
17	18.0	17.0	21.0	21.0	23.0	23.0	25.0	24.0	26.0	26.0	---	---
18	18.0	17.0	21.0	21.0	24.0	23.0	25.0	25.0	27.0	26.0	---	---
19	18.0	18.0	21.0	21.0	24.0	23.0	25.0	24.0	27.0	26.0	---	---
20	18.0	18.0	21.0	20.0	24.0	24.0	24.0	24.0	27.0	26.0	---	---
21	18.0	18.0	21.0	20.0	24.0	23.0	24.0	24.0	27.0	27.0	---	---
22	18.0	18.0	21.0	21.0	23.0	23.0	25.0	24.0	27.0	26.0	---	---
23	18.0	18.0	21.0	21.0	24.0	23.0	25.0	24.0	27.0	27.0	---	---
24	18.0	18.0	21.0	21.0	24.0	24.0	25.0	24.0	27.0	26.0	---	---
25	18.0	18.0	21.0	21.0	25.0	24.0	26.0	24.0	27.0	26.0	---	---
26	18.0	18.0	22.0	21.0	25.0	24.0	26.0	26.0	26.0	26.0	---	---
27	18.0	17.0	22.0	21.0	24.0	24.0	26.0	26.0	---	---	---	---
28	18.0	17.0	22.0	21.0	24.0	24.0	26.0	26.0	---	---	---	---
29	18.0	18.0	22.0	21.0	24.0	23.0	26.0	26.0	---	---	---	---
30	18.0	18.0	22.0	22.0	25.0	24.0	26.0	26.0	---	---	---	---
31	---	---	23.0	22.0	---	---	26.0	26.0	---	---	---	---
MONTH	18.0	16.0	23.0	17.0	25.0	23.0	26.0	24.0	27.0	25.0	---	---

09428500 COLORADO RIVER INDIAN RESERVATION MAIN CANAL NEAR PARKER, ARIZ.

LOCATION.--Lat 34°10'04", long 114°16'33", in SE¼NW¼ sec.31, T.10 N., R.19 W., Yuma County, in Colorado River Indian Reservation, at gaging station at Arizona end of Headgate Rock Dam, 1.7 miles northeast of Parker and 14 miles downstream from Parker Dam.

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

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-63 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
20...	1550	--	8.0	87	32	115	146	330	98
JAN.									
15...	1700	--	7.0	87	35	116	154	335	98
FEB.									
24...	1540	--	6.0	94	31	118	156	340	95
MAR.									
16...	1430	800	7.0	89	32	106	160	310	93
APR.									
13...	--	--	6.0	92	32	118	160	340	94
MAY									
11...	--	--	6.0	95	30	123	158	350	95
JUNE									
08...	1100	975	6.0	90	33	118	160	340	94
JULY									
13...	1600	1225	7.0	86	33	118	152	335	94
AUG.									
10...	1315	1296	7.0	89	31	113	152	330	91
SEP.									
14...	1700	1000	7.0	88	34	115	150	340	94

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
20...	--	743	1.01	350	230	--	1170	8.1	20.0
JAN.									
15...	886	755	1.20	360	234	2.7	1190	8.0	--
FEB.									
24...	796	762	1.08	360	232	2.7	1190	8.1	19.0
MAR.									
16...	752	717	1.02	355	224	2.5	1180	8.1	--
APR.									
13...	800	762	1.09	360	229	2.7	1200	8.1	--
MAY									
11...	808	778	1.10	360	230	2.8	1200	8.1	--
JUNE									
08...	784	761	1.07	360	229	2.7	1190	8.0	--
JULY									
13...	784	749	1.07	350	226	2.7	1180	8.0	--
AUG.									
10...	784	737	1.07	350	226	2.6	1170	8.0	--
SEP.									
14...	768	753	1.04	360	237	2.6	1160	8.1	--

09428510 POSTON WASTEWAY NEAR POSTON, ARIZ.

LOCATION.--Lat 33°59'58", long 114°26'41", in SW¼SE¼ sec.28, T.8 N., R.21 W., Yuma County, at gaging station 0.8 mile upstream from mouth, 2.5 miles west of Poston, and 14 miles southwest of Parker.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1965-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
02...	--	--	15	161	51	202	284	510	202
10...	1225	--	12	119	37	178	200	440	152
17...	1400	1.4	16	142	49	211	260	510	192
22...	1220	--	9.0	106	50	109	160	380	128
28...	1100	--	11	113	38	164	200	420	138
NOV.									
07...	1425	--	15	142	45	168	260	425	178
14...	1250	--	13	121	42	169	222	435	148
17...	1245	--	10	105	41	139	178	390	128
28...	1050	--	13	132	46	188	240	475	168
DEC.									
05...	1325	151	13	124	49	158	216	445	152
12...	1350	--	14	132	51	196	252	490	178
18...	1645	--	14	135	47	183	242	470	170
24...	1100	--	12	126	45	166	214	445	158
JAN.									
02...	1535	1.2	13	119	47	162	220	450	138
09...	--	--	11	121	46	170	228	445	148
15...	1045	--	11	105	41	149	192	400	128
23...	--	--	20	167	57	239	316	580	218
FEB.									
06...	1505	--	17	167	57	242	320	590	212
13...	1635	--	15	138	50	207	256	535	165
20...	1630	--	16	146	55	211	276	535	188
26...	1510	--	11	118	45	155	220	430	134
MAR.									
06...	1215	--	11	116	44	156	208	435	132
13...	1210	--	15	146	52	218	276	545	185
16...	1530	--	10	129	38	167	216	435	152
APR.									
13...	--	--	12	129	46	170	228	460	152
MAY									
11...	--	--	11	116	46	162	212	440	142
JUNE									
08...	--	--	9.0	111	40	155	204	420	122
JULY									
13...	--	--	12	124	44	167	230	450	140
AUG.									
10...	--	--	11	116	40	146	204	410	126
SEP.									
17...	--	--	15	147	45	197	262	500	172

TRIBUTARIES AND DIVERSIONS BETWEEN PARKER DAM AND PALO VERDE DAM

09428510 POSTON WASTEWAY NEAR POSTON, ARIZ.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
02...	--	1280	1.74	610	377	3.6	1960	7.9	--
10...	--	1040	1.41	450	286	3.7	1520	8.0	--
17...	--	1250	1.70	555	342	--	1840	7.9	26.0
22...	--	862	1.17	470	339	2.2	1410	8.1	19.0
28...	--	984	1.34	440	276	3.4	1490	7.9	20.0
NOV.									
07...	1180	1100	1.60	540	327	--	1790	7.9	21.0
14...	1120	1040	1.52	475	293	--	1590	7.9	19.0
17...	--	902	1.23	430	284	2.9	1400	8.1	14.0
28...	1200	1140	1.63	520	323	--	1750	7.9	14.0
DEC.									
05...	1100	1050	1.50	510	333	--	1610	8.1	16.0
12...	1280	1190	1.74	540	334	--	1790	7.9	15.0
18...	1210	1140	1.65	530	332	--	1740	8.1	--
24...	1160	1060	1.58	500	324	--	1640	8.1	13.0
JAN.									
02...	1100	1040	1.50	490	310	3.2	1600	8.0	--
09...	1130	1060	1.54	490	303	--	1630	7.9	10.0
15...	996	930	1.35	430	272	--	1440	7.9	--
23...	1530	1440	2.08	650	391	4.1	2130	7.9	19.0
FEB.									
06...	1570	1440	2.14	650	388	4.1	2170	8.0	--
13...	1290	1240	1.75	550	340	--	1810	7.9	--
20...	1380	1290	1.88	590	364	3.8	1950	7.9	--
26...	1030	1000	1.40	480	300	3.1	1570	7.9	--
MAR.									
06...	1070	998	1.46	470	300	--	1560	8.0	--
13...	1370	1300	1.86	580	354	3.9	1950	7.9	--
16...	1060	1040	1.44	480	303	--	1590	8.1	19.0
APR.									
13...	1140	1080	1.55	510	323	3.3	1670	8.1	--
MAY									
11...	1080	1020	1.47	480	306	3.2	1590	8.1	--
JUNE									
08...	988	959	1.34	440	272	3.2	1480	7.8	--
JULY									
13...	1130	1050	1.54	490	302	3.3	1630	8.2	--
AUG.									
10...	1010	951	1.37	455	288	30	1470	8.0	--
SEP.									
17...	1280	1210	1.74	550	335	3.6	1830	8.2	--

09429000 PALO VERDE CANAL NEAR BLYTHE, CALIF.

LOCATION.--Lat 33°43'54", long 114°30'43", in SE¼NE¼NW¼ sec.19, T.5 S., R.24 E., San Bernardino meridian, Riverside County, at gaging station at canal intake structure on west side of Palo Verde Dam, 10 miles northeast of Blythe and 43 miles downstream from Headgate Rock Dam.

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

CHEMICAL ANALYSES, MARCH TO SEPTEMBER 1970

DATE	TIME	DIS-SOLVED SILICA ($IO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)
MAR.									
16...	1400	6.0	89	34	121	160	345	95	778
APR.									
13...	--	6.0	92	33	118	158	345	94	810
24...	1350	6.0	94	32	115	156	340	95	796
MAY									
11...	0830	5.0	91	32	124	160	350	95	812
JUNE									
08...	0600	6.0	90	33	121	160	345	95	792
JULY									
13...	1300	7.0	87	35	116	152	340	95	808
AUG.									
10...	0840	8.0	88	33	117	152	340	93	796
SEP.									
14...	0830	7.0	90	35	119	158	350	96	800

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
MAR.								
16...	770	1.06	360	229	2.8	1190	8.1	14.5
APR.								
13...	767	1.10	365	236	2.7	1200	8.1	--
24...	760	1.08	365	237	2.6	1200	8.1	--
MAY								
11...	777	1.10	360	229	2.8	1210	8.1	18.0
JUNE								
08...	770	1.08	360	229	2.8	1210	8.0	23.0
JULY								
13...	756	1.10	360	236	2.7	1190	8.1	26.0
AUG.								
10...	755	1.08	355	230	2.7	1180	8.1	25.0
SEP.								
14...	776	1.09	370	240	2.7	1190	8.1	22.0

09429030 PALO VERDE DRAIN NEAR PARKER, ARIZ.

LOCATION.--Lat 33°45'25", long 114°29'48", in NE¼SW¼ sec.24, T.5 N., R.22 W., Yuma County, at bridge 0.5 mile upstream from mouth, 0.5 mile northeast of Palo Verde Dam, 9 miles north of Ehrenberg, and 31 miles southwest of Parker.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
02...	1030	--	16	127	45	166	208	430	172
10...	1310	--	17	129	45	193	208	470	198
17...	1445	--	16	130	44	183	208	450	188
22...	1345	--	16	130	43	154	194	430	162
28...	1315	--	17	130	45	165	212	440	168
NOV.									
07...	1600	--	17	130	40	174	212	440	168
14...	1500	--	19	134	40	173	214	445	168
19...	1130	--	19	130	43	167	216	435	165
28...	1230	--	17	134	40	165	212	435	165
DEC.									
05...	1425	--	17	130	48	160	212	430	175
12...	1500	26	17	130	48	161	202	445	172
18...	1800	--	17	132	44	157	204	425	172
24...	1140	--	18	129	43	154	200	425	162
JAN.									
02...	1630	--	17	122	43	158	198	440	144
09...	1220	--	16	130	40	161	210	435	152
15...	1130	--	18	127	42	169	208	440	162
23...	1545	--	17	127	40	168	208	435	158
FEB.									
06...	1610	--	16	124	44	153	208	435	142
13...	1710	--	19	122	43	153	208	430	138
20...	1710	--	17	124	44	148	208	425	142
26...	1555	--	17	124	44	151	208	430	143
MAR.									
06...	1255	--	17	126	43	147	208	430	136
13...	1415	--	18	124	41	154	208	428	142
16...	1625	19	17	119	42	161	216	425	142
APR.									
13...	--	--	18	131	42	159	220	440	148
MAY									
11...	--	--	18	129	43	169	220	445	158
JUNE									
08...	--	--	17	132	44	170	222	450	162
JULY									
13...	--	--	17	130	43	173	220	450	162
AUG.									
10...	--	--	18	137	46	150	220	430	162
SEP.									
17...	--	--	18	138	38	171	216	445	165

09429030 PALO VERDE DRAIN NEAR PARKER, ARIZ.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
02...	--	1060	1.44	500	330	3.2	1630	8.0	--
10...	--	1150	1.56	505	334	3.7	1690	8.2	--
17...	--	1120	1.52	505	334	3.5	1720	8.1	25.0
22...	--	1030	1.40	500	341	3.0	1640	8.2	21.0
28...	1050	1070	1.43	510	336	3.2	1600	8.1	19.0
NOV.									
07...	1110	1080	1.51	490	316	3.4	1620	8.2	21.0
14...	1070	1090	1.46	500	324	3.4	1610	8.2	20.0
19...	--	1070	1.46	500	323	3.2	1630	8.1	14.0
28...	1090	1060	1.48	500	326	3.2	1620	8.2	15.0
DEC.									
05...	1130	1070	1.54	520	346	3.0	1640	8.1	17.0
12...	1140	1070	1.55	520	354	3.1	1640	8.2	16.0
18...	1110	1050	1.51	510	342	3.0	1610	8.2	--
24...	1170	1030	1.59	500	336	3.0	1600	8.1	13.0
JAN.									
02...	1080	1020	1.47	480	318	3.1	1570	8.1	--
09...	1150	1040	1.56	490	318	3.2	1590	8.0	15.0
15...	1170	1060	1.59	490	320	3.3	1610	7.8	--
23...	1110	1050	1.51	480	310	3.3	1580	7.9	17.0
FEB.									
06...	1120	1020	1.52	490	320	3.0	1580	7.6	--
13...	1070	1010	1.46	480	310	3.0	1540	7.9	--
20...	1060	1000	1.44	490	320	2.9	1540	7.9	--
26...	1050	1010	1.43	490	320	3.0	1570	7.9	--
MAR.									
06...	1040	1000	1.41	490	320	2.9	1570	8.0	--
13...	1060	1010	1.44	480	310	3.1	1560	8.0	--
16...	1070	1010	1.46	470	293	3.2	1590	8.1	23.0
APR.									
13...	1140	1050	1.55	500	320	3.1	1620	7.9	--
MAY									
11...	1120	1070	1.52	500	320	3.3	1640	8.0	--
JUNE									
08...	1170	1090	1.59	510	328	3.3	1680	7.9	--
JULY									
13...	1130	1080	1.54	500	320	3.4	1650	8.2	--
AUG.									
10...	1120	1050	1.52	530	350	2.8	1640	8.1	--
SEP.									
17...	1140	1080	1.55	500	323	3.3	1660	8.2	--

TRIBUTARIES BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429060 LOWER MAIN DRAIN NEAR PARKER, ARIZ.

LOCATION.--Lat 33°45'40", long 114°29'05", in SW¼NW¼ sec.19, T.5 N., R.21 W., Yuma County, at gaging station 2.8 miles upstream from outlet to Colorado River and 31 miles south of Parker.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
02...	1045	--	13	146	57	260	248	520	298
10...	1255	--	14	143	51	282	240	560	282
17...	1435	--	12	138	54	247	244	490	278
22...	1335	--	13	127	52	202	210	470	218
28...	1255	--	14	148	51	273	256	530	292
NOV.									
07...	1550	--	14	156	49	250	260	475	302
14...	1450	--	14	140	49	250	246	495	268
19...	1435	--	16	145	58	260	260	525	288
28...	1130	--	11	129	48	210	222	460	225
DEC.									
05...	1415	--	14	154	55	280	264	545	308
11...	1715	202	14	134	52	214	220	480	238
18...	1745	--	14	145	48	247	248	510	258
24...	1130	--	13	129	48	228	226	490	228
JAN.									
02...	1615	--	12	129	48	205	228	475	202
09...	1210	--	12	143	52	255	256	520	265
15...	1115	--	12	122	45	208	218	460	202
23...	1530	--	19	185	68	394	324	690	435
FEB.									
06...	1555	--	16	182	67	397	308	700	435
13...	1700	--	11	124	49	206	224	470	202
20...	1700	--	12	132	49	208	232	475	212
26...	1545	--	11	135	47	225	240	490	222
MAR.									
06...	1240	--	13	137	55	235	252	515	240
13...	1405	--	13	138	52	243	252	520	242
16...	1630	198	12	143	54	237	256	510	252
APR.									
13...	--	--	11	135	49	219	236	490	222
MAY									
11...	--	--	11	132	49	233	232	505	228
JUNE									
08...	--	--	11	134	52	246	248	520	242
JULY									
13...	--	--	15	166	60	318	282	610	345
AUG.									
10...	--	--	13	145	51	251	244	525	262
SEP.									
17...	--	--	15	153	51	266	254	530	290

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
02...	--	1420	1.93	600	396	4.6	2210	8.0	--
10...	--	1450	1.97	565	368	5.2	2150	8.1	--
17...	--	1340	1.82	565	365	4.5	2130	8.0	24.0
22...	--	1190	1.62	530	358	3.8	1940	7.9	20.0
28...	1520	1440	2.07	580	370	4.9	2250	8.0	20.0
NOV.									
07...	1460	1380	1.99	590	377	4.5	2290	8.0	21.0
14...	1420	1340	1.93	550	348	4.6	2100	8.0	20.0
19...	--	1420	1.93	600	387	4.6	2220	8.1	14.0
28...	1250	1190	1.70	520	338	4.0	1890	8.1	14.0
DEC.									
05...	1500	1490	2.04	610	394	4.9	2300	8.1	16.0
11...	1270	1240	1.73	550	370	4.0	1930	8.0	15.0
18...	1430	1350	1.94	560	356	4.5	2070	8.2	--
24...	1330	1250	1.81	520	334	4.4	1910	8.1	13.0
JAN.									
02...	1310	1180	1.78	520	333	3.9	1890	8.1	--
09...	1510	1380	2.05	570	360	4.6	2160	8.1	11.0
15...	1250	1160	1.70	490	311	4.1	1780	8.0	--
23...	2040	1950	2.77	740	474	6.3	2980	8.0	18.0
FEB.									
06...	2090	1950	2.84	730	478	6.4	3040	7.9	--
13...	1320	1170	1.80	510	326	4.0	1850	8.0	--
20...	1270	1200	1.73	530	340	3.9	1890	8.0	--
26...	1290	1250	1.75	530	333	4.3	1960	8.0	--
MAR.									
06...	1460	1320	1.99	570	364	4.3	2090	8.0	--

09429188 COLORADO RIVER AT TAYLOR FERRY, CALIF.

LOCATION.--Lat 33°26'03", long 114°37'35", in SE¼ sec.36, T.8 S., R.22 E., San Bernardino meridian, Riverside County, at gaging station at site of old Taylor Ferry, 2.5 miles upstream from Cibola Bridge, 12 miles south of Blythe, Calif., 28 miles downstream from Palo Verde diversion dam, and 62 miles upstream from Imperial Dam.

DRAINAGE AREA.--183,700 sq mi, approximately.

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

REMARKS.--Gaging station operated by Bureau of Reclamation.

CHEMICAL ANALYSES, APRIL TO SEPTEMBER 1970

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)
APR.								
13...	6.0	90	37	127	164	360	101	840
MAY								
11...	6.0	95	35	127	166	360	103	840
JUNE								
08...	7.0	92	38	126	168	360	104	836
JULY								
13...	7.0	90	37	130	164	360	106	830
AUG.								
10...	8.0	90	35	126	162	350	105	824
SEP.								
17...	8.0	97	35	126	160	360	109	840

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
APR.							
13...	803	1.14	375	240	2.8	1240	8.0
MAY							
11...	809	1.14	380	244	2.8	1260	8.1
JUNE							
08...	811	1.14	385	247	2.8	1270	8.0
JULY							
13...	812	1.13	375	240	2.9	1260	8.0
AUG.							
10...	795	1.12	370	237	2.9	1240	8.0
SEP.							
17...	815	1.14	385	254	2.8	1260	8.2

09429220 OUTFALL DRAIN NEAR PALO VERDE, CALIF.

LOCATION.--Lat 33°21'41", long 114°43'20", in SE¼SE¼ sec.26, T.9 S., R.21 E., San Bernardino meridian, Imperial County, at gaging station at bridge on State Highway 78, 3.3 miles upstream from mouth and 5 miles south of Palo Verde.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
01...	1320	--	16	138	52	449	312	580	480
10...	1115	--	17	142	45	442	300	620	432
17...	0910	--	16	137	48	448	312	610	442
24...	1100	--	18	146	57	440	324	610	465
31...	1800	--	17	137	51	432	312	600	432
NOV.									
07...	1400	--	17	145	43	406	312	515	448
13...	1805	--	19	140	46	459	316	600	465
21...	1255	--	21	142	55	471	340	625	478
26...	1330	--	17	140	46	460	316	615	455
DEC.									
04...	1520	--	18	140	46	451	318	595	455
10...	1520	--	18	137	51	440	310	600	445
19...	1215	--	18	143	49	462	316	625	465
24...	1235	--	19	145	48	492	324	640	495
JAN.									
09...	1405	--	19	148	49	505	334	655	505
15...	1315	--	24	146	55	542	344	690	545
23...	1215	--	17	135	49	436	300	605	435
FEB.									
06...	1210	--	17	137	48	436	308	615	422
13...	1250	--	19	135	47	420	304	595	408
19...	1420	--	17	142	45	420	308	600	408
26...	1430	--	17	142	50	434	320	615	426
MAR.									
06...	1505	--	18	132	54	421	312	610	408
13...	0945	--	19	145	53	470	326	645	470
16...	1100	530	17	140	49	445	326	625	425
APR.									
13...	--	--	17	135	47	392	300	570	385
MAY									
11...	--	--	17	125	55	410	310	610	385
JUNE									
08...	--	--	17	133	51	393	316	570	385
JULY									
13...	--	--	17	140	46	403	320	600	375
AUG.									
10...	--	--	19	135	49	390	308	570	385
SEP.									
17...	--	--	18	148	45	411	322	590	405

TRIBUTARIES BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429220 OUTFALL DRAIN NEAR PALO VERDE, CALIF.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
01...	--	1870	2.54	560	304	8.3	2960	8.1	26.0
10...	--	1850	2.52	540	294	8.3	2850	8.1	24.0
17...	--	1860	2.53	540	284	8.4	2930	8.0	23.0
24...	--	1900	2.58	600	334	7.8	2970	8.1	21.0
31...	--	1820	2.48	550	294	8.0	2880	8.1	21.0
NOV.									
07...	--	1730	2.35	540	284	7.6	2920	8.1	21.0
13...	--	1890	2.57	540	281	8.6	2970	8.0	21.0
21...	--	1960	2.67	580	301	8.5	3130	8.1	17.0
26...	1920	1890	2.61	540	281	8.6	3020	8.2	18.0
DEC.									
04...	1930	1860	2.62	540	279	8.5	2950	8.1	19.0
10...	1760	1850	2.39	550	296	8.1	2880	8.2	17.0
19...	1980	1920	2.69	560	301	8.5	3040	8.2	--
24...	2000	2000	2.72	560	294	9.0	3130	8.2	17.0
JAN.									
09...	2140	2050	2.91	570	296	9.2	3260	8.0	--
15...	2210	2170	3.01	590	308	9.7	3410	7.9	--
23...	1940	1830	2.64	540	294	8.2	2900	8.0	--
FEB.									
06...	1960	1830	2.67	540	288	8.2	2920	8.0	--
13...	1960	1780	2.67	530	280	--	2850	8.0	--
19...	1890	1790	2.57	540	288	7.9	2870	8.1	--
26...	1860	1840	2.53	560	298	8.0	2950	8.1	--
MAR.									
06...	1940	1800	2.64	550	294	7.8	2860	8.0	--
13...	2100	1960	2.86	580	312	8.5	3130	8.0	--
16...	1930	1860	2.62	550	282	8.2	2970	8.1	17.0
APR.									
13...	1820	1700	2.48	530	284	7.4	2730	8.1	--
MAY									
11...	1880	1760	2.56	540	286	7.7	2870	8.2	--
JUNE									
08...	1820	1710	2.48	540	281	7.3	2760	8.1	--
JULY									
13...	1840	1740	2.50	540	278	7.6	2780	8.2	--
AUG.									
10...	1830	1700	2.49	540	288	7.3	2770	8.2	--
SEP.									
17...	1890	1780	2.57	555	291	7.6	2860	8.2	--

TRIBUTARIES BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429225 ANDERSON DRAIN NEAR PALO VERDE, CALIF.

LOCATION.--Lat 33°21'19", long 114°43'00", in SW¼ sec.36, T.9 S., R.21 E., San Bernardino meridian, Imperial County, 0.1 mile upstream from pump into Outfall Drain and 5.5 miles south of Palo Verde.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1969 (partial records), October 1969 to September 1970.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1966-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
DEC.									
19...	1445	--	20	218	125	2040	576	1580	2390
JAN.									
16...	1330	--	26	326	172	3150	640	2200	3940
MAR.									
27...	1100	--	26	330	179	3210	636	2280	4010
APR.									
13...	1100	10	16	170	72	1170	452	1080	1260
MAY									
12...	--	--	20	210	106	2120	608	1640	2380
JUNE									
10...	1035	--	22	198	94	1770	610	1480	1910
30...	1130	--	24	238	118	2550	644	2000	2850
AUG.									
25...	1005	--	27	150	79	1360	628	1280	1460
SEP.									
24...	1340	--	20	202	96	2220	656	1670	2440

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
DEC.									
19...	7050	6660	9.59	1060	588	27	10400	7.8	--
JAN.									
16...	10800	10100	14.7	1520	995	35	15700	7.8	--
MAR.									
27...	10900	10400	14.8	1560	1040	35	15600	7.9	--
APR.									
13...	4180	3990	5.68	720	350	19	6390	7.9	--
MAY									
12...	7100	6780	9.66	960	462	30	10500	8.0	--
JUNE									
10...	6070	5780	8.26	880	380	26	9040	7.9	23.0
30...	8360	8100	11.4	1080	552	34	12300	8.2	26.0
AUG.									
25...	4980	4670	6.77	700	442	22	7550	7.9	23.0
SEP.									
24...	7320	6980	9.96	900	362	32	10900	8.1	18.0

09429100 COLORADO RIVER BELOW CIBOLA VALLEY, ARIZ.

LOCATION.--Lat 33°13'16", long 114°40'18", in NE¼SW¼ sec.30, T.2 S., R.23 W., Yuma County, at gaging station on left bank, 6.7 miles south of Cibola, 38 miles upstream from Imperial Dam, and 52 miles downstream from Palo Verde diversion dam.

DRAINAGE AREA.--183,800 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: January to September 1969 (partial records), October 1969 to September 1970. Water temperatures: March 1956 to December 1966.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM PLUS POTASSIUM (MG/L)	BICARBONATE (HCO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT.									
09...	--	--	--	92	37	--	164	--	128
DEC.									
22...	1230	4500	--	98	38	--	182	--	151
JAN.									
13...	1105	--	9.0	92	37	144	168	365	125
FEB.									
12...	1400	3170	9.0	97	36	167	186	385	142
MAR.									
16...	1000	10370	7.0	90	38	134	172	355	115
APR.									
13...	--	--	6.0	93	36	137	168	365	114
24...	1030	9480	6.0	92	34	128	164	355	103
MAY									
11...	0950	--	7.0	92	34	127	164	350	105
JUNE									
08...	--	--	7.0	94	35	143	176	370	115
JULY									
13...	--	--	8.0	94	35	158	176	380	131
22...	0555	--	7.0	92	32	127	162	350	99
AUG.									
10...	1115	9650	7.0	90	35	124	156	355	101
SEP.									
17...	--	--	9.0	102	33	157	178	375	138
18...	0855	--	9.0	92	33	126	158	350	104

DATE	DISSOLVED SOLIDS (RESIDUE AT 180°C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
OCT.									
09...	928	798	1.26	380	246	--	1330	8.0	--
DEC.									
22...	--	876	1.19	400	251	--	1460	8.0	--
JAN.									
13...	940	856	1.28	380	242	3.2	1340	8.0	--
FEB.									
12...	988	929	1.34	390	238	3.7	1470	8.1	--
MAR.									
16...	860	825	1.17	380	239	30	1320	8.1	15.0
APR.									
13...	876	835	1.19	380	242	3.1	1300	8.0	--
24...	848	800	1.15	370	236	2.9	1250	8.1	19.0
MAY									
11...	874	797	1.19	370	236	2.9	1250	8.1	21.0
JUNE									
08...	900	852	1.22	380	236	3.2	1350	7.9	--
JULY									
13...	928	894	1.26	380	236	3.5	1410	7.9	--
22...	808	788	1.10	360	227	2.9	1220	8.1	28.0
AUG.									
10...	832	790	1.13	370	242	2.8	1230	8.1	35.0
SEP.									
17...	940	903	1.28	390	244	3.5	1410	8.1	--
18...	844	793	1.15	365	236	2.9	1250	8.2	25.0

09429500 COLORADO RIVER AT IMPERIAL DAM, ARIZ.-CALIF.

LOCATION.--Lat 32°53'29", long 114°27'57", in NW¼SW¼ sec.9, T.15 S., R.24 E., San Bernardino meridian, Imperial County, Calif., at gaging station near All-American Canal headworks at west end of Imperial Dam, 5 miles upstream from Laguna Dam, 15 miles northeast of Yuma, 90 miles downstream from Palo Verde Dam, and 147 miles downstream from Parker Dam.

DRAINAGE AREA.--184,600 sq mi, approximately.

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

REMARKS.--Stream discharges reported with analyses represent total flow reaching Imperial Dam. Daily specific conductance record furnished by Bureau of Reclamation.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
AUG 1969											
25...	1215	7740	--	93	33	148	--	5.5	170	0	348
SEP.											
19...	1025	5069	--	98	37	162	--	5.7	190	0	364
OCT.											
20...	1015	5180	--	100	36	154	--	6.1	186	0	366
NOV.											
19...	1445	1370	--	92	43	200	--	6.5	181	0	400
DEC.											
18...	1130	5290	--	98	36	162	--	5.8	178	0	370
JAN 1970											
22...	1100	4100	--	102	36	160	--	6.0	187	0	366
FEB.											
18...	0945	4440	--	99	39	164	--	5.8	183	0	372
MAR.											
18...	1100	9450	--	96	36	140	--	6.0	174	0	354
20...	1230	--	8.0	91	40	--	139	--	172	0	370
APR.											
13...	--	--	7.0	92	37	--	141	--	170	0	365
23...	1515	6190	--	100	34	136	--	5.5	175	0	360
MAY											
11...	1230	--	7.0	96	40	--	150	--	176	0	390
20...	1115	7370	--	99	36	148	--	5.7	172	0	362
JUNE											
09...	1230	--	8.0	95	37	--	152	--	178	0	380
18...	1130	7400	--	98	35	146	--	5.7	170	0	366
JULY											
13...	1230	--	8.0	94	37	--	151	--	174	0	375
23...	1100	8520	--	96	35	148	--	5.6	169	0	364
AUG.											
10...	1230	--	9.0	96	35	--	154	--	176	0	375
19...	1330	7850	--	94	32	144	--	5.3	160	0	352
SEP.											
14...	1230	--	9.0	95	37	--	153	--	168	0	385
23...	1330	5940	--	97	35	150	--	5.5	168	0	372

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
AUG 1969										
25...	129	864	--	1.18	368	229	3.4	1340	7.9	30.0
SEP.										
19	155	973	--	1.32	398	242	3.5	1470	7.9	27.0
OCT.										
20...	152	956	--	1.30	398	245	3.4	1420	8.0	19.0
NOV.										
19...	202	1070	--	1.46	406	257	4.3	1610	8.0	14.5
DEC.										
18...	152	962	--	1.31	394	248	3.6	1410	8.0	13.0
JAN 1970										
22...	157	979	--	1.33	404	251	3.5	1440	7.9	13.0
FEB.										
18...	163	980	--	1.33	408	258	3.5	1480	7.8	15.5
MAR.										
18...	130	886	--	1.20	388	245	3.1	1340	7.6	16.5
20...	118	872	852	1.19	390	249	3.1	1340	8.1	--
APR.										
13...	119	890	846	1.21	380	240	3.1	1330	8.1	--
23...	132	902	--	1.23	390	246	3.0	1360	8.0	19.0
MAY										
11...	128	936	899	1.27	405	260	3.2	1400	8.1	--
20...	140	913	--	1.24	394	253	3.2	1380	8.0	25.5
JUNE										
09...	128	936	889	1.27	390	244	3.4	1400	8.1	26.0
18...	139	915	--	1.24	388	248	3.2	1400	8.1	26.5
JULY										
13...	128	928	880	1.26	385	242	3.3	1390	8.1	30.0
23...	135	912	--	1.24	384	245	3.3	1380	8.1	29.5
AUG.										
10...	131	944	888	1.28	385	240	3.4	1390	8.1	31.0
19...	130	863	--	1.17	366	235	3.3	1300	8.0	31.0
SEP.										
14...	131	932	894	1.27	390	252	3.4	1390	8.2	28.0
23...	138	926	--	1.26	386	249	3.3	1400	8.2	25.5

09429500 COLORADO RIVER AT IMPERIAL DAM, ARIZ.-CALIF.--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1370	1460	1560	1490	1480	1280	1310	1380	1400	1300	1380	1360
2	1360	1470	1480	1470	1480	1290	1300	1390	1390	1370	1360	1350
3	1370	1460	1480	1400	1440	1260	1310	1420	1390	1380	1380	1370
4	1360	1440	1480	1400	1440	1320	1310	1380	1370	1360	1360	1400
5	1370	1420	1480	1380	1420	1390	1310	1340	1400	1380	1320	1440
6	1360	1420	1510	1380	1380	1500	1320	1340	1390	1370	1330	1400
7	1370	1400	1570	1380	1390	1470	1320	1370	1400	1320	1320	1420
8	1370	1410	1660	1370	1400	1440	1310	1360	1350	1340	1380	1400
9	1370	1430	1600	1380	1380	1480	1320	1400	1370	1360	1400	1370
10	1350	1440	1510	1380	1390	1480	1310	1430	1380	1380	1370	1360
11	1360	1430	1480	1400	1370	1470	1320	1380	1380	1360	1370	1320
12	1350	1420	1470	1410	1360	1350	1310	1350	1370	1360	1370	1350
13	1350	1440	1510	1420	1400	1370	1310	1360	1380	1370	1360	1370
14	1360	1550	1490	1390	1500	1400	1320	1360	1380	1350	1390	1360
15	1370	1600	1470	1380	1500	1400	1350	1350	1360	1340	1380	1360
16	1380	1640	1440	1390	1550	1380	1320	1360	1400	1350	1390	1370
17	1400	1680	1430	1420	1560	1320	1350	1360	1360	1370	1380	1340
18	1400	1680	1470	1460	1440	1320	1360	1340	1380	1370	1340	1350
19	1420	1660	1450	1500	1440	1330	1370	1340	1380	1360	1280	1380
20	1420	1680	1450	1450	1370	1330	1350	1320	1390	1310	1300	1380
21	1390	1880	1450	1490	1370	1320	1340	1320	1380	1340	1380	1380
22	1370	1710	1460	1480	1350	1300	1350	1380	1320	1320	1360	1380
23	1380	1740	1480	1450	1350	1320	1340	1390	1360	1350	1360	1380
24	1410	1770	1490	1480	1300	1300	1360	1390	1350	1400	1350	1340
25	1460	1650	1550	1470	1310	1310	1380	1390	1360	1390	1360	1390
26	1460	1590	1590	1480	1290	1310	1350	1380	1370	1380	1340	1410
27	1470	1620	1460	1440	1290	1300	1340	1380	1380	1350	1370	1430
28	1430	1550	1460	1440	1290	1330	1340	1380	1360	1360	1300	1410
29	1390	1460	1480	1420	---	1320	1340	1400	1360	1360	1420	1380
30	1410	1500	1490	1420	---	1300	1350	1440	1380	1360	1420	1350
31	1420	---	1500	1460	---	1310	---	1420	---	1390	1380	---
AVG	1390	1550	1500	1430	1400	1350	1330	1370	1370	1360	1360	1380

09429690 COLORADO RIVER ABOVE GILA RIVER, NEAR YUMA, ARIZ.

LOCATION.--Lat 32°43'22", long 114°32'46", in SE¼NE¼ sec.19, T.8 S., R.22 W., Yuma County, on left bank 0.6 mile upstream from Gila River, 5 miles east of Yuma, 9 miles downstream from Laguna Dam, 12 miles upstream from northerly international boundary, and 14 miles downstream from Imperial Dam.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)
OCT.								
06...	12	105	43	194	208	410	188	--
13...	--	106	40	--	208	--	182	--
20...	--	105	38	--	198	--	178	--
27...	--	103	40	--	180	--	178	--
NOV.								
03...	14	113	53	226	256	450	222	--
10...	--	103	37	--	196	--	172	--
17...	--	110	43	--	220	--	198	--
24...	--	127	45	--	262	--	242	--
DEC.								
01...	14	121	43	240	248	440	242	1180
08...	--	127	59	--	252	--	225	--
15...	15	122	50	236	250	450	248	--
22...	14	132	46	274	268	465	292	1410
29...	19	150	48	299	306	500	318	1460
JAN.								
05...	18	134	45	271	272	470	282	1400
12...	16	119	42	227	248	435	218	1240
19...	15	137	48	244	276	470	252	1260
26...	15	126	43	224	252	440	222	1370
FEB.								
02...	12	116	44	206	240	425	198	1220
09...	13	117	41	214	236	430	202	1230
12...	9.0	95	36	156	180	375	132	968
16...	12	116	41	197	228	425	184	1150
25...	13	110	40	201	212	415	192	1110
MAR.								
09...	11	105	43	175	212	415	152	1150
16...	12	110	38	195	212	420	172	1080
23...	11	105	41	170	202	395	158	1050
30...	11	110	38	184	214	395	172	1080
APR.								
06...	10	110	38	182	204	405	168	1070
13...	10	111	40	163	208	400	148	1060
20...	10	110	37	166	204	380	158	1070
27...	11	114	38	195	214	420	178	1120
MAY								
04...	9.0	105	35	171	192	395	148	1020
11...	10	105	38	174	200	400	155	1030
18...	12	111	42	185	212	410	178	1130
25...	11	111	41	176	210	410	162	1100
JUNE								
01...	10	101	37	172	194	395	148	1000
08...	12	110	41	193	216	420	178	1140
15...	12	111	41	189	218	420	170	1130
22...	10	105	40	176	204	410	152	1080
29...	12	105	40	184	202	420	158	1070
JULY								
06...	11	105	40	179	200	415	155	1060
13...	11	105	37	167	198	395	145	1040
20...	11	108	37	174	204	400	152	1040
27...	10	98	32	163	170	380	138	950
AUG.								
03...	11	103	38	172	194	400	152	1060
10...	12	98	38	156	182	385	135	968
17...	11	103	37	178	202	400	152	1060
24...	13	108	39	171	202	405	152	1070
31...	12	106	40	174	204	400	160	1070
SEP.								
08...	13	113	38	191	220	415	172	1120
14...	13	110	40	188	216	415	170	1100
21...	12	111	36	184	206	410	162	1080
28...	14	112	39	193	214	425	172	1140

09429690 COLORADO RIVER ABOVE GILA RIVER, NEAR YUMA, ARIZ.--Continued

DRAINAGE AREA.--185,000 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.
REMARKS.--Unpublished chemical analyses for water years 1961-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
06...	1060	1.44	440	270	4.0	1590	8.1
13...	--	--	430	260	--	1620	8.1
20...	--	--	420	258	--	1570	8.1
27...	--	--	420	272	--	1580	8.1
NOV.							
03...	1210	1.65	500	290	4.4	1900	8.1
10...	--	--	410	250	--	1560	8.2
17...	--	--	450	270	--	1710	8.1
24...	--	--	500	285	--	1960	7.9
DEC.							
01...	1220	1.60	480	276	4.8	1940	8.0
08...	--	--	560	354	--	1860	8.0
15...	1250	1.70	510	305	4.5	1950	8.1
22...	1360	1.92	520	300	5.2	2170	8.1
29...	1490	1.99	570	319	5.4	2330	8.1
JAN.							
05...	1360	1.90	520	297	5.2	2140	8.1
12...	1180	1.69	470	266	4.6	1830	8.1
19...	1300	1.71	540	314	4.6	2070	8.1
26...	1200	1.86	490	284	4.4	1860	8.1
FEB.							
02...	1120	1.66	470	273	4.1	1810	8.1
09...	1140	1.67	460	266	4.3	1790	8.1
12...	893	1.32	385	238	3.5	1420	8.0
16...	1090	1.56	460	273	4.0	1730	8.0
25...	1080	1.51	440	266	4.2	1660	8.0
MAR.							
09...	1010	1.56	440	266	3.6	1610	8.1
16...	1050	1.47	430	256	4.1	1640	8.1
23...	981	1.43	430	264	3.6	1580	8.1
30...	1020	1.47	430	254	3.9	1620	8.1
APR.							
06...	1020	1.46	430	262	3.8	1590	8.1
13...	976	1.44	440	270	3.4	1560	8.0
20...	963	1.46	425	258	3.5	1570	8.1
27...	1060	1.52	440	264	4.0	1660	8.1
MAY							
04...	959	1.39	405	248	3.7	1520	8.2
11...	982	1.40	420	256	3.7	1550	8.2
18...	1040	1.54	450	276	3.8	1660	8.1
25...	1020	1.50	445	273	3.6	1620	8.1
JUNE							
01...	980	1.36	405	246	3.7	1520	8.2
08...	1060	1.55	445	268	4.0	1680	8.2
15...	1050	1.54	445	266	3.9	1650	8.1
22...	995	1.47	425	258	3.7	1570	8.1
29...	1020	1.46	425	260	3.9	1580	8.2
JULY							
06...	1000	1.44	425	261	3.8	1580	8.1
13...	959	1.41	415	252	3.6	1520	8.2
20...	984	1.41	420	252	3.7	1520	8.2
27...	906	1.29	375	236	3.7	1430	8.0
AUG.							
03...	973	1.44	415	256	3.7	1560	8.0
10...	915	1.32	400	251	3.4	1450	8.1
17...	982	1.44	410	244	3.8	1560	8.0
24...	989	1.46	430	264	3.6	1560	8.0
31...	994	1.46	430	262	3.7	1580	8.1
SEP.							
08...	1050	1.52	440	260	4.0	1670	8.1
14...	1040	1.50	440	263	3.9	1630	8.2
21...	1020	1.47	425	256	3.9	1590	8.2
28...	1060	1.55	440	264	4.0	1660	8.1

09430600 *MOGOLLON CREEK NEAR CLIFF, N. MEX.*
(Hydrologic bench-mark station)

LOCATION (revised).--Lat 33°10'00", long 108°38'57", in SE¼ sec.13, T.13 S., R.18 W., Grant County, at gaging station 12 miles upstream from mouth and 14.2 miles north of Cliff.

DRAINAGE AREA.--69 sq mi.

PERIOD OF RECORD.--Chemical analyses: February 1967 to September 1970.
Sediment records: October 1968 to September 1970 (partial records).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
OCT.										
29...	1100	3.4	18	120	20	3.2	6.5	.9	59	0
NOV.										
22...	1600	10	19	20	12	2.5	5.8	.8	37	0
JAN.										
21...	1630	6.4	16	0	11	2.2	5.6	.4	38	0
FEB.										
18...	1700	4.1	16	20	12	2.1	5.3	.6	40	0
MAR.										
18...	1000	70	18	20	10	2.0	4.6	.7	26	0
APR.										
21...	1645	21	17	0	9.5	1.7	4.4	.6	28	0
MAY										
06...	0715	24	16	10	8.5	1.4	4.4	.4	26	0
JUNE										
03...	1045	2.4	18	0	11	2.1	5.5	.7	42	0
AUG.										
06...	0415	7.7	24	0	18	4.1	7.6	1.6	63	0
06...	1610	19	18	0	16	3.4	6.0	1.6	52	0
SEP.										
09...	1015	13	18	20	10	2.0	4.9	.7	36	0

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT.										
29...	14	1.4	.4	--	--	--	--	.00	.1	.03
NOV.										
22...	18	1.2	.5	--	--	--	--	.00	.0	.01
JAN.										
21...	16	1.4	.5	--	--	--	--	.00	.1	--
FEB.										
18...	14	.8	.5	--	--	--	--	.00	.0	.01
MAR.										
18...	18	.6	.4	--	--	--	--	.10	.3	.00
APR.										
21...	14	.4	.4	.20	.20	.00	.00	.00	.0	.01
MAY										
06...	14	.1	.3	--	--	--	--	.00	.2	.01
JUNE										
03...	12	.2	.5	--	--	--	--	.00	.1	.00
AUG.										
06...	28	1.7	.5	--	--	--	--	.00	.0	--
06...	22	1.6	.6	--	--	--	--	.50	2.3	.00
SEP.										
09...	13	.9	.5	--	--	--	--	.00	.0	.02

09430600 MOGOLLON CREEK NEAR CLIFF, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
29...	40	90	94	49	0	.4	124	--	10.5
NOV.									
22...	30	80	78	38	8	.4	110	--	6.5
JAN.									
21...	40	83	72	38	7	.4	100	--	4.6
FEB.									
18...	50	66	71	35	2	.4	--	--	6.0
MAR.									
18...	110	64	68	30	8	.4	88	--	5.0
APR.									
21...	40	66	63	28	5	.4	80	--	10.0
MAY									
06...	60	57	58	26	4	.4	--	--	8.4
JUNE									
03...	0	70	71	36	2	.4	--	7.4	16.0
AUG.									
06...	50	--	117	62	10	.4	--	--	18.5
06...	20	102	97	54	11	.4	145	6.9	21.0
SEP.									
09...	50	72	68	34	4	.4	--	7.8	18.0

TRACE ELEMENT AND RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYL-LIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED GER-MANIUM (GE) (UG/L)
OCT.											
29...	0930	340	10	<1	<1	--	<18	<2	<2	1	<3
APR.											
21...	1645	27	3	<1	<1	3	<10	<2	<1	2	<1
AUG.											
06...	1610	--	--	--	--	--	--	--	--	--	--

DATE	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED RUBI-DIUM (RB) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TI-TANIUM (TI) (UG/L)
OCT.										
29...	<2	<1	6	<1	<2	--	<1	70	<2	15
APR.										
21...	<2	<1	2	<1	<1	<1	<1	31	<1	1
AUG.										
06...	--	--	--	--	--	--	--	--	--	--

DATE	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED NATURAL URANIUM (U) (UG/L)
OCT.									
29...	<2.0	<110	<2.1	<.4	1.5	1.7	<.4	.04	.05
APR.									
21...	<1.0	<65	1.4	<.4	1.5	1.9	<.4	.08	.04
AUG.									
06...	--	--	.6	200	3.5	4.4	81	.03	<.01

09430600 MOGOLLON CREEK NEAR CLIFF, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	AIR TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.							
29...	1100	3.4	--	8.3	10.5	--	3
NOV.							
22...	1600	10	110	7.8	6.5	--	3
JAN.							
21...	1630	6.4	100	8.1	4.6	--	5
FEB.							
18...	1700	4.1	110	8.1	6.0	--	5
MAR.							
18...	1000	70	--	7.5	5.0	8.0	5
APR.							
21...	1645	21	88	8.1	10.0	12.5	8
MAY							
06...	0715	24	71	7.5	8.4	12.2	5
JUNE							
03...	1045	2.4	108	--	16.0	24.0	--
AUG.							
06...	1610	19	140	7.9	21.0	22.5	150
SEP.							
09...	1015	13	85	--	18.0	23.5	10

DATE	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT.							
29...	--	9.2	5	.4	A <10	12	A <10
NOV.							
22...	--	9.9	7	.4	5	12	18
JAN.							
21...	--	10.6	13	.3	A <10	A <100	A <10
FEB.							
18...	--	9.8	8	.4	--	17	2
MAR.							
18...	--	9.9	7	.4	0	4	15
APR.							
21...	1	8.4	6	1.0	0	51	19
MAY							
06...	6	9.4	10	.6	1	629	53
JUNE							
03...	1	7.9	10	.6	A <10	145	49
AUG.							
06...	875	7.0	--	5.6	46	97	445
SEP.							
09...	1	7.7	16	.7	29	118	215

A BACTERIOLOGICAL DATA FURNISHED BY THE NEW MEXICO ENVIRONMENTAL IMPROVEMENT AGENCY.

PESTICIDE ANALYSES, UNFILTERED SAMPLES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DISCHARGE (CFS)	ALDRIN (UG/L)	CHLORDANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DIELDRIN (UG/L)
OCT.								
29...	1100	3.4	.00	--	.0C	.00	.00	.00
AUG.								
06...	1610	19	.00	.0	.0C	.00	.00	.00

DATE	ENDRIN (UG/L)	HEPTACHLOR (UG/L)	HEPTACHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
OCT.							
29...	.00	.00	--	.00	.00	.00	.00
AUG.							
06...	.00	.00	.00	.00	.00	.00	.00

09430600 MOGOLLON CREEK NEAR CLIFF, N. MEX.--Continued

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT 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
OCT 29, 1969	0930	10.0	3.4	1	.01	--	--	--	--	--	--	--	--	--	--	--	
NOV 22.....	1630	6.5	10	4	.11	--	--	--	--	--	--	--	--	--	--	--	
JAN 21, 1970	1630	4.6	6.4	1	.02	--	--	--	--	--	--	--	--	--	--	--	
FEB 18.....	1700	6.0	4.1	1	.01	--	--	--	--	--	--	--	--	--	--	--	
MAR 18.....	1100	5.0	70	4	.76	--	--	--	--	--	--	--	--	--	--	--	
APR 21.....	1730	10.0	21	1	.06	--	--	--	--	--	--	--	--	--	--	--	
MAY 6.....	0645	8.4	25	5	.34	--	--	--	--	--	--	--	--	--	--	--	
MAY 6.....	0645	8.4	25	5	.34	--	--	--	--	--	--	--	--	--	--	--	
JUN 3.....	1045	16.0	2.4	1	.01	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	0350	18.5	7.7	1	.02	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	0455	.	8.0	1	.02	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	0900	18.5	7.4	1	.02	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1430	22.5	7.4	1	.02	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1500	22.0	17	32	1.5	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1515	22.0	18	30	1.5	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1525	22.0	22	107	6.4	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1545	22.0	29	1080	85	64	76	--	88	--	100	--	--	--	--	--	PWC
AUG 6.....	1555	21.0	24	1240	80	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1610	21.0	19	943	48	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1630	21.0	17	1080	50	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1645	21.0	17	2300	106	54	73	--	97	--	100	--	--	--	--	--	PWC
AUG 6.....	1700	21.0	15	1780	72	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1730	21.0	14	1100	42	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1800	21.0	13	491	17	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1830	21.0	11	259	7.7	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	1900	21.0	10	176	4.8	--	--	--	--	--	--	--	--	--	--	--	
AUG 6.....	2000	21.0	9.8	99	2.6	--	--	--	--	--	--	--	--	--	--	--	
AUG 7.....	0100	18.5	9.0	10	.24	--	--	--	--	--	--	--	--	--	--	--	
AUG 7.....	0745	17.5	8.0	3	.06	--	--	--	--	--	--	--	--	--	--	--	
SEP 9.....	1015	18.0	13	21	.74	--	--	--	--	--	--	--	--	--	--	--	

09431100 MANGAS CREEK BELOW MANGAS SPRINGS, N. MEX.

LOCATION.--Lat 32°50'57", long 108°31'13", in SE¼SW¼ sec.5, T.17 S., R.16 W., Grant County, 0.1 mile upstream from Blacksmith Canyon and 15 miles southeast of Gila.

DRAINAGE AREA.--177 sq mi.

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

CHEMICAL ANALYSES, APRIL TO SEPTEMBER 1970

DATE	TIME	DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM PLUS POTASSIUM (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
APR. 17...	1100	1.5	23	62	13	26	228	0	46	9.0
MAY 19...	0845	1.5	26	60	13	27	227	0	45	9.1
JUNE 09...	0810	1.3	31	68	13	27	254	0	45	9.8
JULY 13...	1030	1.2	29	54	11	27	201	0	42	8.2
SEP. 11...	1400	1.0	30	59	12	29	228	0	43	8.8

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)
APR. 17...	.6	3.8	17	310	206	19	.8	504	8.0	20.0
MAY 19...	.6	3.6	16	309	202	16	.8	528	7.7	19.0
JUNE 09...	.6	3.6	16	335	225	17	.8	536	8.0	17.0
JULY 13...	.5	4.7	21	292	180	16	.9	453	8.1	25.0
SEP. 11...	.5	3.8	17	311	197	10	.9	483	8.2	30.0

09431500 GILA RIVER NEAR REDROCK, N. MEX.

LOCATION.--Lat 32°43'37" (revised), long 108°40'30", in W½ sec.23, T.18 S., R.18 W., Grant County, at gaging station 0.2 mile downstream from Copper Canyon, 0.2 mile upstream from lower end of Box Canyon, 4.7 miles northeast of Redrock, and 14 miles downstream from Mangas Creek.

DRAINAGE AREA.--2,829 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1967 to January 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
OCT.												
02...	1130	40	35	--	48	11	--	44	--	236	0	35
NOV.												
17...	1100	58	33	--	44	8.8	--	40	--	205	0	33
DEC.												
19...	1045	76	31	--	40	9.7	--	42	--	203	0	32
JAN.												
14...	1030	78	34	--	36	8.7	--	37	--	164	6	32
FEB.												
17...	0915	87	33	--	36	8.0	--	38	--	172	2	31
MAR.												
03...	1045	161	37	--	34	6.1	--	34	--	151	0	32
31...	1100	129	35	--	32	6.3	--	32	--	141	3	31
APR.												
20...	1400	106	33	10	34	7.1	31	--	1.8	164	0	30
JUNE												
08...	1000	46	39	--	42	9.0	--	40	--	207	0	32
JULY												
09...	1330	28	39	0	42	9.7	40	--	3.0	215	0	35
AUG.												
13...	0950	68	39	--	41	8.4	--	39	--	197	0	32
SEP.												
18...	0830	25	36	--	42	9.5	--	43	--	213	2	33

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
02...	18	2.2	.00	.0	--	309	165	0	1.5	472	7.9	17.0
NOV.												
17...	20	.6	.00	.0	--	281	146	0	1.4	431	7.6	13.0
DEC.												
19...	18	2.2	.00	.0	--	275	140	0	1.5	414	7.5	8.0
JAN.												
14...	15	2.6	.00	.0	--	246	126	0	1.4	397	8.6	6.0
FEB.												
17...	15	2.6	.00	.0	--	251	123	0	1.5	390	8.3	6.0
MAR.												
03...	13	2.5	.30	1.3	--	234	110	0	1.4	353	8.1	10.0
31...	11	2.2	.00	.0	--	222	106	0	1.3	331	8.4	10.0
APR.												
20...	11	2.4	.00	.0	100	232	114	0	1.3	357	8.2	16.0
JUNE												
08...	13	2.5	.20	.9	--	280	142	0	1.5	428	8.2	18.0
JULY												
09...	13	2.5	.30	1.3	130	292	145	0	1.4	450	8.2	28.0
AUG.												
13...	13	2.6	.10	.4	--	272	137	0	1.4	421	7.5	22.0
SEP.												
18...	13	2.5	.00	.0	--	286	144	0	1.6	445	8.3	19.0

09433500 SUNSET CANAL ABOVE NEW MEXICO-ARIZONA STATE LINE, N. MEX.

LOCATION.--Lat 32°41'42", long 109°02'48", in NW¼SW¼ sec.31, T.18 S., R.21 W., Hidalgo County, north of U.S. Highway 70, 2.8 miles west of Virden.

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

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
MAR,											
17...	0900	.06	33	27	5.8	25	1.9	123	0	27	8.9
MAY											
05...	1040	8.0	32	48	9.7	49	3.0	241	0	43	18
JUNE											
02...	0930	.05	44	60	17	151	3.3	528	0	107	40

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
MAR,											
17...	1.8	.00	.0	184	190	89	0	1.2	284	7.9	10.0
MAY											
05...	2.3	1.5	6.6	318	330	158	0	1.7	517	7.8	15.6
JUNE											
02...	2.5	4.7	21	714	706	214	0	4.5	1140	7.5	18.0

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMP-ERATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	IMME-DIATE COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)
MAR.												
17...	0900	.06	--	9.4	10.0	--	7	--	9.0	20	<100	200
MAY												
05...	1040	8.0	525	8.3	15.6	28.4	5	75	8.6	<10	180	90
JULY												
06...	1425	.05	1250	--	16.0	34.5	3	--	--	E1500	5300	500

E ESTIMATED.

09436500 NEW MODEL CANAL ABOVE NEW MEXICO-ARIZONA STATE LINE, N. MEX.

LOCATION.--Lat 32°40'54", long 109°02'48", in NW¼SW¼ sec.6, T.18 S., R.21 W., Hidalgo County, north of U.S. Highway 70 upstream from New Mexico-Arizona State line, 2.8 miles west of Virden.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1970.
Sediment records: July 1970 (partial records).

REMARKS.--Bacteriological analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
OCT.										
28...	1430	7.9	35	--	45	9.2	41	2.8	228	0
NOV.										
22...	1030	7.0	35	--	42	8.8	37	2.3	198	0
FEB.										
18...	1100	2.2	32	--	42	7.7	37	2.4	190	4
MAR.										
17...	1330	15	32	--	27	5.7	24	1.9	126	0
APR.										
21...	1230	5.9	38	0	55	12	57	2.5	282	0
JUNE										
02...	1530	7.0	35	--	78	14	68	3.1	340	0
JULY										
06...	1700	5.7	37	--	112	20	85	4.8	402	0

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT.										
28...	34	15	2.5	--	--	--	--	.00	.0	--
NOV.										
22...	34	13	2.3	--	--	--	--	.10	.4	--
FEB.										
18...	32	15	2.5	--	--	--	--	.10	.4	--
MAR.										
17...	29	8.8	1.7	--	--	--	--	.20	.9	--
APR.										
21...	49	18	2.1	.11	.65	.180	.00	.40	1.8	.03
JUNE										
02...	66	26	2.2	--	--	--	--	1.2	5.3	--
JULY										
06...	122	43	2.0	--	--	--	--	3.4	15	--

DATE	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
28...	--	300	297	149	0	1.5	--	--	16.0
NOV.									
22...	--	270	272	139	0	1.4	--	--	5.5
FEB.									
18...	--	264	268	132	0	1.4	--	--	8.0
MAR.									
17...	--	184	193	90	0	1.1	--	--	14.5
APR.									
21...	130	363	376	180	0	1.8	--	--	18.5
JUNE									
02...	--	445	464	255	0	1.9	--	7.7	22.0
JULY									
06...	--	610	638	348	18	2.0	--	--	16.5

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
JUL 16, 1970	1715	16.5	5.8	37	.58

09436500 NEW MODEL CANAL ABOVE NEW MEXICO-ARIZONA STATE LINE, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	AIR TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.							
28...	1430	7.9	465	8.3	16.0	--	--
NOV.							
22...	1030	7.0	450	8.1	5.5	--	--
FEB.							
18..	1100	2.2	450	8.1	8.0	--	2
MAR.							
17...	1330	15	300	8.0	14.5	18.0	5
APR.							
21...	1230	5.9	600	8.1	18.5	24.7	3
JUNE							
02...	1530	7.0	740	--	22.0	31.0	2
JULY							
06...	1700	5.7	980	7.3	16.5	33.0	4

DATE	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT.							
29...	--	9.1	--	--	<10	15	1
NOV.							
22...	--	11.4	--	--	30	600	<10
FEB.							
18...	--	10.0	--	--	--	22	--
MAR.							
17...	--	7.9	--	--	<10	<100	30
APR.							
21...	24	11.8	--	--	10	<100	90
JUNE							
02...	1	10.0	--	--	<10	200	30
JULY							
06...	0	5.5	5	1.0	<10	<100	<10

PESTICIDE ANALYSIS OF UNFILTERED SAMPLE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	ALDRIN (UG/L)	CHLORDANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DIELDRIN (UG/L)
JULY							
06...	1700	.00	.0	.00	.00	.00	.00

DATE	ENDRIN (UG/L)	HEPTACHLOR (UG/L)	HEPTACHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
JULY							
06...	.00	.00	.00	.00	.00	.00	.00

BIOCHEMICAL AND SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS. ORTHO + HYDRO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED VANADIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
APR.									
21...	1235	.35	.100	--	--	--	--	--	--
JUNE									
02...	1535	1.8	.060	<10	5	<50	10	<1000	10

09438000 GILA RIVER ABOVE NEW MEXICO-ARIZONA STATE LINE, N. MEX.

LOCATION.--Lat 32°41'12", long 109°02'50", in SE¼NW¼NE¼ sec.6, T.19 S., R.21 W., Hidalgo County, at state line 2.8 miles west of Virden, N. Mex., and 3.5 miles southeast of Duncan, Ariz.

DRAINAGE AREA.--3,349 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1967 to February 1969, July 1969 to September 1970. Sediment records: January to September 1970 (partial records).

REMARKS.--Bacteriological analyses from samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
OCT.										
28...	1130	66	36	--	49	10	43	3.1	247	0
NOV.										
22...	1000	39	35	--	46	9.2	41	2.5	217	0
JAN.										
21...	0800	67	32	--	42	8.2	40	1.6	212	0
FEB.										
18...	1200	31	32	--	44	8.3	42	2.2	208	4
MAR.										
17...	1100	164	32	--	29	6.3	27	1.9	138	0
APR.										
21...	0930	68	34	0	40	8.7	38	2.2	201	0
MAY										
05...	1210	58	31	--	44	9.2	42	2.0	226	0
JUNE										
02...	1010	6.5	34	--	56	11	56	3.2	282	0
JULY										
06...	1520	.50	15	--	72	15	86	6.1	298	0

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT.										
28...	37	18	2.4	--	--	--	--	.10	.4	--
NOV.										
22...	36	14	2.3	--	--	--	--	.20	.9	--
JAN.										
21...	34	15	2.3	--	--	--	--	.20	.9	--
FEB.										
18...	34	16	2.4	--	--	--	--	.00	.0	--
MAR.										
17...	29	9.6	1.8	--	--	--	--	.20	.9	--
APR.										
21...	33	13	2.1	.12	.12	.00	.00	.00	.0	.05
MAY										
05...	37	15	2.2	--	--	--	--	.10	.4	--
JUNE										
02...	46	19	2.4	--	--	--	--	.30	1.3	--
JULY										
06...	118	40	2.2	--	--	--	--	1.1	4.9	--

DATE	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
28...	--	319	320	164	0	1.5	--	--	16.0
NOV.									
22...	--	290	294	151	0	1.4	--	8.1	5.5
JAN.									
21...	--	277	280	142	0	1.5	442	--	5.0
FEB.									
18...	--	282	287	143	0	1.5	445	--	12.0
MAR.									
17...	--	197	205	98	0	1.2	--	--	13.0
APR.									
21...	90	266	271	130	0	1.4	--	8.2	12.5
MAY									
05...	--	286	294	149	0	1.5	--	--	21.1
JUNE									
02...	--	359	368	176	0	1.8	--	8.1	18.5
JULY									
06...	--	496	506	240	0	2.4	--	--	29.0

09438000 GILA RIVER ABOVE NEW MEXICO-ARIZONA STATE LINE, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	AIR TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.							
28...	1130	66	500	8.5	16.0	--	--
NOV.							
22...	1000	39	470	8.1	5.5	--	--
JAN.							
21...	0800	67	--	8.4	5.0	--	5
FEB.							
18...	1200	31	--	8.1	12.0	--	5
MAR.							
17...	1100	164	320	7.9	13.0	17.5	5
APR.							
21...	0930	68	419	--	12.5	20.0	3
MAY							
05...	1210	58	465	8.6	21.1	31.4	5
JUNE							
02...	1010	6.5	560	--	18.5	26.0	3
JULY							
06...	1520	.50	820	8.4	29.0	34.5	10

DATE	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT.							
28...	--	8.8	--	--	1	21	<10
NOV.							
22...	--	11.2	--	--	380	600	<10
JAN.							
21...	--	11.1	12	.8	2280	--	<10
FEB.							
18...	--	10.0	--	--	--	--	--
MAR.							
17...	--	8.0	--	--	10	<100	120
APR.							
21...	23	9.4	--	--	<10	<100	<10
MAY							
05...	2	8.8	--	--	<10	700	110
JUNE							
02...	10	9.5	--	--	490	--	3600
JULY							
06...	9	10.1	9	3.2	<10	200	<10

PESTICIDE ANALYSES, UNFILTERED SAMPLES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	ALDRIN (UG/L)	CHLORDANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DIELDRIN (UG/L)
JULY							
06...	1520	.00	.0	.00	.01	.01	.00

DATE	ENDRIN (UG/L)	HEPTACHLOR (UG/L)	HEPTACHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
JULY							
06...	.00	.00	.00	.00	.25	.00	.00

BIOCHEMICAL AND SPECTROGRAPH ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L) (00618)	DIS. ORTHO + HYDRO. PHOSPHORUS (P) (MG/L) (00677)	DIS-SOLVED ARSENIC (AS) (UG/L) (01000)	DIS-SOLVED CADMIUM (CD) (UG/L) (01025)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	DIS-SOLVED IRON (FE) (UG/L) (01046)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	DIS-SOLVED MANGANESE (MN) (UG/L) (01056)	DIS-SOLVED NICKEL (NI) (UG/L) (01065)	DIS-SOLVED VANADIUM (V) (UG/L) (01085)	DIS-SOLVED ZINC (ZN) (UG/L) (01090)
OCT.												
28...	1135	--	--	<100	<4	<10	<10	<40	<20	40	--	20
JAN.												
21...	0805	<.02	.420	<100	<3	<10	<30	<40	<20	<20	--	<10
APR.												
21...	0935	.03	.080	<100	<3	<10	<30	<40	<20	<20	--	<10
JUNE												
02...	1015	.31	.160	<10	--	<5	<1	--	10	--	<1000	5

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
JAN 21, 1970	0800	5.0	67	177	32
JUL 6.....	1600	29.0	.50	74	.10

09444000 SAN FRANCISCO RIVER NEAR GLENWOOD, N. MEX.

LOCATION (revised).--Lat 33°14'48", long 108°52'47", in NE¼NW¼ sec.23, T.12 S., R.20 W., Catron County, at gaging station 0.2 mile upstream from hot springs, 5 miles south of Glenwood, 6 miles downstream from Whitewater Creek, and at mile 64.6.

DRAINAGE AREA.--1,653 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1963 to September 1970.
Sediment records: April 1963 to July 1967, July 1970 to September 1970 (partial records).

REMARKS.--Bacteriological and macroinvertebrate analyses of samples collected by the U.S. Geological Survey are analyzed by the New Mexico Environmental Improvement Agency.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.										
28...	1715	48	39	--	39	9.7	56	--	3.9	175
31...	0930	32	37	--	38	10	--	16	--	188
NOV.										
22...	1355	39	37	--	38	9.8	30	--	2.6	188
DEC.										
10...	1315	34	35	--	36	9.5	--	23	--	198
JAN.										
21...	1400	29	34	--	36	8.8	21	--	1.7	167
FEB.										
18...	1500	11	33	--	35	9.0	20	--	2.1	135
MAR.										
17...	1730	45	38	--	37	9.2	41	--	3.2	162
APR.										
22...	1000	26	34	0	32	8.4	28	--	2.5	162
MAY										
05...	1520	26	34	--	32	7.8	41	--	2.4	139
JUNE										
02...	1900	21	37	--	32	7.2	40	--	3.0	144
JULY										
07...	1045	14	25	--	41	9.7	39	--	3.2	183
AUG.										
07...	1320	24	38	0	36	9.0	33	--	3.3	192
SEP.										
08...	1745	19	37	0	29	7.7	30	--	2.6	130

DATE	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (ND3) (MG/L)
OCT.										
28...	12	15	67	.6	--	--	--	--	.10	.4
31...	12	10	4.6	.4	--	--	--	--	.20	.9
NOV.										
22...	4	12	20	.5	--	--	--	--	.20	.9
DEC.										
10...	0	10	4.3	.4	--	--	--	--	.20	.9
JAN.										
21...	15	10	5.4	.4	--	--	--	--	.10	.4
FEB.										
18...	14	10	6.0	.4	--	--	--	--	.00	.0
MAR.										
17...	10	14	40	.6	--	--	--	--	.10	.4
APR.										
22...	0	13	23	.5	.12	.22	.00	.00	.10	.4
MAY										
05...	8	14	47	.6	--	--	--	--	.20	.9
JUNE										
02...	3	14	45	.5	--	--	--	--	.00	.0
JULY										
07...	4	13	40	.5	--	--	--	--	.20	.9
AUG.										
07...	0	12	27	.6	--	--	--	--	.40	1.8
SEP.										
08...	11	12	27	.5	--	--	--	--	.00	.0

09444000 SAN FRANCISCO RIVER NEAR GLENWOOD, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.										
28...	--	--	331	329	136	0	2.1	546	--	22.0
31...	--	--	--	221	138	0	.6	344	8.7	10.0
NOV.										
22...	--	--	240	247	133	0	1.1	380	--	11.0
DEC.										
10...	--	--	--	216	130	0	.9	331	8.2	15.0
JAN.										
21...	--	--	201	215	131	0	.8	322	--	14.5
FEB.										
18...	--	--	188	196	100	0	.9	279	--	18.0
MAR.										
17...	--	--	256	273	125	0	1.6	480	--	18.0
APR.										
22...	.030	70	219	223	112	0	1.2	366	8.1	14.5
MAY										
05...	--	--	250	256	111	0	1.7	--	--	23.1
JUNE										
02...	--	--	250	253	109	0	1.7	--	8.3	26.5
JULY										
07...	--	--	265	266	132	0	1.5	431	--	22.5
AUG.										
07...	--	--	251	255	131	0	1.3	--	--	27.0
SEP.										
08...	--	--	230	221	107	0	1.3	--	--	28.5

FIELD DETERMINATIONS

DATE	TIME	DIS-CHARGE (CFS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.							
28...	1715	48	--	8.4	22.0	--	--
NOV.							
22...	1355	39	--	8.5	11.0	--	--
JAN.							
21...	1400	29	--	9.1	14.5	--	0
FEB.							
18...	1500	11	--	8.7	18.0	--	5
MAR.							
17...	1730	45	--	8.6	18.0	16.0	7
APR.							
22...	1000	26	--	--	14.5	13.0	5
MAY							
05...	1520	26	410	7.0	23.1	28.4	3
JUNE							
02...	1900	21	415	--	26.5	29.0	4
JULY							
07...	1045	14	--	8.6	22.5	31.5	3
AUG.							
07...	1320	24	400	8.1	27.0	32.0	6
SEP.							
08...	1745	19	350	8.7	28.0	29.0	5

09444000 SAN FRANCISCO RIVER NEAR GLENWOOD, N. MEX.--Continued

CHEMICAL ANALYSES, WATER YEAR 1969 TO SEPTEMBER 1970

FIELD AND BIOCHEMICAL DETERMINATIONS

DATE	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	IMMEDIATE COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT.							
28...	--	7.0	8	.8	1	6	2
NOV.							
22...	--	8.8	9	1.2	<10	<100	<10
JAN.							
21...	--	9.8	8	.7	<10	<100	<10
FEB.							
18...	--	9.0	9	.9	--	6	--
MAR.							
17...	--	7.2	15	1.0	40	<100	20
APR.							
22...	5	9.0	12	1.4	<10	<100	60
MAY							
05...	6	7.9	14	1.6	30	<100	10
JUNE							
02...	4	5.8	12	.9	<10	300	330
JULY							
07...	4	7.9	7	.9	20	<100	50
AUG.							
07...	200	6.3	6	1.8	450	4900	1200
SEP.							
08...	6	6.4	14	1.0	<10	<100	<100

MACROINVERTEBRATE ANALYSIS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

SEPT 8, 1970 - COLLECTED BY SURBER SAMPLER (3 SQ FT)

ORGANISM AND CLASSIFICATION	NUMBER
EPHEMEROPTERA	
AMELETUS SP.	8
HEPTAGENA SP.	1
THRAULODES SP.	24
UNIDENTIFIED BAETIDAE	9
TRICORYTHODES	1
TRICHOPTERA	
MACRONEUM SP.	7
COLEOPTERA	
GYRINIDAE (DINEURUS SP.)	4
TOTAL NUMBER OF ORGANISMS	50

COMMON NAME FOR PRECEDING ORDERS:
EPHEMEROPTERA - MAYFLIES
TRICHOPTERA - CADDIS FLIES
COLEOPTERA - BEETLES

SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(FURNISHED BY ENVIRONMENTAL PROTECTION AGENCY)

DATE	TIME	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED VANADIUM (V) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
OCT.										
28...	1720	<100	<4	<10	<10	<40	<20	30	--	10
JAN.										
21...	1405	<100	<3	<10	<30	<40	<20	<20	--	<10
APR.										
22...	1005	<100	<3	<10	<30	<40	<20	<20	--	<10
JUNE										
02...	1905	<10	--	<5	<1	--	15	--	<1000	7

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

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
JUL 7, 1970	1615	29.0	14	13	.49	--	--	--	--	--	--	--	--	--	--	--	
AUG 7.....	1330	27.0	25	602	41	65	75	--	87	--	98	98	98	100	--	--	SPWC
SEP 8.....	1800	28.0	19	45	2.3	--	--	--	--	--	--	--	--	--	--	--	

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, ARIZ.

LOCATION.--Lat 32°52'06", long 109°30'38", in SE¼NE¼ sec.31, T.6 S., R.28 E., Graham County, at gaging station 0.6 mile downstream from intake of Brown Canal, 8 miles northeast of Solomon, and 17 miles downstream from San Francisco River.

DRAINAGE AREA.--7,896 sq mi.

PERIOD OF RECORD.--Specific conductance: January 1965 to September 1970.
Water temperatures: January 1965 to September 1970.
Sediment records: February 1965 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 2,020 micromhos July 17; minimum daily, 410 micromhos Aug. 6.
Water temperatures: Maximum, 34.5°C July 17; minimum 4.0°C Jan. 8.
Sediment concentrations: Maximum daily, 38,400 mg/l July 21; minimum daily, 6 mg/l July 10.
Sediment discharge: Maximum daily, 92,600 tons Aug. 6; minimum daily, 0.62 ton July 10.

Period of record:
Specific conductance (1967-70): Maximum daily, 2,020 micromhos July 17, 1970; minimum daily, 260 micromhos Feb. 15, 28, 29, Apr. 4, 1968.
Water temperatures (1967-70): Maximum, 34.5°C July 17, 1970; minimum, 2.0°C Dec. 20, 21, 1967.
Sediment concentrations: Maximum daily, 52,000 mg/l July 28, 1967; minimum daily, 5 mg/l June 23, 1969.
Sediment discharge: Maximum daily, 1,900,000 tons Dec. 23, 1965; minimum daily, 0.59 ton June 23, 1969.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	1020	890	875	900	890	890	890	1100	1400	1000	1200
2	1220	980	920	875	900	890	850	860	1100	1300	575	1000
3	1220	980	920	900	975	1000	800	900	1300	1350	625	1100
4	1300	1000	890	1000	900	475	900	900	1300	1250	650	1000
5	1280	1020	850	1000	900	545	830	910	1300	1280	575	1300
6	1280	1020	1000	950	900	530	800	1000	1400	1250	410	950
7	1200	1030	1000	1000	910	560	830	970	1500	1350	--	950
8	1200	1030	775	1020	910	610	830	970	1200	1400	650	800
9	1200	1030	820	1020	975	610	910	970	1400	1450	500	850
10	1200	1020	900	1020	1050	650	890	970	1400	1400	550	800
11	1280	1020	850	1000	1050	640	890	900	1300	1400	525	850
12	1280	880	900	1000	1200	610	890	1000	1400	1500	575	900
13	1300	1010	850	900	975	600	890	1000	1450	1500	615	1100
14	1300	1010	800	900	975	620	890	1000	1450	1550	1200	1050
15	1320	1020	850	900	975	620	850	1000	1450	1580	1000	1200
16	1350	990	850	900	975	620	860	1050	1550	1820	910	1200
17	1300	990	850	950	975	630	830	950	1550	2020	1000	1050
18	1320	720	850	950	975	600	800	900	1500	1900	875	1000
19	1220	730	875	950	975	610	800	1000	1400	1700	875	460
20	1100	790	875	950	1100	640	800	1000	1420	1980	1350	550
21	1200	790	875	1000	1100	640	850	900	1420	775	1150	850
22	440	790	980	950	1000	690	850	900	1500	625	710	850
23	650	890	875	900	925	680	850	1000	1350	875	950	1000
24	880	890	875	900	1000	810	900	1000	1480	925	950	1100
25	880	890	850	910	990	810	900	1050	1500	1000	925	1100
26	910	890	850	1000	990	810	900	--	1450	900	1260	1200
27	910	900	850	1010	890	800	900	1200	1400	775	910	1150
28	810	900	850	900	890	800	900	1200	1400	775	1100	1200
29	800	870	900	900	--	750	890	1200	1400	650	1000	1000
30	900	890	800	875	--	750	890	1200	1400	525	1000	950
31	1000	--	800	900	--	890	--	1100	--	650	1050	--
AVG	1110	933	871	945	974	689	862	996	1390	1250	848	990

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, ARIZ.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	16.0	7.0	7.0	9.0	13.0	14.0	20.0	26.0	25.5	26.0	29.5
2	26.0	16.0	7.0	7.0	10.0	13.0	11.0	15.0	27.0	32.5	23.0	30.0
3	23.0	16.0	12.0	6.0	10.0	12.0	18.0	18.0	27.5	28.0	24.5	25.5
4	23.0	16.0	12.0	7.0	10.0	9.0	11.0	20.0	25.5	23.5	29.5	23.0
5	23.0	17.0	10.0	7.0	13.0	13.0	19.0	23.0	25.0	30.0	30.0	23.5
6	23.0	17.0	10.0	7.0	14.0	11.0	20.0	24.0	24.5	27.0	24.0	21.0
7	24.0	18.0	9.0	7.0	14.0	14.0	20.0	23.0	26.5	28.0	--	30.0
8	24.0	17.0	10.0	4.0	15.0	15.0	21.0	21.0	26.0	22.0	25.0	29.0
9	23.0	17.0	10.0	7.0	14.0	16.0	19.0	23.0	27.0	21.0	24.0	30.0
10	22.0	16.0	--	6.0	14.0	15.0	20.0	24.5	28.0	25.0	29.0	25.5
11	22.0	14.0	11.0	11.0	14.0	14.0	20.0	25.0	22.0	30.0	26.0	23.5
12	22.0	17.0	7.0	12.0	15.0	13.0	20.0	25.5	28.0	22.5	30.0	28.0
13	20.0	16.0	11.0	12.0	14.0	14.0	19.0	25.0	23.0	30.5	31.0	28.5
14	22.0	15.0	11.0	12.0	15.0	14.0	18.0	22.0	26.0	32.0	--	25.5
15	21.0	15.0	12.0	11.0	15.0	11.0	--	24.0	27.5	24.0	30.0	26.5
16	17.0	17.0	11.0	12.0	16.0	14.0	20.0	19.0	25.0	30.0	28.5	25.0
17	18.0	15.0	12.0	14.0	16.0	16.0	15.0	24.5	30.0	34.5	26.5	24.0
18	19.0	13.0	12.0	13.0	15.0	14.0	17.0	25.0	30.5	32.0	30.0	26.0
19	18.0	6.0	13.0	10.0	15.0	14.0	17.0	27.0	28.0	31.0	28.0	23.5
20	19.0	10.0	13.0	12.0	11.0	13.0	17.0	26.0	27.0	29.0	26.0	26.0
21	18.0	9.0	13.0	13.0	9.0	15.0	20.0	26.5	26.0	19.0	24.0	24.0
22	13.0	12.0	14.0	12.0	13.0	17.0	19.0	28.0	30.5	26.0	29.0	19.0
23	17.0	12.0	13.0	14.0	12.0	17.0	20.0	26.5	32.5	25.0	27.0	24.5
24	19.0	13.0	13.0	13.0	13.0	17.0	22.0	21.5	31.0	24.0	29.5	21.0
25	19.0	14.0	12.0	13.0	15.0	16.0	21.0	23.0	32.0	26.0	24.5	20.0
26	20.0	14.0	12.0	14.0	16.0	12.0	20.0	--	28.5	25.0	28.0	22.5
27	17.0	10.0	11.0	13.5	18.0	14.0	19.0	25.0	30.0	30.0	29.5	20.0
28	18.0	8.0	7.0	11.0	17.0	16.0	19.0	25.0	22.5	25.0	30.0	16.5
29	17.0	7.0	7.5	10.0	--	15.0	16.0	27.5	29.5	26.5	20.0	22.0
30	17.0	8.0	8.0	9.0	--	16.0	16.0	27.0	30.5	32.0	29.0	23.5
31	16.0	--	7.0	9.0	--	15.0	--	25.5	--	26.0	30.0	--
AVG	20.0	13.5	10.5	10.0	13.5	14.0	18.0	23.5	27.5	27.0	27.0	24.5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	54	22	3.2	101	128	35	155	74	31
2	58	26	4.1	103	89	25	158	83	35
3	55	22	3.3	105	74	21	161	100	43
4	54	19	2.8	103	54	15	184	121	60
5	57	17	2.6	103	64	18	229	265	164
6	61	20	3.3	103	38	11	265	402	288
7	62	16	2.7	98	23	6.1	245	382	253
8	62	19	3.2	91	17	4.2	237	357	228
9	64	13	2.2	94	22	5.6	229	302	187
10	58	14	2.2	95	19	4.9	225	234	142
11	58	12	1.9	110	21	6.2	205	197	109
12	60	11	1.8	105	26	7.4	198	152	81
13	60	14	2.3	100	27	7.3	188	122	62
14	56	8	1.2	98	29	7.7	198	175	94
15	54	9	1.3	99	21	5.6	188	178	90
16	55	8	1.2	118	47	15	180	150	73
17	56	15	2.3	151	85	35	191	174	90
18	56	40	6.0	316	296	253	188	96	49
19	56	19	2.9	217	260	152	180	95	46
20	61	18	3.0	237	440	282	177	59	28
21	144	375	276	194	450	236	160	71	31
22	501	3510	4970	174	220	103	155	73	31
23	230	1120	696	167	138	62	154	71	30
24	156	382	161	161	110	48	150	98	40
25	144	380	148	152	119	49	159	108	46
26	141	284	108	146	99	39	168	97	44
27	128	160	55	143	82	32	174	108	51
28	118	180	57	143	84	32	181	115	56
29	140	189	71	152	94	39	202	133	73
30	113	170	52	152	81	33	203	116	64
31	103	182	51	--	--	--	197	94	50
TOTAL	3075	--	6698.5	4131	--	1590.0	5884	--	2669

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	183	100	49	144	67	26	156	210	88
2	166	70	31	144	61	24	168	195	88
3	151	73	30	149	64	26	329	688	724
4	154	92	38	152	75	31	430	1100	1280
5	157	111	47	154	86	36	475	2150	2760
6	152	84	34	141	60	23	458	1950	2410
7	155	58	24	139	50	19	428	1090	1260
8	149	82	33	138	49	18	380	750	770
9	150	82	33	134	41	15	350	570	539
10	151	78	32	139	38	14	326	520	458
11	148	111	44	139	51	19	344	495	460
12	161	105	46	136	33	12	344	415	385
13	161	147	64	135	43	16	364	480	472
14	158	105	45	126	28	9.5	354	390	373
15	162	88	38	126	28	9.5	321	354	307
16	172	98	46	122	35	12	303	382	313
17	180	112	54	119	49	16	317	370	317
18	178	121	58	118	37	12	349	395	372
19	174	117	55	120	53	17	354	405	387
20	173	119	56	127	49	17	364	295	290
21	174	115	54	134	51	18	330	247	220
22	168	110	50	137	60	22	307	249	206
23	160	95	41	140	95	36	294	249	198
24	154	76	32	146	39	15	282	260	198
25	153	88	36	147	84	33	266	205	147
26	156	86	36	153	92	38	250	210	142
27	153	64	26	159	300	129	242	150	98
28	147	70	28	156	360	152	242	185	121
29	150	58	23	--	--	--	242	142	93
30	150	74	30	--	--	--	250	145	98
31	145	78	31	--	--	--	246	202	134
TOTAL	4945	--	1244	3874	--	815.0	9865	--	15708

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	238	162	104	163	65	29	81	22	4.8
2	234	162	102	160	55	24	81	18	3.9
3	218	115	68	145	40	16	72	29	5.6
4	200	56	30	137	34	13	68	18	3.3
5	203	110	60	145	45	18	66	26	4.6
6	218	95	56	139	34	13	62	17	2.8
7	196	86	46	139	36	14	56	22	3.3
8	196	72	38	131	36	13	62	24	4.0
9	184	54	27	131	30	11	68	24	4.4
10	174	78	37	133	31	11	73	22	4.3
11	173	71	33	133	33	12	66	66	12
12	164	42	19	129	32	11	62	49	8.2
13	162	96	42	132	41	15	58	51	8.0
14	164	71	31	138	56	21	52	38	5.3
15	176	78	37	138	35	13	44	44	5.2
16	190	97	50	135	44	16	48	41	5.3
17	189	136	69	138	46	17	46	43	5.3
18	204	111	61	135	44	16	46	21	2.6
19	206	89	50	132	39	14	43	25	2.9
20	194	74	39	126	43	15	39	36	3.8
21	177	84	40	116	41	13	36	27	2.6
22	163	54	24	126	32	11	33	22	2.0
23	156	49	21	119	33	11	35	15	1.4
24	164	59	26	116	33	10	43	20	2.3
25	160	62	27	106	47	13	40	46	5.0
26	157	84	36	105	40	11	40	24	2.6
27	160	70	30	98	34	9.0	40	45	4.9
28	163	77	34	101	35	9.5	50	55	7.4
29	160	61	26	98	23	6.1	61	234	39
30	163	47	21	98	25	6.6	43	115	13
31	--	--	--	86	22	5.1	--	--	--
TOTAL	5506	--	1284	3928	--	417.3	1614	--	179.8

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	42	84	9.5	122	3200	1050	52	50	7.0
2	46	97	12	434	33400	44100	55	75	11
3	49	92	12	336	12400	11200	61	55	9.1
4	58	86	13	316	14900	12700	67	90	16
5	52	54	7.6	246	13800	9170	79	99	21
6	44	32	3.8	1010	30700	92600	80	91	20
7	41	35	3.9	394	14900	15900	88	99	24
8	36	17	1.7	363	7800	7640	111	325	97
9	40	35	3.8	313	3500	2960	90	222	54
10	38	6	.62	180	5000	2430	94	130	33
11	33	25	2.2	294	6100	4840	104	3500	983
12	32	18	1.6	216	4400	2570	79	1800	384
13	27	9	.66	189	2800	1430	81	550	120
14	27	12	.87	179	1910	923	69	400	75
15	27	16	1.2	174	1230	578	61	210	35
16	26	15	1.1	165	2080	927	61	93	15
17	26	20	1.4	156	2780	1170	53	53	7.6
18	24	11	.71	155	5480	2290	62	3850	1350
19	24	21	1.4	152	2190	899	317	30400	30900
20	38	1400	144	209	9930	8690	315	25400	21600
21	492	38400	56600	170	19000	8720	130	8800	3090
22	516	21000	37000	197	7230	3850	88	1100	261
23	164	4400	1950	146	2600	1020	73	1000	197
24	188	12400	6290	134	2800	1010	65	183	32
25	148	6500	2600	145	4100	1610	63	147	25
26	124	3500	1170	110	1750	520	62	81	14
27	186	7700	3870	91	1200	295	56	59	8.9
28	196	10500	7240	77	630	131	58	33	5.2
29	271	24200	17700	73	220	43	68	110	22
30	246	11200	7440	67	130	24	68	68	12
31	144	4500	1750	56	97	15	--	--	--
TOTAL	3405	--	143833.06	6871	--	241305	2710	--	59428.8

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 55808
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 475172.46

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD 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
AUG 6, 1970	0735	22.4	2120	41700	239000	35	52	--	78	--	94	98	100	--	--	--	VPWC

09460200 FRYE CREEK AT THATCHER, ARIZ.

LOCATION.--Lat 32°50'00", long 109°45'39", in SW¼ sec.11, T.7 S., R.25 E., Graham County, at gaging station 1,300 ft downstream from Frye Creek detention dam and 1 mile south of Thatcher.

DRAINAGE AREA.--24.3 sq mi.

PERIOD OF RECORD.--Sediment records: March 1963 to September 1970.

REMARKS.--This station is operated in conjunction with a trap efficiency study of the Frye Creek detention reservoir. Results are published by flow event, as opposed to the normal procedure of reporting daily values.

SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(WHERE NO MEAN CONCENTRATIONS ARE SHOWN, LOADS ARE COMPUTED FROM DISCHARGE-SEDIMENT LOAD CURVES)

DATE	FLOW EVENT NO.	OUTFLOW DURATION[A] (HOURS)	TOTAL OUTFLOW[B] (ACRE-FEET)	MEAN DISCHARGE FOR PERIOD (CFS)	MEAN CONCENTRATION (MG/L)	OUTFLOW SEDIMENT LOAD (TONS)
OCT. 20, 1969.....	68	6.0	4.0	8.2	--	37
NOV. 10.....	69	2.0	.1	.58	--	.3
DEC. 5.....	70	4.0	.5	1.6	254	1.5
JULY 21, 1970.....	71	7.5	4.0	6.6	--	53
JULY 23-24.....	72	9.0	1.9	2.6	1,420	28
JULY 28.....	73	9.5	7.2	9.1	--	136
AUG. 15-16.....	74	19.5	8.7	5.3	1,910	87
AUG. 16-17.....	75	5.5	.7	1.5	--	3.7
SEP. 3.....	76	8.5	.8	1.1	--	3.7
SEP. 12.....	77	9.5	8.1	10	--	149

A DURATION OF EVENT IS BASED ON TIME WHEN FLOW IS OVER 0.2 CFS.
B EXCLUDING OUTFLOW BELOW 0.2 CFS.

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	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
JUL 23 1970	1855	24.0	15	20100	814	45	65	83	95	100	--	--	--	--	--	--	PWC
JUL 23.....	1855	24.0	15	20100	814	2	7	24	95	100	--	--	--	--	--	--	SPN
AUG 15.....	2125	23.0	41	7610	842	41	62	82	93	98	100	--	--	--	--	--	PWC
AUG 15.....	2125	23.0	41	7610	842	4	17	49	89	98	100	--	--	--	--	--	SPN

09471000 SAN PEDRO RIVER AT CHARLESTON, ARIZ.

LOCATION.--Lat 31°37'33", long 110°10'26", in NE¼NE¼ sec.11, T.21 S., R.21 E., Cochise County, in Spanish land grant of San Juan de las Boquillas y Nogales, at gaging station at county highway bridge 0.3 mile south of Charleston, 1.5 miles upstream from Charleston Dam site, 9 miles upstream from Babocomari River, and 29 miles upstream from Benson.

DRAINAGE AREA.--1,219 sq mi, of which 696 sq mi is in Mexico.

PERIOD OF RECORD.--Specific conductance: October 1964 to September 1970.
Water temperatures: July 1963 to September 1970.
Sediment records: July 1963 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 820 micromhos June 24; minimum daily, 170 micromhos Sept. 10.
Water temperatures: Maximum, 32.0°C June 18; minimum, freezing point on Jan. 3, 6.
Sediment concentrations: Maximum daily, 28,200 mg/l July 25; minimum daily, 4 mg/l Jan. 25.
Sediment discharge: Maximum daily, 110,000 tons Aug. 9; minimum daily, 0.04 ton June 24.

Period of record:
Specific conductance: Maximum daily, 1,550 micromhos Dec. 22, 1967; minimum daily, 140 micromhos Mar. 18, 1969.
Water temperatures: Maximum, 36.0°C July 12, 1968; minimum, freezing point on several days during 1964-68, 1970.
Sediment concentrations: Maximum daily, 30,600 mg/l July 29, 1966; minimum daily, 1 mg/l May 27, 28, 31, June 1, 2, 1966.
Sediment discharge: Maximum daily, 410,000 tons Aug. 14, 1964; minimum daily, 0.01 ton July 3, 6, 7, 1969.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	360	370	400	375	370	370	360	330	310	320	350
2	350	370	370	400	375	420	370	360	330	340	260	340
3	350	360	390	400	375	420	--	360	330	330	275	360
4	350	370	400	400	375	390	--	360	330	330	275	380
5	350	360	370	400	410	390	--	360	330	330	260	320
6	340	390	370	375	450	390	--	--	290	330	325	280
7	360	380	370	400	400	400	--	360	350	350	292	350
8	350	390	400	330	380	400	--	360	350	310	350	210
9	440	400	400	390	360	400	--	350	350	260	270	300
10	440	430	390	390	360	430	--	350	350	330	240	170
11	430	430	450	390	400	400	380	350	350	310	245	400
12	370	450	400	390	390	400	380	300	350	330	240	260
13	370	450	390	400	400	400	400	360	350	330	290	--
14	370	450	390	390	400	400	380	360	350	330	350	--
15	370	430	400	390	400	400	380	410	350	330	220	410
16	400	410	--	390	400	400	400	370	350	330	290	300
17	400	400	--	400	390	400	400	370	350	360	230	300
18	440	410	--	410	400	400	400	370	350	330	230	--
19	420	410	--	420	400	400	400	370	350	350	225	290
20	420	440	--	400	400	400	460	360	350	330	190	300
21	400	410	--	410	400	400	460	360	350	260	280	300
22	400	410	--	400	400	410	440	360	370	477	360	310
23	450	440	--	440	350	390	430	360	360	690	260	290
24	440	455	400	440	410	410	430	360	820	310	300	360
25	440	360	400	420	370	360	440	360	300	330	320	310
26	440	360	400	430	370	380	450	380	320	310	370	300
27	450	450	400	450	370	360	450	310	270	250	320	300
28	415	390	400	360	450	350	350	320	310	--	350	300
29	400	360	415	360	--	370	360	350	270	220	310	350
30	360	360	375	360	--	370	360	330	280	280	290	320
31	360	--	390	360	--	370	--	330	--	355	290	--
AVG	394	402	--	396	391	392	--	355	349	334	284	313

09471000 SAN PEDRO RIVER AT CHARLESTON, ARIZ.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	5.0	4.0	2.0	1.0	9.0	9.0	21.0	14.0	21.0	21.5	18.5
2	21.0	8.0	7.0	1.0	10.0	10.0	14.0	9.0	17.0	25.0	20.0	22.0
3	25.0	7.0	10.0	0.0	1.0	5.0	--	12.0	14.0	20.0	23.0	29.0
4	16.0	10.0	10.0	3.0	4.0	10.0	--	9.0	14.0	24.5	24.0	22.0
5	14.0	7.0	7.0	3.0	15.0	15.0	--	16.0	16.0	18.0	25.5	19.5
6	12.0	10.0	4.0	0.0	19.0	15.0	--	--	19.0	24.0	22.0	20.5
7	17.0	10.0	5.0	1.0	5.0	5.0	--	10.0	16.0	24.5	25.0	28.0
8	14.0	10.0	5.0	10.0	6.0	9.0	--	15.0	22.0	25.0	21.5	19.0
9	16.0	9.0	7.0	12.0	6.0	7.0	--	10.0	16.0	27.0	23.0	19.5
10	24.0	11.0	9.0	2.0	8.0	17.0	--	10.0	19.0	26.0	22.0	23.5
11	22.0	12.0	8.0	4.0	10.0	6.0	16.0	11.0	20.0	18.5	23.5	19.0
12	9.0	12.0	16.0	6.0	8.0	8.0	10.0	23.0	22.5	22.5	23.0	21.5
13	12.0	10.0	4.0	10.0	7.0	5.0	25.0	12.0	14.0	22.0	25.5	--
14	9.0	15.0	5.0	3.0	9.0	10.0	16.0	18.5	16.0	24.0	22.0	--
15	12.0	8.0	13.0	13.0	5.0	7.0	17.0	21.0	16.5	21.0	25.0	14.5
16	25.0	12.0	--	3.0	7.0	12.0	26.0	30.0	20.0	23.0	21.0	16.5
17	24.0	10.0	--	7.0	5.0	6.0	27.0	29.0	14.0	22.0	22.5	22.0
18	12.0	7.0	--	3.0	10.0	13.0	15.0	21.0	32.0	26.0	21.0	--
19	12.0	4.0	--	13.0	20.0	18.0	11.0	14.0	16.5	23.0	23.0	22.5
20	11.0	4.0	--	4.0	17.0	15.0	10.0	21.0	21.5	25.0	22.0	20.0
21	16.0	7.0	--	10.0	6.0	6.0	13.0	17.0	15.5	22.0	23.0	16.0
22	12.0	--	--	14.0	8.0	8.0	9.0	18.0	26.5	25.0	22.0	23.0
23	11.0	4.0	--	12.0	6.0	7.0	11.0	15.0	18.5	31.0	24.0	12.0
24	8.0	13.0	16.0	5.0	12.5	12.0	9.0	21.0	24.5	28.5	20.0	21.0
25	10.0	5.0	6.0	5.0	6.0	8.0	10.0	15.0	28.5	28.0	23.0	12.0
26	8.0	9.0	7.0	6.0	9.0	15.5	10.0	20.0	--	22.0	19.5	14.5
27	15.0	5.0	5.0	9.0	9.0	8.0	18.0	15.0	20.0	21.5	22.5	11.0
28	19.5	7.0	7.0	6.0	16.0	8.0	10.0	16.5	24.0	--	19.0	14.0
29	15.0	7.0	5.5	3.0	--	7.0	14.0	22.0	18.5	20.0	19.0	12.0
30	6.0	8.0	5.0	1.0	--	11.0	22.0	22.0	22.5	25.0	19.0	25.0
31	8.0	--	5.0	3.0	--	9.0	--	15.5	--	28.0	22.0	--
AVG	14.5	8.5	7.5	5.5	8.5	9.5	14.5	17.0	19.0	23.5	22.0	19.0

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	7.2	86	1.7	7.6	19	.39	12	27	.87
2	7.2	29	.56	7.6	18	.37	12	15	.49
3	6.8	45	.83	7.6	18	.37	14	22	.83
4	6.5	22	.39	8.4	20	.45	14	30	1.1
5	6.2	46	.77	8.8	14	.33	14	19	.72
6	6.5	19	.33	9.2	13	.32	14	17	.64
7	6.5	34	.60	9.2	16	.40	13	45	1.6
8	5.9	47	.75	9.6	28	.73	12	24	.78
9	5.6	14	.21	10	18	.49	12	23	.75
10	5.3	16	.23	9.6	7	.18	12	18	.58
11	4.8	7	.09	9.6	12	.31	12	25	.81
12	5.3	14	.20	9.6	22	.57	13	32	1.1
13	6.2	12	.20	9.6	10	.26	13	19	.67
14	6.8	17	.31	9.6	10	.26	12	19	.62
15	6.8	15	.28	9.6	15	.39	12	31	1.0
16	6.5	14	.25	11	31	.92	12	30	.97
17	6.5	110	1.9	11	12	.36	11	30	.89
18	6.2	8	.13	11	26	.77	11	30	.89
19	6.2	10	.17	11	35	1.0	11	30	.89
20	6.2	10	.17	11	27	.80	11	25	.74
21	6.5	11	.19	11	70	2.1	11	25	.74
22	6.5	8	.14	11	20	.59	11	25	.74
23	6.8	7	.13	11	15	.45	11	25	.74
24	7.6	8	.16	12	58	1.9	11	24	.71
25	7.2	7	.14	13	14	.49	12	54	1.7
26	7.6	10	.21	13	23	.81	12	28	.91
27	8.0	9	.19	14	15	.57	12	34	1.1
28	8.0	10	.22	14	33	1.2	13	48	1.7
29	7.2	7	.14	13	9	.32	14	40	1.5
30	6.8	13	.24	13	22	.77	14	45	1.7
31	7.2	17	.33	--	--	--	14	26	.98
TOTAL	204.6	--	12.16	315.6	--	18.87	382	--	29.46

09471000 SAN PEDRO RIVER AT CHARLESTON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	14	41	1.5	13	50	1.8	12	77	2.5
2	15	34	1.4	13	31	1.1	15	98	4.0
3	16	54	2.3	12	61	2.0	14	32	1.2
4	15	63	2.6	12	37	1.2	14	28	1.1
5	15	40	1.6	11	71	2.1	15	30	1.2
6	15	73	3.0	11	148	4.4	20	59	3.2
7	15	31	1.3	11	119	3.5	20	52	2.8
8	14	39	1.5	10	27	.73	18	53	2.6
9	14	19	.72	10	43	1.2	15	40	1.6
10	14	84	3.2	11	37	1.1	15	40	1.6
11	14	21	.79	13	24	.84	15	64	2.6
12	15	20	.81	14	21	.79	15	67	2.7
13	15	66	2.7	14	40	1.5	14	30	1.1
14	14	37	1.4	13	25	.88	14	42	1.6
15	14	45	1.7	14	34	1.3	14	26	.98
16	15	58	2.3	14	67	2.5	13	51	1.8
17	15	58	2.3	14	38	1.4	13	37	1.3
18	14	26	.98	14	33	1.2	12	32	1.0
19	14	25	.95	14	33	1.2	12	50	1.6
20	14	35	1.3	13	96	3.4	12	40	1.3
21	14	23	.87	14	49	1.9	12	23	.75
22	13	31	1.1	15	50	2.0	12	22	.71
23	13	30	1.1	15	42	1.7	12	18	.58
24	12	18	.58	15	53	2.1	11	26	.77
25	13	4	.14	14	42	1.6	12	41	1.3
26	14	20	.76	14	25	.95	12	36	1.2
27	13	26	.91	14	46	1.7	11	29	.86
28	13	53	1.9	12	80	2.6	11	39	1.2
29	12	70	2.3	--	--	--	11	74	2.2
30	14	21	.79	--	--	--	11	48	1.4
31	13	54	1.9	--	--	--	11	57	1.7
TOTAL	435	--	46.70	364	--	48.69	418	--	50.45

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11	40	1.2	8.8	40	.95	5.9	19	.30
2	12	29	.94	8.8	29	.69	8.0	15	.32
3	11	20	.59	9.6	33	.86	8.0	18	.39
4	11	20	.59	10	27	.73	7.6	15	.31
5	11	20	.59	10	39	1.1	7.2	15	.29
6	12	20	.65	9.2	35	.87	8.0	29	.63
7	11	20	.59	8.8	26	.62	7.6	18	.37
8	11	20	.59	8.8	48	1.1	6.8	22	.40
9	10	20	.54	8.8	19	.45	5.6	18	.27
10	9.6	20	.52	8.8	45	1.1	4.3	23	.27
11	9.2	19	.47	8.4	26	.59	5.0	16	.22
12	8.8	36	.86	8.0	81	1.7	4.3	18	.21
13	9.2	40	.99	7.6	30	.62	3.9	11	.12
14	8.4	8	.18	7.6	36	.74	3.6	14	.14
15	9.2	66	1.6	7.6	16	.33	3.9	12	.13
16	9.6	19	.49	7.6	24	.49	3.9	18	.19
17	11	18	.53	7.2	26	.51	3.6	9	.09
18	12	45	1.5	7.2	27	.52	3.4	23	.21
19	12	42	1.4	6.5	31	.54	3.4	14	.13
20	11	29	.86	6.2	13	.22	2.9	9	.07
21	11	30	.89	5.6	9	.14	2.3	8	.05
22	9.6	16	.41	5.6	11	.17	2.8	8	.06
23	10	16	.43	5.6	8	.12	2.9	7	.05
24	11	17	.50	6.2	6	.10	2.9	5	.04
25	11	25	.74	5.9	9	.14	2.6	8	.06
26	10	18	.49	6.5	8	.14	2.6	13	.09
27	9.2	18	.45	7.2	21	.41	2.5	9	.06
28	8.0	27	.58	7.6	26	.53	77	388	226
29	7.6	45	.92	8.0	32	.69	39	888	172
30	8.4	56	1.3	6.5	17	.30	10	1100	30
31	--	--	--	5.9	36	.57	--	--	--

09471000 SAN PEDRO RIVER AT CHARLESTON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.0	185	4.0	219	7480	11700	19	70	3.6
2	7.0	115	2.2	118	14000	4460	18	60	2.9
3	6.5	57	1.0	1480	21700	100000	18	200	9.7
4	6.0	112	1.8	272	10200	8460	32	550	48
5	4.8	36	.47	91	5680	1370	53	2050	293
6	3.4	51	.47	43	1850	215	34	2750	252
7	3.2	37	.32	150	4990	6000	27	500	36
8	3.6	35	.34	32	1500	130	48	1180	440
9	4.3	14	.16	1780	15100	110000	24	193	13
10	4.8	16	.21	500	10800	15900	166	5550	3430
11	3.9	51	.54	575	16500	28000	33	690	61
12	6.8	16	.29	167	4990	2250	32	1450	125
13	8.9	18	.43	69	1500	279	25	650	44
14	3.9	24	.25	94	4200	2600	23	410	25
15	3.7	32	.32	160	8170	4880	22	410	24
16	3.4	75	.69	344	9840	14500	20	163	8.8
17	3.4	44	.40	634	16400	31300	18	90	4.4
18	2.8	18	.14	387	13900	17100	16	85	3.7
19	2.9	521	23	259	7850	5990	15	80	3.2
20	13	2280	168	134	3990	1440	14	71	2.7
21	192	10500	15500	66	1350	241	13	46	1.6
22	67	17000	4160	67	2880	830	12	22	.71
23	29	5000	392	83	4950	1180	11	32	.95
24	45	11800	1690	48	1250	162	9.6	106	2.7
25	468	28200	43000	40	1200	130	8.4	48	1.1
26	48	7100	920	36	510	50	7.2	24	.47
27	36	5630	748	32	235	20	7.6	29	.60
28	171	7750	7650	27	134	9.8	8.8	18	.43
29	376	14700	20700	26	83	5.8	9.2	28	.70
30	37	4300	430	25	102	6.9	9.6	30	.78
31	27	1400	102	22	49	2.9	--	--	--
TOTAL	1600.3	--	95297.03	7980	--	369212.4	753.4	--	4840.04

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 13246.3
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 470029.70

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	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
AUG 3 1970	0940	21.5	2800	24000	181000	43	48	--	69	--	89	96	99	100	--	--	VPWC
AUG 9.....	0850	21.0	3400	30000	275000	33	43	--	62	--	85	94	98	100	--	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (°C)	NUMBER OF SAMPLING 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 ANALYSIS
AUG 19 1970	1020				1	3	25	63	75	83	91	97	100	--	--	S

09471800 SAN PEDRO RIVER NEAR BENSON, ARIZ.

LOCATION.--Lat 32°07'35", long 110°17'22", in SW¼ sec.15, T.15 S., R.20 E., Cochise County, at gaging station 6 miles downstream from Tres Alamos Wash and 11 miles north of Benson.

DRAINAGE AREA.--2,500 sq mi, of which 696 sq mi is in Mexico.

PERIOD OF RECORD.--Sediment records: March 1966 to September 1970.

EXTREMES.--1969-70:
Sediment concentrations: Maximum daily, 66,700 mg/l July 25; minimum daily, no flow on many days.
Sediment discharge: Maximum daily, 545,000 tons July 20; minimum daily, 0 ton on many days.

Period of record (1968-70):
Sediment concentrations: Maximum daily, 78,600 mg/l July 28, 1969; minimum daily, no flow on many days each year.
Sediment discharge: Maximum daily, 545,000 tons July 20, 1970;minimum daily, 0 ton on many days each year.

REMARKS.--No flow Oct. 1 to June 27, Sept. 1-2, 19-30. Tabular data omitted for period Oct. 1 to Mar. 31. Records of temperature and specific conductance of individual samples available in district office, Tucson, Ariz.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
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	--	--	--	--	--	--	0	0	0
28	--	--	--	--	--	--	35	9880	8960
29	--	--	--	--	--	--	38	49500	5930
30	0	0	0	--	--	--	9.0	20400	496
31	--	--	--	0	0	0	--	--	--
TOTAL	0	--	0	0	--	0	82.0	--	15386

09471800 SAN PEDRO RIVER NEAR BENSON, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.0	10000	81	567	39100	143000	0	0	0
2	1.5	5000	20	817	44400	149000	0	0	0
3	9.0	20400	496	1240	37500	162000	4.5	2530	620
4	8.0	15000	324	1110	35900	110000	65	25900	5110
5	4.0	1000	11	148	21400	8550	46	21000	2670
6	2.0	800	4.3	208	28200	20300	8.0	16800	363
7	.80	681	1.5	5.0	10000	135	1.0	1000	2.7
8	.50	350	.47	284	21800	22600	1.0	1000	2.7
9	.10	100	.03	843	19200	119000	5.2	30600	430
10	--	--	--	994	41500	123000	50	22200	3620
11	--	--	--	508	34900	54200	67	16300	2950
12	--	--	--	311	28100	23600	18	19200	2130
13	--	--	--	90	13500	3280	4.0	10000	108
14	--	--	--	63	13800	3190	2.0	5000	27
15	--	--	--	132	28800	11500	1.0	2000	5.4
16	--	--	--	698	33400	107000	.50	1000	1.4
17	--	--	--	1540	46300	231000	.20	500	.27
18	0	0	0	577	30100	53300	.10	200	.05
19	35	208	939	200	16600	8960	0	0	0
20	1690	63600	545000	300	24000	19400	--	--	--
21	649	65100	194000	100	11200	3020	--	--	--
22	59	57200	12400	50	10000	1350	--	--	--
23	79	56500	14100	250	38000	25700	--	--	--
24	36	37100	7880	98	21400	5660	--	--	--
25	167	66700	35100	25	7000	473	--	--	--
26	111	46900	14100	13	6000	211	--	--	--
27	62	34200	5730	3.1	2000	17	--	--	--
28	228	41000	44600	2.0	1500	8.1	--	--	--
29	377	47200	49300	1.0	1000	2.7	--	--	--
30	79	31600	6740	.50	500	.68	0	0	0
31	31	31100	2600	0	0	0	--	--	--
TOTAL	3631.90	--	933427.30	11177.60	--	1409457.48	273.50	--	18040.52

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 15165.00
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 2376311.30

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
JUL 28, 1970	1900	22.0	1430	109000	421000	32	42	--	58	--	91	98	100	--	--	--	VPWC
JUL 29.....	1230		567	52200	79900	41	51	--	72	--	93	99	100	--	--	--	VPWC
AUG 9.....	1830	24.0	3060	60500	500000	30	41	--	59	--	82	94	99	100	--	--	VPWC

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHOD OF ANALYSIS: H, HYDROMETER; O, OPTICAL ANALYZER; S, SIEVE; V, VISUAL ACCUMULATION TUBE)

DATE	TIME	WATER TEMPERATURE (°C)	NUMBER OF SAMPLING 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 ANALYSIS
OCT 29, 1969	1600				2	8	31	68	84	92	98	99	100	--	--	S
AUG 19, 1970	1200				3	12	35	59	70	75	79	83	100	--	--	S

09473500 SAN PEDRO RIVER AT WINKELMAN, ARIZ.

LOCATION.--Lat 32°58'38", long 110°46'11", in SE¼SW¼ sec.24, T.5 S., R.15 E., Pinal County, at gaging station 0.7 mile south of Winkelman and 1.0 mile upstream from mouth.

DRAINAGE AREA.--4,471 sq mi, of which 696 sq mi is in Mexico.

PERIOD OF RECORD.--Chemical analyses: January 1967 (miscellaneous).
Specific conductance: January 1966 to September 1970.
Water temperatures: January 1966 to September 1970.
Sediment records: January 1966 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 1,700 micromhos Jan. 8; minimum daily, 380 micromhos Nov. 17.
Water temperatures: Maximum, 40.0°C July 5, 11, Aug. 28; minimum, 8.0°C Dec. 6.
Sediment concentrations: Maximum daily, 123,000 mg/l Aug. 28; minimum daily, no flow on many days.
Sediment discharge: Maximum daily, 255,000 tons July 21; minimum daily, 0 ton on many days.

Period of record:
Specific conductance: Maximum daily, 2,050 micromhos Sept. 15, 1969, minimum daily, 320 micromhos Feb. 14, 1968.
Water temperatures: Maximum, 42.0°C Sept. 10, 1968; minimum, 2.0°C Dec. 31, 1966.
Sediment concentrations: Maximum daily, 123,000 mg/l Aug. 2, 1970; minimum daily, no flow on many days.
Sediment discharge: Maximum daily, 961,000 tons Dec. 20, 1967; minimum daily, 0 ton on many days.

REMARKS.--No flow Oct. 1, 11, 17-20, Nov. 23-27, May 16-31, June 1-29, July 13-19, Sept. 21, 30.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	1190	1150	1170	1200	1100	990	1100	--	1020	800	850
2	960	1190	1150	1170	1000	750	1000	1100	--	1000	645	860
3	1100	1190	1150	1170	1050	391	1000	1100	--	1100	495	780
4	1200	1145	1100	1170	1075	745	1000	1100	--	1000	470	770
5	1120	1100	1100	1000	1100	910	1000	1100	--	1050	485	780
6	1120	1100	1050	1200	1050	1000	1050	1150	--	1100	550	400
7	1120	1100	1100	1200	1200	1000	1000	1200	--	1100	525	500
8	1120	1100	1100	1700	1200	1000	1000	1200	--	1000	675	760
9	1110	1000	1100	1050	1100	1100	1000	1200	--	990	512	800
10	--	1000	1050	1100	1100	1020	1000	1200	--	990	483	860
11	--	860	1100	1190	1150	1000	1000	1200	--	1000	533	860
12	--	935	1100	1150	1100	1000	1000	1200	--	--	445	700
13	--	1100	1100	1150	1100	1050	1050	1200	--	--	425	650
14	--	1100	1100	1150	1100	1050	1050	1250	--	--	550	840
15	--	1100	1100	1150	1100	1050	1050	1250	--	--	488	840
16	--	1300	1150	1150	1100	1050	1050	--	--	--	550	900
17	--	380	1100	1150	1100	1050	1050	--	--	--	520	890
18	--	855	1100	1200	1100	1100	1050	--	--	--	462	1100
19	--	1200	1200	1150	1100	1100	1050	--	--	--	400	1050
20	--	1200	1150	1150	1100	1100	1050	--	--	738	512	1100
21	1130	1200	1150	1150	1100	1100	1050	--	--	625	475	--
22	1100	1200	1150	1150	1100	1100	1100	--	--	600	700	910
23	1080	--	1150	1150	1100	1100	1150	--	--	700	800	910
24	1080	--	1150	1150	1100	1100	1150	--	--	700	468	910
25	1100	--	1150	1150	1100	1100	1150	--	--	600	800	910
26	1090	--	1150	1150	1100	1100	1150	--	--	560	850	1110
27	1110	--	1150	1200	1100	1200	1150	--	--	610	950	980
28	1100	1200	1150	1200	1100	1150	1150	--	--	750	1010	980
29	1100	1200	1100	1200	--	1200	1150	--	--	900	1000	980
30	1150	1100	1170	1200	--	1200	1120	--	--	620	850	--
31	1150	--	1170	1200	--	990	--	--	--	550	850	--
AVG	--	1080	1130	1170	1100	1030	1060	--	--	--	621	856

09473500 SAN PEDRO RIVER AT WINKELMAN, ARIZ.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	15.0	20.0	20.0	20.0	26.0	28.0	30.0	--	34.0	31.0	35.0
2	15.0	13.0	20.0	18.0	19.0	17.0	30.0	31.0	--	25.0	35.0	31.0
3	15.0	13.0	21.0	17.0	16.0	13.0	19.0	33.0	--	38.0	31.0	32.0
4	16.0	19.5	16.0	18.0	17.0	16.5	30.0	32.0	--	37.0	30.0	25.5
5	10.0	26.0	18.0	17.0	21.0	15.0	30.0	34.0	--	40.0	33.0	26.0
6	9.0	22.0	8.0	19.0	26.0	24.0	19.5	34.0	--	35.0	30.0	22.5
7	12.0	13.0	18.0	17.0	22.0	16.0	23.0	20.0	--	30.0	34.5	27.0
8	17.0	20.0	19.0	18.0	24.0	27.0	31.0	33.0	--	30.0	34.0	34.0
9	13.0	16.0	17.0	13.0	21.0	--	28.0	31.0	--	38.0	30.0	25.0
10	--	17.0	21.0	18.0	21.0	20.0	33.0	37.0	--	32.0	31.5	36.0
11	--	18.5	21.0	19.0	27.0	18.0	30.0	--	--	40.0	30.5	32.0
12	--	17.0	21.0	20.0	27.0	17.0	32.0	38.0	--	--	33.0	32.0
13	--	15.0	10.0	23.0	28.0	28.0	29.0	36.0	--	--	33.0	29.0
14	--	25.0	25.0	25.0	24.0	28.0	29.0	34.0	--	--	32.0	30.0
15	--	23.0	22.0	19.0	27.0	20.0	31.0	34.0	--	--	32.5	32.0
16	--	20.0	--	21.0	26.0	29.0	28.0	--	--	--	28.0	20.0
17	--	17.0	27.0	20.0	26.0	20.0	23.0	--	--	--	29.0	31.0
18	--	13.0	18.0	22.0	20.0	21.0	20.0	--	--	--	29.5	30.0
19	--	18.0	23.0	18.0	25.0	22.0	32.0	--	--	--	30.5	35.0
20	--	18.0	25.0	18.0	21.0	28.0	25.0	--	--	30.5	32.5	35.0
21	16.0	20.0	26.0	25.0	19.0	27.0	29.0	--	--	33.0	30.0	--
22	14.0	21.0	22.0	22.0	25.0	28.0	30.0	--	--	28.0	--	26.0
23	25.0	--	18.0	23.0	26.0	27.0	31.0	--	--	34.0	30.0	27.0
24	29.0	--	23.0	23.0	22.0	27.0	32.0	--	--	30.0	33.5	20.0
25	23.0	--	17.0	24.0	28.0	20.0	34.0	--	--	32.0	31.0	19.0
26	22.0	--	20.0	24.0	21.0	27.0	31.0	--	--	34.5	33.0	28.0
27	26.0	--	23.0	25.0	25.0	20.0	32.0	--	--	32.0	25.0	26.0
28	28.0	25.0	14.0	24.0	26.0	19.0	25.0	--	--	31.0	40.0	24.0
29	25.0	19.0	13.0	17.0	--	20.0	22.0	--	--	34.0	37.0	31.0
30	25.0	21.0	19.0	19.0	--	24.0	26.0	--	34.5	33.5	35.0	--
31	23.0	--	18.0	21.0	--	19.0	--	--	--	32.0	--	--
AVG	--	19.0	19.5	20.0	23.0	22.0	28.0	--	--	33.0	32.0	28.5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	.70	62	.12	.50	4	.01
2	.10	20	.01	.70	58	.11	.50	5	.01
3	.10	21	.01	.70	62	.12	.50	67	.09
4	.10	74	.05	1.0	75	.20	.70	39	.07
5	.30	26	.04	1.3	72	.25	.70	73	.14
6	.30	31	.05	1.3	140	.49	.70	46	.09
7	.20	36	.03	1.3	123	.43	.70	141	.27
8	.10	17	.01	1.6	171	.74	1.0	43	.12
9	.10	21	.01	4.5	700	8.5	1.6	65	.28
10	.10	14	.01	5.3	750	11	3.1	90	.75
11	0	0	0	92	38200	14400	5.3	95	1.4
12	.10	13	.01	21	12000	680	4.5	79	.96
13	.10	19	.01	8.4	850	19	5.3	66	.94
14	.10	17	.01	8.4	550	12	6.2	53	.89
15	.10	14	.01	8.4	500	11	5.3	44	.63
16	.10	13	.01	86	7330	3120	4.5	34	.41
17	0	0	0	482	12700	20100	5.3	38	.54
18	--	--	--	25	450	30	3.8	35	.36
19	--	--	--	1.0	39	.11	2.6	29	.20
20	0	0	0	.70	31	.06	3.1	32	.27
21	.70	116	.31	.50	22	.03	3.1	36	.30
22	19	7000	359	.20	24	.01	2.6	34	.24
23	5.3	1800	26	0	0	0	3.1	33	.28
24	1.6	389	1.7	--	--	--	2.6	28	.20
25	1.0	236	.64	--	--	--	2.6	33	.23
26	.50	200	.27	--	--	--	2.6	32	.22
27	.50	170	.23	0	0	0	4.5	26	.32
28	.70	143	.27	.10	10	0	4.5	40	.49
29	.70	84	.16	.50	11	.01	9.6	79	2.0
30	.40	56	.06	.40	15	.02	8.4	43	.98
31	.50	63	.09	--	--	--	7.2	50	.97
TOTAL	32.80	--	389.00	753.00	--	38394.20	106.70	--	14.66

09473500 SAN PEDRO RIVER AT WINKELMAN, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	7.2	24	.40	6.2	24	.40	3.4	30	.28
2	6.2	8	.13	5.3	46	.66	402	4910	16600
3	6.2	38	.64	5.3	36	.52	2080	13500	115000
4	5.3	34	.49	5.4	48	.70	90	2100	510
5	4.5	42	.51	4.4	66	.78	34	275	25
6	4.5	41	.50	4.4	43	.51	34	180	17
7	6.2	40	.67	4.4	43	.51	34	160	15
8	7.2	50	.97	4.4	48	.57	32	86	7.4
9	8.4	70	1.6	4.4	39	.46	28	42	3.2
10	8.4	70	1.6	4.4	36	.43	25	44	3.0
11	8.4	45	1.0	4.9	26	.34	25	62	4.2
12	7.2	52	1.0	4.9	36	.48	22	75	4.5
13	6.2	48	.80	4.9	32	.42	18	28	1.4
14	6.2	44	.74	5.5	72	1.1	11	52	1.5
15	7.2	43	.84	4.9	73	.97	10	22	.59
16	6.2	34	.57	4.9	28	.37	7.5	21	.43
17	7.2	45	.87	4.9	28	.37	8.2	22	.49
18	8.4	32	.73	4.9	32	.42	6.8	19	.35
19	8.4	42	.95	4.9	19	.25	6.8	19	.35
20	7.2	32	.62	4.9	33	.44	7.5	18	.36
21	7.2	29	.56	4.4	19	.23	7.5	13	.26
22	6.2	28	.47	3.9	77	.81	6.8	65	1.2
23	6.2	37	.62	3.9	48	.51	6.8	24	.44
24	7.2	28	.54	3.9	30	.32	6.1	8	.13
25	7.2	28	.54	3.4	29	.27	6.8	10	.18
26	7.2	28	.54	3.4	27	.25	6.8	8	.15
27	5.3	27	.39	3.4	20	.18	6.8	55	1.0
28	4.5	16	.19	3.0	35	.28	6.8	78	1.4
29	5.3	14	.20	---	---	---	6.8	28	.51
30	5.3	12	.17	---	---	---	6.8	56	1.0
31	6.2	16	.27	--	--	--	6.8	67	1.2
TOTAL	204.5	--	20.12	127.5	--	13.15	2960.0	--	132202.52

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	6.1	31	.51	3.9	67	.71	0	0	0
2	5.5	56	.83	3.0	44	.36	--	--	--
3	5.5	102	1.5	2.6	43	.30	--	--	--
4	4.9	32	.42	2.6	79	.55	--	--	--
5	4.4	54	.64	1.9	48	.25	--	--	--
6	4.4	24	.29	2.2	53	.31	--	--	--
7	3.9	29	.31	1.9	97	.50	--	--	--
8	3.9	17	.18	1.3	49	.17	--	--	--
9	3.9	24	.25	1.1	38	.11	--	--	--
10	4.4	19	.23	.70	24	.05	--	--	--
11	4.4	18	.21	.90	50	.12	--	--	--
12	4.4	10	.12	.90	35	.09	--	--	--
13	3.4	14	.13	.90	16	.04	--	--	--
14	1.9	11	.06	.90	62	.15	--	--	--
15	1.6	12	.05	.30	89	.07	--	--	--
16	1.3	10	.04	0	0	0	--	--	--
17	1.1	37	.11	--	--	--	--	--	--
18	1.1	7	.02	--	--	--	--	--	--
19	.90	22	.05	--	--	--	--	--	--
20	.90	5	.01	--	--	--	--	--	--
21	1.3	36	.13	--	--	--	--	--	--
22	1.6	5	.02	--	--	--	--	--	--
23	1.6	8	.03	--	--	--	--	--	--
24	1.3	7	.02	--	--	--	--	--	--
25	1.6	10	.04	--	--	--	--	--	--
26	1.6	20	.09	--	--	--	--	--	--
27	1.6	12	.05	--	--	--	--	--	--
28	2.2	30	.18	--	--	--	--	--	--
29	3.0	20	.16	--	--	--	0	0	0
30	3.0	46	.37	--	--	--	3.0	3460	28
31	--	--	--	0	0	0	--	--	--
TOTAL	86.70	--	7.05	25.10	--	3.78	3.0	--	28

09473500 SAN PEDRO RIVER AT WINKELMAN, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.2	51600	1140	6.1	42300	697	1.0	220	.59
2	7.5	30200	612	447	123000	165000	1.0	150	.41
3	6.8	8500	156	188	80500	45000	48	23800	10600
4	6.1	900	15	952	75700	206000	13	59200	2270
5	6.1	194	3.2	87	61500	14600	17	30600	1400
6	5.5	14000	209	22	52500	3120	320	48600	49300
7	4.4	3000	36	43	65900	8120	48	36700	4760
8	3.6	1960	17	11	60000	1780	10	3920	106
9	6.1	21900	361	45	77600	10900	4.0	375	4.1
10	5.5	2300	34	804	73800	207	1.0	320	.86
11	3.4	187	1.7	362	72900	75300	.20	250	.14
12	1.0	50	.14	346	61600	63800	21	51100	4410
13	0	0	0	144	63000	24700	30	44900	3640
14	--	--	--	107	54100	17900	14	36700	1390
15	--	--	--	245	50900	49500	6.8	9500	174
16	--	--	--	529	58700	123000	6.1	1980	33
17	--	--	--	696	68000	162000	5.5	1080	16
18	--	--	--	596	68600	110000	3.0	650	5.3
19	0	0	0	399	56700	61100	1.9	475	2.4
20	343	33500	103000	132	48900	17400	.50	177	.35
21	973	79700	255000	118	44900	14300	0	0	0
22	120	71800	23300	13	26000	913	.80	96	.21
23	20	52000	2810	25	20900	1410	.60	110	.18
24	13	45900	1610	168	48900	22200	.40	72	.09
25	34	68600	6300	30	33700	2730	.20	60	.06
26	132	116000	47900	10	23500	635	.20	27	.02
27	53	94300	13500	10	10500	284	.20	29	.03
28	30	54600	4420	8.0	4000	86	.20	19	.02
29	68	47600	13800	6.0	800	13	.20	12	.01
30	195	101000	55200	4.0	440	4.8	0	0	0
31	23	60300	3740	2.0	260	1.4	--	--	--
TOTAL	2068.2	--	533165.04	6555.1	--	1202701.2	554.80	--	78113.87

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 13477.40
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 1985052.99

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

		WATER TEM-PERA-TURE			SEDIMENT	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED											METHOD OF ANALY-SIS
DATE	TIME	(°C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	
NOV 11 1969	1700	22.0	121	59300	19400	55	69	--	95	--	100	--	--	--	--	--	VPWC
JUL 1 1970	1130	33.0	8.2	47200	1050	74	90	--	100	--	--	--	--	--	--	--	SPWC
JUL 26.....	1300	34.0	160	182000	78600	45	62	--	90	--	98	98	99	100	--	--	VPWC
AUG 2.....	1400	36.0	1530	127000	525000	40	56	--	80	--	98	99	100	--	--	--	VPWC
AUG 10.....	1115	30.0	1740	111000	521000	38	50	--	72	--	94	07	99	100	--	--	VPWC

09474000 GILA RIVER AT KELVIN, ARIZ.
(Irrigation network station)

LOCATION.--Lat 33°06'11", long 110°58'26", in NE¼NW¼ sec.12, T.4 S., R.13 E., Pinal County, at Florence-Kelvin road bridge at Kelvin, 200 ft upstream from Mineral Creek, 700 ft upstream from gaging station, 18 miles downstream from San Pedro River, 19 miles upstream from Ashurst-Hayden Dam, and 49 miles downstream from Coolidge Dam.
DRAINAGE AREA.--18,011 sq mi at gaging station, of which 5,125 sq mi is downstream from Coolidge Dam.
PERIOD OF RECORD.--Chemical analyses: December 1950 to September 1970.
Water temperatures: December 1950 to September 1970.
Sediment records: January 1958 to September 1970.
EXTREMES.--1969-70:
Dissolved solids: Maximum, 1,520 mg/l Jan. 1-31; minimum, 473 mg/l Mar. 3-4.
Hardness: Maximum, 640 mg/l Jan. 1-31; minimum, 210 mg/l Mar. 3-4.
Specific conductance: Maximum daily, 2,290 micromhos Jan. 19, 29, 30; minimum daily, 530 micromhos Nov. 17.
Water temperatures: Minimum, 7.0°C Feb. 1.
Sediment concentrations: Maximum daily, 54,800 mg/l Aug. 4; minimum daily, 8 mg/l Jan. 28, 30.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED SODIUM PLUS POTASSIUM (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT.											
01-12A	179	33	92	22	184	--	7.8	223	0	168	250
13-23	154	--	90	26	192	--	--	205	0	--	--
24-31	146	--	100	26	202	--	--	200	0		
NOV.										--	--
01-16	112	--	118	28	196	--	--	186	0		
17-18	365	--	76	12	56	--	--	176	0	--	--
19-30	60	--	178	31	202	--	--	244	0	--	--
DEC.										--	--
01-08	77	--	135	28	201	--	--	228	0		
09-20	145	--	112	24	204	--	--	213	0	--	--
21-31	232	--	98	25	209	--	--	216	0	--	--
JAN.										--	--
01-31	48	--	190	40	225	--	--	218	0		
FEB.										--	--
01-28	346	--	92	28	222	--	--	208	0	--	--
MAR.											
01-02	597	26	90	28	217	--	--	198	0	236	314
03-04	2530	23	--	--	67	--	--	130	0	--	--
05-08	356	28	84	53	153	--	--	235	0	293	200
09-31	468	27	92	32	222	--	--	237	0	220	332
APR.											
01-30B	495	25	92	32	240	--	9.0	217	3	210	356
MAY											
01-31	455	34	94	33	--	268	--	221	0	216	388
JUNE											
01-30	440	25	88	34	--	276	--	204	0	201	412
JULY											
01-19C	575	25	91	33	282	--	10	206	0	209	408
20-21	1040	25	113	27	--	169	--	392	0	117	224
22-31	557	26	96	30	--	260	--	216	0	204	382
AUG.											
01-03	689	25	148	38	--	254	--	220	0	380	354
04-05	902	22	90	16	--	139	--	200	0	160	186
06-09	398	23	105	23	--	266	--	196	0	220	382
10-16	598	23	112	20	--	205	--	211	0	210	294
17-21	724	22	95	16	--	169	--	214	0	176	220
22...	300	25	108	24	--	285	--	204	0	236	408
23...	350	20	88	18	--	158	--	224	0	154	206
24...	400	22	98	21	--	224	--	220	0	196	306
25-31	325	24	92	32	--	292	--	190	0	234	422
SEP.											
01-05	376	23	95	28	--	291	--	195	0	218	422
06-07	1280	22	108	22	--	150	--	188	0	250	192
08-30	215	23	102	27	--	267	--	194	0	246	376
WTD. AVG.	--	--	97	30	--	--	--	212	0	--	--
TIME WTD. AVG.	355	--	108	30	--	--	--	213	0	--	--
TOT. LOAD (TONS)	--	--	32700	10000	--	--	--	74100	120	--	--

A INCLUDES 0.6 MG/L OF DISSOLVED FLUORIDE (F).
B INCLUDES 1.1 MG/L OF DISSOLVED FLUORIDE (F).
C INCLUDES 1.2 MG/L OF DISSOLVED FLUORIDE (F).

09474000 GILA RIVER AT KELVIN, ARIZ.--Continued

EXTREMES.--1969-70:--Continued
Sediment discharge: Maximum daily, 187,000 tons July 21; minimum daily, 0.91 ton Jan. 28.
Period of record:
Dissolved solids: Maximum, 4,330 mg/l Jan. 3, 1966; minimum, 294 mg/l Sept. 24, 1954, Feb. 12, 1963.
Hardness: Maximum, 2,610 mg/l Jan. 3, 1966; minimum, 152 mg/l Sept. 1-30, 1957.
Specific conductance: Maximum daily, 5,120 micromhos May 22, 1961; minimum daily, 407 micromhos Jan. 20, 1952.
Water temperatures: Maximum, (1950-69), 36.5°C July 25, Aug. 20, 1953; minimum, 3.5°C Jan. 13, 1962.
Sediment concentrations: Maximum daily, 153,000 mg/l July 30, 1961; minimum daily, 1 mg/l May 8, 1961.
Sediment discharge: Maximum daily, 740,000 tons Dec. 23, 1965; minimum daily, 0.01 ton on several days during June and July 1961.
REMARKS.--No appreciable inflow from Mineral Creek between sampling point and gaging station except during periods of heavy local rains. Sediment-discharge figures include sediment discharge from Mineral Creek.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
01-12	2.0	1000	926	870	1.26	448	320	138	4.5	1460	8.2
13-23	--	--	984	--	1.34	409	332	164	4.6	1550	8.1
24-31	--	--	1050	--	1.43	414	358	194	4.6	1630	8.1
NOV.											
01-16	--	--	1080	--	1.47	327	410	258	4.2	1700	7.7
17-18	--	--	503	--	.68	496	238	94	1.6	735	7.6
19-30	--	--	1320	--	1.80	214	570	370	3.7	1950	8.0
DEC.											
01-08	--	--	1160	--	1.58	241	450	263	4.1	1770	8.1
09-20	--	--	1040	--	1.41	407	380	206	4.6	1680	8.2
21-31	--	--	1030	--	1.40	645	345	168	4.9	1670	8.2
JAN.											
01-31	--	--	1520	--	2.07	197	640	462	3.9	2130	8.1
FEB.											
01-28	--	--	1030	--	1.40	962	345	174	5.2	1720	8.1
MAR.											
01-02	2.2	220	988	1010	1.34	1590	340	178	5.1	1630	7.5
03-04	--	180	473	--	.64	3230	210	98	2.1	732	7.7
05-08	2.4	170	974	930	1.32	936	428	236	3.2	1500	8.1
09-31	2.0	240	1040	1040	1.41	1310	360	166	5.1	1750	8.1
APR.											
01-30	1.3	310	1090	1080	1.48	--	362	179	5.5	1820	8.3
MAY											
01-31	.6	320	--	1140	1.55	--	372	191	6.1	1920	8.1
JUNE											
01-30	.6	340	--	1140	1.55	--	358	191	6.3	1980	8.2
JULY											
01-19	1.0	340	1220	1160	1.66	--	362	193	6.5	2050	8.0
20-21	1.0	320	--	869	1.18	--	392	71	3.7	1480	7.5
22-31	2.0	350	--	1110	1.51	--	364	187	5.9	1910	7.8
AUG.											
01-03	1.5	280	--	1310	1.78	--	525	344	4.8	2080	7.8
04-05	1.8	220	--	713	.97	--	292	128	3.6	1210	7.8
06-09	4.7	300	--	1120	1.52	--	355	194	6.1	1870	8.0
10-16	1.9	260	--	970	1.32	--	362	189	4.7	1620	7.6
17-21	1.3	220	--	805	1.09	--	302	126	4.2	1340	7.8
22...	2.4	320	--	1190	1.62	--	370	203	6.4	1960	7.9
23...	.8	220	--	755	1.03	--	292	108	4.0	1270	7.8
24...	1.8	280	--	977	1.33	--	330	150	5.4	1620	7.7
25-31	1.4	320	--	1190	1.62	--	360	204	6.7	2030	8.1
SEP.											
01-05	2.2	330	--	1180	1.60	--	352	192	6.8	2010	7.9
06-07	4.8	220	--	841	1.14	--	362	208	3.4	1380	7.8
08-30	.9	290	--	1140	1.55	--	365	206	6.1	1910	8.0
WTD. AVG.	--	--	--	--	1.44	--	359	185	5.3	1760	8.0
TIME WTD. AVG.	--	--	--	--	1.52	--	392	218	5.2	1810	8.1
TOT. LOAD (TONS)	--	--	--	--	--	--	--	--	--	--	--

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT 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
NOV 17, 1970	1730	12.0	692	7630	14000	30	43	--	67	--	93	95	97	100	--	--	VPWC
MAR 3.....	1200	10.5	4990	8510	115000	29	40	--	65	--	76	82	90	97	100	--	VPWC
JUL 21.....	0700		1030	63700	177000	43	58	--	85	--	98	99	100	--	--	--	VPWC
AUG 4.....	1600		1410	58200	222000	47	56	--	80	--	98	99	100	--	--	--	VPWC
AUG 24.....	1300		820	28500	63100	53	67	--	88	--	97	100	--	--	--	--	VPWC

09474000 GILA RIVER AT KELVIN, ARIZ.--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1450	1690	1830	1910	1730	---	1750	1880	1930	2040	2050	2040
2	1450	1700	1790	2000	1730	1630	1770	1870	1950	2030	2030	2050
3	1460	1700	1800	2040	1700	580	1790	1910	1950	2020	2150	1930
4	1450	1700	1730	2030	1690	886	1780	1920	1950	2020	1040	2020
5	1450	1710	1720	2050	1700	1240	1780	1930	1940	2040	1370	2010
6	1460	1690	1780	1990	1710	1490	1790	1920	1950	2050	1910	1210
7	1460	1690	1790	2140	1710	1600	1790	1890	1940	2030	1840	1530
8	1480	1680	1800	2140	1690	1500	1760	1930	1950	2070	1920	1740
9	1480	1620	1740	2100	1690	1750	1790	1940	1960	2070	---	1930
10	1480	1630	1740	2130	1690	1720	1790	1940	1960	2060	---	1890
11	1490	1620	1790	2100	1690	1700	1840	1950	1970	2050	1520	1910
12	1490	1590	1790	2100	1750	1720	1870	1930	1970	2070	1710	1890
13	1510	1780	1640	2130	1760	1760	1840	1930	2040	2050	1470	1780
14	1550	1790	1630	2020	1730	1720	1840	---	2020	2080	1860	1840
15	1520	1810	1650	2100	1760	1760	1830	1920	2010	2090	1620	1860
16	1520	1590	1650	2060	1750	1770	---	1950	2000	2070	1570	1910
17	1540	530	1640	2190	1750	1780	1840	1950	2010	2070	---	1920
18	1550	922	1650	2170	1730	1770	1810	1930	2030	2090	1180	1930
19	1570	1590	1660	2290	1740	1760	1830	1970	1990	2080	1320	1960
20	1570	1890	1660	2260	1740	1750	---	1970	1990	---	1410	1960
21	1560	2020	1670	2230	1710	1750	1840	1970	2010	1490	1410	1960
22	1530	2020	---	2190	1710	1750	1870	2000	2010	1740	1960	1950
23	1580	2060	1650	2100	1700	1750	1850	1970	2010	1870	1270	1960
24	1610	2100	1650	2210	1730	1750	1870	1970	2010	2020	1630	1980
25	1610	2170	1640	2260	1730	1750	1880	1930	2010	2030	1970	1980
26	1600	1820	1640	2170	1720	1750	1870	1930	2020	1820	2020	2010
27	1610	1930	---	2220	1720	1770	1870	1930	2010	1980	2000	2010
28	1610	1890	1650	2250	1730	1760	1860	1940	2010	2040	2040	---
29	1630	1800	1600	2290	---	1770	1880	1940	2020	2070	2050	2000
30	1670	1820	1770	2290	---	1770	1920	1980	2020	1640	2060	2010
31	1700	---	1760	---	---	1760	---	1940	---	1990	2070	---
AVG	1540	1720	1710	2140	1720	1640	1830	1940	1990	1990	1730	1900

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	18.0	14.0	9.0	7.0	---	16.0	17.0	24.0	---	---	---
2	25.0	18.0	14.0	9.0	10.0	14.0	17.0	21.0	24.0	---	---	---
3	25.0	20.0	14.0	9.0	10.0	11.0	17.0	20.0	25.0	---	---	---
4	21.0	20.0	13.0	9.0	11.0	13.0	18.0	21.0	25.0	---	---	---
5	22.0	17.0	11.0	10.0	13.0	13.0	18.0	21.0	25.0	---	---	---
6	23.0	18.0	11.0	9.0	13.0	17.0	18.0	23.0	24.0	---	---	---
7	23.0	18.0	11.0	10.0	13.0	17.0	19.0	23.0	24.0	---	---	---
8	25.0	18.0	11.0	10.0	13.0	17.0	19.0	21.0	24.0	---	---	---
9	24.0	17.0	12.0	12.0	13.0	17.0	18.0	22.0	24.0	---	---	---
10	23.0	18.0	14.0	13.0	13.0	14.0	19.0	23.0	24.0	---	---	---
11	21.0	18.0	13.0	13.0	15.0	14.0	20.0	23.0	24.0	---	---	---
12	20.0	18.0	12.0	17.0	15.0	15.0	19.0	23.0	24.0	---	---	---
13	20.0	18.0	12.0	15.0	14.0	16.0	19.0	23.0	24.0	---	---	---
14	20.0	18.0	12.0	16.0	14.0	17.0	18.0	---	26.0	---	---	---
15	21.0	18.0	13.0	16.0	13.0	17.0	19.0	24.0	26.0	---	---	---
16	21.0	17.0	12.0	15.0	14.0	18.0	---	24.0	26.0	---	---	---
17	22.0	12.0	13.0	16.0	14.0	17.0	17.0	23.0	26.0	---	---	---
18	23.0	12.0	13.0	16.0	15.0	15.0	16.0	24.0	27.0	---	---	---
19	20.0	12.0	13.0	16.0	13.0	15.0	17.0	24.0	27.0	---	---	---
20	21.0	12.0	13.0	16.0	9.0	15.0	---	24.0	27.0	---	---	---
21	20.0	16.0	12.0	15.0	12.0	15.0	19.0	23.0	27.0	---	---	---
22	18.0	15.0	---	16.0	14.0	17.0	18.0	23.0	27.0	---	---	---
23	19.0	15.0	12.0	17.0	16.0	16.0	18.0	23.0	27.0	---	---	---
24	20.0	16.0	12.0	16.0	14.0	17.0	16.0	24.0	27.0	---	---	---
25	21.0	16.0	12.0	16.0	14.0	18.0	20.0	23.0	27.0	---	---	---
26	22.0	16.0	12.0	16.0	13.0	18.0	20.0	22.0	27.0	---	---	---
27	20.0	15.0	---	16.0	15.0	18.0	19.0	23.0	27.0	---	---	---
28	20.0	11.0	10.0	16.0	14.0	16.0	19.0	24.0	---	---	---	---
29	20.0	11.0	10.0	15.0	---	16.0	17.0	24.0	---	---	---	---
30	19.0	14.0	11.0	15.0	---	16.0	17.0	24.0	---	---	---	---
31	18.0	---	9.0	---	---	16.0	---	24.0	---	---	---	---
AVG	21.5	16.0	12.0	14.0	13.0	16.0	18.0	22.5	25.5	---	---	---

09474000 GILA RIVER AT KELVIN, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	191	93	48	114	33	10	72	151	29
2	189	89	45	115	57	18	71	61	12
3	195	73	38	114	50	15	72	89	17
4	195	72	38	118	59	19	81	63	14
5	193	67	35	113	68	21	81	68	15
6	193	58	30	114	34	10	81	54	12
7	197	40	21	113	30	9.2	79	49	10
8	176	35	17	113	35	11	79	63	13
9	158	28	12	125	45	15	81	83	18
10	153	50	21	127	55	19	81	54	12
11	157	98	42	130	1280	449	80	56	12
12	149	51	21	110	7490	2230	100	195	53
13	149	57	23	93	1450	364	131	307	109
14	151	47	19	93	435	109	144	315	122
15	153	55	23	91	300	74	146	278	110
16	157	44	19	109	1220	359	164	400	177
17	148	76	30	563	6550	11000	186	447	224
18	149	40	16	167	2460	1350	182	353	173
19	148	116	46	79	420	90	214	470	272
20	151	51	21	62	125	21	231	471	294
21	166	560	251	57	70	11	236	910	580
22	168	1600	726	53	43	6.2	236	910	580
23	158	255	109	51	39	5.4	231	480	299
24	158	86	37	49	27	3.6	244	295	194
25	155	82	34	48	20	2.6	236	236	150
26	155	65	27	57	83	13	231	202	126
27	151	106	43	65	93	16	241	280	182
28	151	68	28	64	96	17	241	390	254
29	149	91	37	68	111	20	257	254	176
30	134	50	18	71	110	21	241	203	132
31	117	29	9.2	--	--	--	153	122	50
TOTAL	5014	--	1884.2	3246	--	16309.0	4903	--	4421

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	73	62	12	268	483	349	466	348	438
2	60	31	5.0	294	340	270	728	455	894
3	57	30	4.6	300	344	279	3910	5940	66900
4	55	41	6.1	297	351	281	884	2430	6980
5	53	55	7.9	297	240	192	468	520	657
6	50	38	5.1	315	437	372	450	460	559
7	48	110	14	341	390	359	254	112	77
8	46	199	25	344	360	334	254	268	201
9	48	79	10	347	330	309	297	260	208
10	48	30	3.9	354	410	392	320	380	289
11	48	29	3.8	358	432	418	431	582	677
12	46	17	2.1	358	320	309	421	400	455
13	45	12	1.5	361	300	292	377	223	227
14	45	16	1.9	351	540	512	338	169	154
15	45	13	1.6	344	325	302	309	170	142
16	44	16	1.9	341	335	308	294	169	134
17	44	14	1.7	344	294	273	312	230	194
18	43	14	1.6	347	296	277	361	420	409
19	43	12	1.4	344	199	185	382	339	350
20	43	11	1.3	344	322	299	400	260	281
21	44	57	6.8	338	314	287	462	355	443
22	44	42	5.0	344	280	260	514	435	604
23	43	37	4.3	347	443	415	550	394	585
24	44	21	2.5	344	323	300	558	363	547
25	44	23	2.7	341	250	230	562	330	501
26	44	9	1.1	396	639	683	598	344	555
27	44	9	1.1	454	840	1030	634	270	462
28	42	8	.91	462	515	642	658	330	586
29	42	9	1.0	--	--	--	674	369	672
30	43	8	.93	--	--	--	682	355	654
31	80	90	19	--	--	--	638	354	610
TOTAL	1498	--	157.74	9675	--	10159	18186	--	86455

09474000 GILA RIVER AT KELVIN, ARIZ.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	618	265	442	410	210	232	389	179	188
2	562	270	410	414	130	145	392	172	182
3	518	208	291	414	232	259	390	190	200
4	486	149	196	414	180	201	380	211	216
5	470	168	213	462	133	166	380	254	261
6	462	230	287	482	240	312	390	213	224
7	462	150	187	486	220	289	400	200	216
8	502	280	380	486	143	188	400	205	221
9	514	255	354	486	165	217	400	229	247
10	534	170	245	482	153	199	410	289	320
11	534	215	310	458	194	240	420	242	274
12	522	110	155	502	245	332	430	224	260
13	526	112	159	526	218	310	450	230	279
14	542	246	360	526	180	256	450	229	278
15	562	310	470	518	153	214	450	219	266
16	558	297	447	510	225	310	440	207	246
17	566	185	283	494	206	275	440	173	206
18	578	248	387	478	233	301	440	144	171
19	570	250	385	482	229	298	430	189	219
20	522	230	324	443	183	219	430	212	246
21	498	176	237	443	219	262	430	223	259
22	454	150	184	443	200	239	450	225	273
23	414	151	169	443	213	255	460	187	232
24	407	145	159	443	198	237	470	170	216
25	407	161	177	443	233	279	500	154	208
26	400	170	184	432	159	185	500	160	216
27	410	170	188	421	140	159	510	256	353
28	410	228	252	407	151	166	510	338	465
29	414	210	235	389	162	170	520	258	362
30	425	190	218	389	141	148	540	400	583
31	--	--	--	382	158	163	--	--	--
TOTAL	14847	--	8288	14108	--	T226	13201	--	7887

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	560	1460	2200	454	3600	4410	350	930	879
2	546	990	1460	710	17900	50300	350	1050	992
3	542	410	600	902	45000	114000	350	5200	4910
4	542	279	408	1190	54800	182000	407	3600	3960
5	514	270	375	615	26800	49900	421	2200	2500
6	530	275	394	382	9200	9490	1920	25100	136000
7	546	290	428	378	10500	10700	638	8940	18900
8	554	300	449	492	9910	12100	178	2000	961
9	578	305	476	428	7900	9130	175	1170	680
10	582	370	581	822	19900	63400	271	1340	980
11	570	270	416	928	31100	80200	262	890	630
12	578	222	346	588	25700	42200	246	830	551
13	578	180	281	361	24800	24200	245	3520	2330
14	558	265	399	178	12000	5770	240	3040	1970
15	610	365	601	662	20100	39600	240	1250	810
16	618	252	420	647	23300	53200	240	680	441
17	610	320	527	985	35700	110000	240	460	298
18	646	270	471	1030	52400	148000	240	380	246
19	670	160	289	788	34600	74800	230	340	211
20	728	5130	19900	466	19100	25200	230	580	360
21	1360	51100	187000	350	23100	21800	230	350	217
22	610	18500	30500	300	9200	7450	230	175	109
23	600	11500	18600	350	11200	10600	220	175	104
24	598	7000	11300	400	21900	23700	200	200	108
25	565	4600	7020	350	8900	8410	190	180	92
26	549	10100	16600	350	2150	2030	180	200	97
27	566	12700	19400	350	1000	945	180	240	117
28	502	5000	6780	300	720	583	160	300	130
29	494	1700	2270	300	675	547	160	240	104
30	614	27000	46900	300	710	575	160	153	65
31	470	11200	14100	325	775	680	--	--	--
TOTAL	18558	--	391491	16591	--	1185920	9383	--	179752

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 129240
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 1899949.94

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.
(Irrigation network station)

LOCATION.--Lat 33°33'59", long 111°32'08"; in sec.33, T.3 N., R.8 E. (unsurveyed), Maricopa County, at Stewart Mountain Dam, 3.5 miles upstream from gaging station and 9.5 miles upstream from Verde River.
DRAINAGE AREA.--6,232 sq mi, at gaging station, of which 21 sq mi is downstream from Stewart Mountain Dam.
PERIOD OF RECORD.--Chemical analyses: December 1950 to September 1970.
Water temperatures: December 1950 to September 1970.
EXTREMES.--1969-70:
Dissolved solids: Maximum, 603 mg/l Aug. 1-31; minimum, 509 mg/l Oct. 1-31.
Hardness: Maximum, 181 mg/l Aug. 1-31; minimum, 165 mg/l Oct. 1-31.
Specific conductance: Maximum daily, 1,120 micromhos Aug. 22, Sept. 5, 8-11; minimum daily 917 micromhos Oct. 2.
Water temperatures: Maximum, 21.0°C Aug. 26; minimum, 10.0°C on several days during January and February.
Period of record:
Dissolved solids: Maximum, 1,300 mg/l Aug. 21-28, 1951; minimum, 361 mg/l Mar. 21-31, 1953.
Hardness: Maximum, 270 mg/l Nov. 1-30, 1956; minimum, 121 mg/l Dec. 22-23, 1967.
Specific conductance: Maximum daily, 2,490 micromhos Aug. 20, 1951; minimum daily (1950-64, 1965-70), 820 micromhos Mar. 28, 1953.
Water temperatures: Maximum, 29.0°C Aug. 24, 26, 27, 1951, Sept. 11, 12, 1969; minimum, 9.5°C Feb. 14, 1951.
REMARKS.--No inflow between sampling point and gaging station except during periods of heavy local rains. No flow at sampling point Nov. 2-30.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
01-31	866	20	49	5.5	--	125	--	155	0	48	184	--
NOV.												
01...	172	21	44	14	--	125	--	144	2	48	190	--
DEC.												
01-31	796	18	47	13	--	128	--	162	0	49	188	--
JAN.												
01-31	172	18	47	13	--	128	--	153	2	48	190	--
FEB.												
01-28	757	18	47	13	--	138	--	167	0	50	200	--
MAR.												
01-31	649	18	54	9.1	--	141	--	158	0	54	206	--
APR.												
01-30	1440	16	46	14	132	--	4.6	160	0	52	208	.4
MAY												
01-31	1600	15	50	12	--	148	--	158	0	53	222	--
JUNE												
01-30	2050	16	52	12	--	148	--	157	0	54	224	--
JULY												
01-31	1600	15	51	13	146	--	4.8	151	3	54	234	.4
AUG.												
01-31	1280	16	54	11	--	155	--	152	2	54	236	--
SEP.												
01-30	1110	16	49	14	--	152	--	156	0	54	230	--
WTD. AVG.	--	16	50	12	--	144	--	157	1	53	217	--
TIME WTD. AVG.	A1120	17	50	12	--	140	--	157	1	52	211	--
TOT. LOAD (TONS)	--	16600	50700	12100	--	110000	--	159000	646	53300	220000	--

DATE	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
01-31	1.0	140	--	509	.69	1190	165	38	4.2	929	8.1
NOV.											
01...	1.2	110	--	516	.70	240	168	46	4.2	926	8.4
DEC.											
01-31	1.0	180	--	524	.71	1130	172	39	4.2	946	8.2
JAN.											
01-31	1.1	120	--	522	.71	242	170	41	4.3	939	8.0
FEB.											
01-28	.6	130	--	549	.75	1120	172	35	4.6	994	8.2
MAR.											
01-31	1.6	120	--	562	.76	973	172	42	4.7	994	8.0
APR.											
01-30	.3	150	548	552	.75	2110	172	41	4.4	1010	8.1
MAY											
01-31	.1	160	--	578	.79	2460	176	46	4.8	1050	7.9
JUNE											
01-30	.1	160	--	583	.79	3260	179	50	4.8	1080	8.1
JULY											
01-31	.0	160	594	595	.81	2580	180	52	4.7	1090	8.4
AUG.											
01-31	.1	170	--	603	.82	2120	181	53	5.0	1100	8.3
SEP.											
01-30	.4	150	--	593	.81	--	179	51	4.9	1080	8.2
WTD. AVG.	.4	154	--	570	.78	--	176	46	4.7	1040	8.1
TIME WTD. AVG.	.6	149	--	561	.76	--	174	44	4.6	1020	8.1
TOT. LOAD (TONS)	388	156	--	578000	--	--	--	--	--	--	--

A MEAN DISCHARGE AT SAMPLING POINT FOR 336 DAYS OF FLOW; MEAN DISCHARGE AT GAGING STATION FOR 365 DAYS, 1,030 CFS.

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	924	926	941	939	1010	981	1010	1030	1070	1070	1090	1110
2	917	---	941	946	992	994	1000	1010	1070	1080	1100	1110
3	922	---	944	---	954	997	1000	1010	1070	1090	1100	1110
4	934	---	941	944	959	992	1000	1040	1080	1090	1100	1110
5	931	---	944	944	970	994	1000	1040	1080	1090	1100	1120
6	931	---	944	941	970	994	1000	1040	1080	1090	1100	1110
7	929	---	941	944	975	992	997	1050	1070	1090	1100	1110
8	---	---	941	944	978	997	1000	1040	1080	1090	1100	1120
9	927	---	941	944	973	994	997	1050	1070	1090	1100	1120
10	929	---	944	---	973	992	994	1050	1080	1090	1100	1120
11	922	---	941	---	973	992	994	1050	1080	1100	1100	1120
12	921	---	944	---	967	994	997	1050	1080	1100	1100	1090
13	924	---	944	---	978	989	997	1060	1080	1090	1100	1090
14	929	---	949	---	978	989	997	1040	1090	1090	1100	1090
15	924	---	944	---	978	992	1000	1050	1080	1100	1100	1080
16	922	---	944	---	975	992	1000	1050	1080	1100	1100	1080
17	934	---	946	---	975	994	1010	1050	1080	1090	1100	1080
18	929	---	946	---	973	997	1010	1050	1080	1090	1100	1080
19	929	---	949	---	975	994	1000	1060	1080	1100	1100	1080
20	929	---	951	---	978	994	1010	1060	1080	1090	1100	1080
21	931	---	---	---	983	994	1010	1060	1080	1080	1100	1080
22	931	---	954	---	992	992	1020	1060	1080	1100	1120	1080
23	939	---	946	---	967	997	1020	1060	1090	1090	1100	1070
24	931	---	949	---	1000	1000	1020	1060	1090	1100	1110	1070
25	931	---	946	944	997	1000	1030	1070	1090	1100	1100	1070
26	936	---	941	946	997	1010	1030	1070	1090	1110	1110	1080
27	938	---	954	936	997	1010	1030	1060	1090	1100	1100	1060
28	931	---	941	939	994	1010	1030	1070	1080	1100	1100	1060
29	934	---	944	941	---	1010	1030	1070	1090	1100	1100	1050
30	931	---	941	949	---	1010	1040	1050	1090	1100	1100	1050
31	---	---	944	949	---	1010	---	1060	---	1100	1110	---
AVG	929	---	945	---	980	997	1010	1050	1080	1090	1100	1090

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	17.0	17.0	14.0	10.0	12.0	14.0	15.0	16.0	19.0	19.0	20.0
2	19.0	--	15.0	14.0	10.0	12.0	13.0	14.0	17.0	19.0	19.0	20.0
3	19.0	--	15.0	--	10.0	12.0	13.0	14.0	16.0	19.0	19.0	20.0
4	19.0	--	15.0	12.0	10.0	12.0	13.0	15.0	17.0	18.0	19.0	20.0
5	19.0	--	15.0	10.0	11.0	12.0	13.0	14.0	18.0	18.0	19.0	19.0
6	19.0	--	14.0	10.0	11.0	12.0	14.0	15.0	18.0	18.0	19.0	19.0
7	19.0	--	14.0	10.0	12.0	12.0	14.0	14.0	18.0	18.0	19.0	20.0
8	--	--	13.0	10.0	13.0	12.0	14.0	15.0	17.0	18.0	18.0	20.0
9	20.0	--	14.0	10.0	12.0	13.0	14.0	15.0	17.0	19.0	18.0	20.0
10	19.0	--	14.0	--	13.0	13.0	14.0	15.0	17.0	18.0	19.0	20.0
11	18.0	--	13.0	--	12.0	13.0	14.0	15.0	17.0	18.0	19.0	20.0
12	18.0	--	13.0	--	13.0	13.0	14.0	15.0	17.0	18.0	19.0	20.0
13	18.0	--	14.0	--	12.0	13.0	14.0	15.0	17.0	19.0	19.0	20.0
14	18.0	--	15.0	--	12.0	14.0	14.0	15.0	17.0	19.0	19.0	20.0
15	17.0	--	15.0	--	12.0	12.0	14.0	15.0	17.0	18.0	20.0	20.0
16	16.0	--	15.0	--	12.0	12.0	14.0	15.0	17.0	18.0	20.0	19.0
17	17.0	--	15.0	--	12.0	12.0	14.0	15.0	17.0	18.0	20.0	19.0
18	17.0	--	15.0	--	12.0	12.0	14.0	15.0	17.0	19.0	19.0	19.0
19	17.0	--	15.0	--	12.0	13.0	14.0	15.0	17.0	19.0	20.0	19.0
20	17.0	--	14.0	--	12.0	12.0	14.0	15.0	17.0	19.0	20.0	19.0
21	17.0	--	--	--	12.0	12.0	14.0	15.0	17.0	19.0	20.0	19.0
22	17.0	--	14.0	--	12.0	12.0	14.0	15.0	18.0	19.0	20.0	20.0
23	17.0	--	14.0	--	12.0	14.0	14.0	15.0	18.0	19.0	19.0	19.0
24	17.0	--	14.0	--	12.0	14.0	14.0	15.0	18.0	19.0	19.0	19.0
25	17.0	--	14.0	13.0	12.0	14.0	14.0	15.0	18.0	19.0	20.0	19.0
26	17.0	--	14.0	11.0	12.0	14.0	15.0	15.0	18.0	19.0	21.0	19.0
27	17.0	--	14.0	10.0	12.0	14.0	15.0	15.0	18.0	19.0	20.0	19.0
28	17.0	--	15.0	10.0	12.0	13.0	14.0	15.0	18.0	18.0	20.0	19.0
29	17.0	--	14.0	11.0	--	13.0	14.0	15.0	19.0	19.0	20.0	19.0
30	17.0	--	14.0	11.0	--	13.0	14.0	15.0	19.0	20.0	20.0	19.0
31	--	--	14.0	11.0	--	13.0	--	15.0	--	20.0	20.0	--
AVG	17.5	--	14.5	--	11.5	12.5	14.0	15.0	17.5	18.5	19.5	19.5

09508300 WET BOTTOM CREEK NEAR CHILDS, ARIZ.
(Hydrologic bench-mark station)

LOCATION.--Lat 34°09'39", long 111°41'32", in sec.36, T.9½N., R.6 E. (unsurveyed), Gila County, at gaging station, in Tonto National Forest, 1.4 miles upstream from mouth and 13 miles south of town of Childs.

DRAINAGE AREA.--37 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: August 1968 to September 1970.
Sediment records: August 1968 to September 1970 (partial records).

REMARKS.--No flow Oct. 4-13, May 22 to Aug. 9.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
NOV.												
12...	1030	.33	33	34	12	29	1.5	212	0	5.0	11	1.9
DEC.												
16...	1130	.28	32	42	12	29	1.4	231	0	6.8	9.8	2.3
JAN.												
13...	1100	.24	33	26	11	28	1.4	180	0	7.6	9.0	2.4
FEB.												
23...	0945	.76	34	39	11	29	1.4	220	0	7.2	8.7	2.4
APR.												
09...	0945	1.0	25	25	6.9	17	1.0	129	0	11	4.8	1.6
AUG.												
19...	0910	.41	29	22	12	30	1.7	157	6	7.2	9.2	1.4

DATE	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
NOV.												
12...	.0	.02	70	253	231	.34	131	0	1.1	364	8.2	18.0
DEC.												
16...	.0	.04	90	243	249	.33	148	0	1.0	391	8.2	11.0
JAN.												
13...	.0	.04	90	201	208	.27	108	0	1.2	323	8.2	9.0
FEB.												
23...	.0	.02	80	234	241	.32	141	0	1.1	379	8.1	10.0
APR.												
09...	.0	.01	110	158	155	.21	89	0	.8	241	8.1	15.0
AUG.												
19...	.5	.00	40	200	196	.27	104	0	1.3	320	8.5	26.0

RADIOCHEMICAL ANALYSIS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
AUG.							
19...	1000	3.9	<.1	12	<.4	4.6	.4

DATE	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED NATURAL URANIUM (U) (UG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)
AUG.						
19...	3.7	.4	.05	2.2	260	<1

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEM-PERA-TURE (°C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	DATE	TIME	WATER TEM-PERA-TURE (°C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
NOV 12, 1969	1100	18.0	.33	1	0	APR 9, 1970	0945	15.0	.93	0	0
DEC 16.....	1130	11.0	.28	0	0	AUG 19.....	1000	26.0	.41	9	.01
JAN 13, 1970	1100	9.0	.24	1	0	SEP 11.....	0900	24.0	6.2	9	.15
FEB 23.....	0945	10.0	.76	13	.03						

09510000 VERDE RIVER BELOW BARTLETT DAM, ARIZ.
(Irrigation network station)

LOCATION.--Lat 33°49'05", long 111°37'53", in sec.33, T.6 N., R.7 E. (unsurveyed), Maricopa County, at Bartlett Dam, 2.1 miles upstream from gaging station, 6.1 miles upstream from Camp Creek, and 18 miles east of town of Cave Creek.
DRAINAGE AREA.--6,188 sq mi (at gaging station).
PERIOD OF RECORD--Chemical analyses: December 1950 to September 1970.
Water temperatures: December 1950 to September 1970.
EXTREMES.--1969-70:
Dissolved solids: Maximum, 378 mg/l May 1-31; minimum, 312 mg/l Oct. 1-31.
Hardness: Maximum, 246 mg/l Feb. 1-28, Mar. 1-31; minimum, 210 mg/l Aug. 1-31.
Specific conductance: Maximum daily, 660 micromhos Mar. 1; minimum daily, 431 micromhos Aug. 9.
Water temperatures: Maximum, 25.0°C Oct. 4; minimum, 9.0°C Jan. 6.
Period of record:
Dissolved solids: Maximum, 550 mg/l Dec. 18-21, 1956; minimum, 152 mg/l May 1-31, 1965.
Hardness: Maximum, 413 mg/l Dec. 18-21, 1956; minimum, 102 mg/l May 1-31, 1965.
Specific conductance: Maximum daily, 958 micromhos Nov. 10, 1956; minimum daily, 225 micromhos May 14, 1965.
Water temperatures: Maximum, 32.0°C July 18, Aug. 14, 1951; minimum, 5.0°C Jan. 30, 1952
REMARKS.--No inflow between sampling point and gaging station except during periods of heavy local rains.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED SODIUM PLUS POTASSIUM (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT.											
01-31	47	22	45	25	--	28	--	212	10	69	7.5
NOV.											
01-30	350	21	43	32	--	32	--	250	6	63	19
DEC.											
01-31	34	21	42	33	--	42	--	258	13	64	23
JAN.											
01-31	27	20	42	33	--	41	--	262	10	63	24
FEB.											
01-28	28	21	42	34	--	45	--	272	11	63	25
MAR.											
01-31	212	21	41	35	--	37	--	266	6	64	23
APR.											
01-30A	86	18	46	30	34	--	2.7	267	4	65	26
MAY											
01-31	36	18	48	30	--	47	--	286	3	65	26
JUNE											
01-30	48	18	48	29	--	40	--	255	8	65	24
JULY											
01-31	580	18	42	27	--	36	--	226	7	61	23
AUG.											
01-31	236	18	42	26	--	35	--	226	8	56	20
SEP.											
01-30	336	19	46	24	--	33	--	229	9	54	19
WTD. AVG.	--	19	43	29	--	35	--	240	7	61	21
TIME WTD. AVG.	168	20	44	30	--	38	--	251	8	63	22
TOT. LOAD (TONS)	--	105	236	156	--	184	--	1310	40	330	115

DATE	DISSOLVED NITRATE (NO3) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED SOLIDS (RESIDUE AT 180°C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.											
01-31	1.6	190	--	312	.42	39.6	214	24	.8	536	8.8
NOV.											
01-30	1.0	200	--	340	.46	321	239	24	.9	554	8.4
DEC.											
01-31	.8	250	--	366	.50	33.6	242	10	1.2	582	8.5
JAN.											
01-31	.6	210	--	363	.49	26.5	242	11	1.1	578	8.6
FEB.											
01-28	.6	230	--	376	.51	28.4	246	4	1.2	589	8.6
MAR.											
01-31	.5	240	--	359	.49	205	246	18	1.0	587	8.3
APR.											
01-30	.5	230	329	358	.45	76.4	238	12	1.0	583	8.3
MAY											
01-31	.6	220	--	378	.51	36.7	242	3	1.3	586	8.3
JUNE											
01-30	1.0	230	--	359	.49	46.5	238	16	1.1	581	8.4
JULY											
01-31	.3	190	--	326	.44	511	214	17	1.1	530	8.5
AUG.											
01-31	.2	210	--	316	.43	201	210	11	1.0	509	8.5
SEP.											
01-30	.3	190	--	317	.43	288	214	11	1.0	512	8.5
WTD. AVG.	.5	204	--	334	.45	--	225	16	1.0	542	8.5
TIME WTD. AVG.	.7	216	--	348	.47	--	232	13	1.1	561	8.5
TOT. LOAD (TONS)	2.8	1	--	1820	--	--	--	--	--	--	--

A INCLUDES 0.4 MG/L DISSOLVED FLUORIDE (F).

09510000 VERDE RIVER BELOW BARTLETT DAM, ARIZ.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	508	---	558	574	574	660	568	574	580	583	544	524
2	515	---	562	570	587	598	560	566	578	580	532	532
3	531	---	563	571	588	597	556	581	577	580	533	507
4	535	---	579	571	587	595	556	570	591	582	528	486
5	537	---	574	571	573	593	520	579	590	579	526	490
6	502	562	573	580	589	591	553	577	590	576	532	516
7	506	560	575	590	583	593	580	589	589	573	508	484
8	511	556	578	584	589	594	588	590	591	504	468	489
9	524	556	578	582	588	587	588	588	590	493	431	508
10	519	553	579	582	588	553	587	589	591	483	493	521
11	520	557	562	580	588	541	589	590	563	509	431	527
12	512	557	563	577	594	593	588	590	578	486	446	521
13	512	555	583	588	599	595	588	591	582	566	484	509
14	509	557	583	581	599	594	588	576	582	492	527	518
15	520	546	581	591	595	391	588	571	576	474	525	519
16	534	552	584	592	597	600	587	578	579	564	488	508
17	539	556	588	593	596	597	577	581	572	554	531	515
18	531	556	583	592	574	594	556	577	567	557	532	509
19	535	544	585	592	586	592	593	574	589	521	524	512
20	540	544	580	593	590	585	579	571	589	552	446	513
21	539	553	583	557	587	587	566	590	589	552	496	512
22	537	555	582	579	564	589	559	592	585	552	523	507
23	537	561	584	591	584	591	589	590	583	504	526	502
24	531	558	583	588	582	589	589	588	580	510	515	512
25	---	563	584	592	583	583	589	587	573	480	527	519
26	540	561	585	591	596	589	590	589	572	493	527	520
27	540	564	583	592	594	592	591	589	568	514	530	520
28	537	557	586	593	594	591	590	589	558	488	527	520
29	540	564	584	593	---	592	591	586	570	546	526	522
30	559	559	581	594	---	593	568	584	580	545	527	521
31	---	---	571	591	---	587	---	585	---	543	529	---
AVG	528	556	578	584	587	591	577	583	580	533	509	512

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	---	16.0	11.0	10.0	13.0	13.0	15.0	15.0	15.0	15.0	15.0
2	24.0	---	16.0	11.0	10.0	13.0	14.0	15.0	15.0	15.0	15.0	15.0
3	24.0	---	16.0	10.0	10.0	12.0	14.0	15.0	15.0	15.0	15.0	15.0
4	25.0	---	15.0	10.0	11.0	12.0	14.0	15.0	15.0	14.0	14.0	14.0
5	24.0	---	15.0	10.0	11.0	14.0	14.0	16.0	15.0	15.0	14.0	14.0
6	23.0	21.0	14.0	9.0	11.0	15.0	14.0	16.0	15.0	14.0	14.0	14.0
7	23.0	21.0	14.0	10.0	11.0	14.0	15.0	13.0	15.0	13.0	14.0	16.0
8	23.0	22.0	14.0	10.0	12.0	14.0	14.0	13.0	15.0	14.0	15.0	17.0
9	23.0	22.0	14.0	10.0	10.0	14.0	13.0	13.0	15.0	14.0	15.0	17.0
10	22.0	20.0	14.0	10.0	12.0	14.0	13.0	14.0	15.0	15.0	15.0	16.0
11	22.0	20.0	14.0	11.0	13.0	14.0	13.0	14.0	12.0	15.0	15.0	17.0
12	21.0	19.0	13.0	10.0	12.0	12.0	13.0	14.0	12.0	15.0	15.0	17.0
13	21.0	20.0	14.0	10.0	12.0	12.0	13.0	15.0	13.0	14.0	15.0	16.0
14	21.0	21.0	14.0	11.0	12.0	12.0	13.0	15.0	14.0	15.0	15.0	16.0
15	21.0	21.0	14.0	11.0	12.0	12.0	13.0	15.0	14.0	15.0	15.0	16.0
16	21.0	21.0	14.0	11.0	11.0	12.0	13.0	13.0	16.0	14.0	15.0	16.0
17	21.0	21.0	14.0	11.0	11.0	12.0	13.0	16.0	14.0	14.0	16.0	16.0
18	---	20.0	14.0	11.0	11.0	12.0	13.0	16.0	14.0	14.0	16.0	15.0
19	21.0	19.0	14.0	11.0	12.0	13.0	13.0	15.0	15.0	14.0	16.0	15.0
20	21.0	18.0	14.0	10.0	12.0	13.0	---	14.0	15.0	14.0	16.0	15.0
21	22.0	18.0	13.0	11.0	12.0	13.0	12.0	14.0	15.0	14.0	15.0	16.0
22	22.0	17.0	13.0	11.0	12.0	14.0	13.0	14.0	16.0	14.0	15.0	16.0
23	24.0	17.0	13.0	11.0	12.0	14.0	12.0	14.0	15.0	14.0	16.0	16.0
24	24.0	16.0	13.0	11.0	12.0	14.0	12.0	15.0	16.0	14.0	15.0	16.0
25	---	16.0	13.0	11.0	11.0	14.0	12.0	15.0	15.0	15.0	15.0	16.0
26	24.0	16.0	13.0	12.0	12.0	13.0	12.0	15.0	15.0	14.0	15.0	16.0
27	24.0	17.0	12.0	11.0	12.0	13.0	13.0	15.0	16.0	14.0	16.0	16.0
28	---	17.0	12.0	11.0	12.0	13.0	13.0	15.0	16.0	14.0	16.0	16.0
29	---	16.0	13.0	10.0	---	13.0	13.0	15.0	16.0	14.0	15.0	16.0
30	---	17.0	12.0	10.0	---	13.0	13.0	16.0	15.0	15.0	15.0	16.0
31	---	---	11.0	10.0	---	14.0	---	15.0	---	15.0	15.0	---
AVG	22.5	19.0	13.5	10.5	11.5	13.0	13.0	14.5	15.0	14.5	15.0	15.5

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.
(Irrigation network and pesticide station)

LOCATION.--Lat 33°13'36", long 112°46'17", in SW¼NE¼ sec.28, T.2 S., R.5 W., Maricopa County, Enterprise Canal at gaging station at bridge on former U.S. Highway 80, 0.2 mile downstream from Gillespie Dam and 8 miles downstream from Hassayampa River.

DRAINAGE AREA.--49,650 sq mi.

PERIOD OF RECORD.--Chemical analyses: December 1950 to September 1970.
Water temperatures: December 1950 to February 1968.

EXTREMES.--1950-68:
Dissolved solids: Maximum, 7,720 mg/l Dec. 1-30, 1962; minimum, 144 mg/l Dec. 26-28, 1967.
Hardness: Maximum, 2,220 mg/l July 1-18, 1966; minimum, 80 mg/l Dec. 26-28, 1967.
Specific conductance: Maximum daily, 13,200 micromhos July 10, 11, 1966; minimum daily, 236 micromhos Dec. 28, 1967.
Water temperatures: Maximum (1950-67), 37.0°C July 8, 1958, July 22, 1959, Aug. 5, 8, 1966; minimum (1950-65), 2.0°C Jan. 1, 1951.

REMARKS.--Samples from Enterprise Canal are believed to be representative of total flow passing Gillespie Dam, including spill into Gila River and flow diverted into Gila Bend Canal. Prior to October 1967, published as 09519500 Gila River below Gillsepie Dam, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
OCT.									
01...	18	34	330	111	--	1030	--	294	7
18...	10	27	270	109	--	846	--	270	0
21...	15	34	315	120	--	1140	--	300	8
NOV.									
01...	17	32	270	101	--	780	--	100	0
25...	19	33	280	127	--	970	--	316	0
DEC.									
01...	20	34	245	119	--	937	--	278	0
12...	7.0	30	230	124	--	772	--	260	0
24...	6.7	29	325	131	--	1120	--	333	0
JAN.									
03...	6.0	29	345	136	--	1190	--	337	0
15...	19	28	375	157	--	1380	--	365	6
FEB.									
08...	25	30	330	148	--	1240	--	349	0
MAR.									
04...	14	29	285	109	--	942	--	279	0
APR.									
01...	36	24	330	148	--	1090	--	328	0
02...	35	17	365	165	1400	--	7.7	266	0
MAY									
01...	16	22	315	144	--	1150	--	236	0
JUNE									
01...	13	31	295	130	--	1010	--	250	0
JULY									
01...	5.9	17	270	135	--	1140	--	163	0
24...	6.3	23	255	166	--	882	--	213	0
AUG.									
25...	16	15	270	116	--	1050	--	188	0
SEP.									
01...	17	26	265	109	--	924	--	269	0
14...	134	27	170	60	--	542	--	260	0
16...	61	30	250	108	--	903	--	284	0

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
01...	1040	1500	--	--	--	--	76	--	3200
18...	895	1250	--	--	--	--	53	--	2500
21...	1320	1500	--	--	--	--	20	--	3000
NOV.									
01...	840	1280	--	--	7.8	--	31	7.9	1900
25...	976	1420	--	--	--	--	76	--	2100
DEC.									
01...	844	1260	--	--	--	--	82	--	2300
12...	724	1130	--	--	--	--	66	--	2400
24...	1100	1550	--	.64	14	.00	60	2.9	3200
JAN.									
03...	1130	1660	--	--	--	--	66	--	3000
15...	1370	1880	--	.68	15	.00	62	.23	3900
FEB.									
08...	1180	1700	--	--	--	--	68	--	3400
MAR.									
04...	960	1390	--	.62	5.8	.00	23	2.6	3100
APR.									
01...	1160	1620	--	--	--	--	57	--	3100
02...	1450	2000	2.4	.40	9.8	.00	42	1.6	3900
MAY									
01...	1240	1670	--	.74	12	.00	50	1.6	3400
JUNE									
01...	1120	1450	--	.91	13	.00	54	2.1	3400
JULY									
01...	1210	1640	--	.49	3.8	.00	15	.75	3300
24...	992	1410	--	--	--	--	50	--	2700
AUG.									
25...	1090	1500	--	--	--	--	40	--	3300
SEP.									
01...	900	1360	--	--	--	--	53	--	2600
14...	472	795	--	--	--	--	28	--	1600
16...	708	1290	--	--	--	--	52	--	2400

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.								
01...	--	4270	5.81	1280	1030	12	6530	8.3
18...	--	3590	4.88	1120	898	11	5690	8.0
21...	--	4610	6.27	1280	1020	14	6580	8.3
NOV.								
01...	--	3400	4.62	1090	1010	10	5640	7.5
25...	--	4040	5.49	1220	962	12	6290	7.8
DEC.								
01...	--	3660	4.98	1100	872	12	5690	7.8
12...	--	3210	4.37	1080	872	10	5100	7.5
24...	--	4490	6.11	1350	1080	13	6930	8.0
JAN.								
03...	--	4720	6.42	1420	1140	14	7200	8.1
15...	--	5440	7.40	1580	1270	15	8160	8.3
FEB.								
08...	--	4870	6.62	1430	1140	14	7240	8.1
MAR.								
04...	--	3880	5.28	1160	932	12	6060	8.0
APR.								
01...	--	4590	6.24	1430	1160	13	7090	7.9
02...	5660	5590	7.70	1590	1370	15	8440	7.9
MAY								
01...	--	4710	6.41	1380	1190	13	7290	7.9
JUNE								
01...	--	4220	5.74	1270	1060	12	6520	7.9
JULY								
01...	--	4510	6.13	1230	1100	14	7020	7.7
24...	--	3890	5.29	1320	1150	11	6200	7.8
AUG.								
25...	--	4180	5.68	1150	996	13	6530	7.9
SEP.								
01...	--	3770	5.13	1110	890	--	5880	8.0
14...	--	2220	3.02	670	457	9.1	3480	7.9
16...	--	3650	4.96	1070	838	12	5620	8.0

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	ALDRIN (UG/L)	CHLOR-DANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)
OCT.							
13...	0915	.00	--	.01	.01	.01	.01
DEC.							
18...	1205	.00	--	.04	.02	.02	.00
JAN.							
22...	1030	.00	--	.02	.04	.02	.00
FEB.							
17...	1215	--	--	.02	.04	.01	.00
APR.							
01...	1200	.00	--	.02	.05	.01	.00
MAY							
04...	1345	.00	.0	.02	.03	.01	.00
JUNE							
03...	1140	.00	.0	.01	.04	.01	.00
JULY							
02...	1530	.00	.0	.01	.02	.00	.01
30...	1500	.00	.0	.01	.04	.00	.00
SEP.							
01...	1200	.00	.0	.00	.02	.00	.00

DATE	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
OCT.							
13...	.01	.00	.00	.02	.00	.01	.00
DEC.							
18...	.00	.00	.00	.02	.03	.00	.00
JAN.							
22...	.00	.00	.00	.01	.00	.00	.00
FEB.							
17...	.01	.00	.00	.02	.00	.00	.00
APR.							
01...	.00	.00	.00	.01	--	--	--
MAY							
04...	.00	.00	.00	.00	.00	.00	.00
JUNE							
03...	.00	.00	.00	.00	.00	.00	.00
JULY							
02...	.00	.00	.00	.00	.00	.00	.00
30...	.00	.00	.00	.00	.00	.00	.00
SEP.							
01...	.00	--	--	.00	.00	.00	.00

09520700 GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.

LOCATION.--Lat 32°42'45", long 114°33'09", in SW¼SE¼ sec.19, T.8 S., R.22 W., Yuma County, 0.5 mile upstream from mouth and 5 miles east of Yuma.

DRAINAGE AREA.--58,000 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Unpublished chemical analyses for water years 1962-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)
OCT.								
15...	22	156	83	520	312	620	680	--
21...	--	145	63	--	296	--	550	--
DEC.								
17...	20	162	70	487	280	500	708	--
JAN.								
16...	24	186	82	573	308	520	888	--
30...	--	150	62	--	292	--	565	--
FEB.								
16...	24	162	65	465	286	495	660	2150
MAR.								
20...	24	178	87	555	308	505	872	2540
APR.								
08...	23	230	108	647	348	540	1120	3180
22...	23	202	82	535	308	500	872	2610
MAY								
06...	22	154	67	436	262	495	622	2090
JUNE								
03...	22	151	64	470	306	535	606	2140
17...	21	173	73	515	288	505	772	2370
JULY								
01...	20	182	79	548	296	560	813	2540
15...	21	186	79	582	300	570	862	2720
30...	21	186	79	555	304	510	862	2710
AUG.								
12...	18	161	67	462	276	440	706	2220
26...	21	157	64	468	296	520	630	2160
SEP.								
09...	22	149	55	421	272	510	540	1970
24...	21	161	60	463	292	550	600	2130

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
15...	2240	3.05	730	474	8.4	3660	8.0
21...	--	--	620	378	--	3170	8.1
DEC.							
17...	2090	2.84	690	460	8.1	3380	8.0
JAN.							
16...	2430	3.30	800	548	8.8	4020	8.0
30...	--	--	630	390	--	3220	7.9
FEB.							
16...	2010	2.92	670	436	7.8	3410	7.9
MAR.							
20...	2380	3.45	800	548	8.5	4030	8.0
APR.							
08...	2840	4.32	1020	734	8.8	4960	7.9
22...	2370	3.55	840	588	8.0	4140	7.9
MAY							
06...	1930	2.84	660	445	7.4	3260	8.1
JUNE							
03...	2000	2.91	640	389	8.1	3330	8.1
17...	2200	3.22	730	494	8.3	3760	8.0
JULY							
01...	2350	3.45	780	538	8.5	3960	7.9
15...	2450	3.70	790	544	9.0	4140	8.0
30...	2360	3.69	790	540	8.6	4170	7.9
AUG.							
12...	1990	3.02	675	448	7.7	3490	8.0
26...	2010	2.94	655	412	8.0	3400	8.2
SEP.							
09...	1830	2.68	600	377	7.5	3080	8.2
24...	2000	2.90	650	410	7.9	3290	8.1

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.

LOCATION.--Lat 32°43'07", long 114°43'05", in NE¼SE¼ sec.21, T.8 S., R.24 W., Gila and Salt River meridian, Yuma County, Ariz., at northerly international boundary, 0.5 mile east of Andrade, 1.1 miles upstream from Morelos Dam, 1.1 miles downstream from Rockwood Gate, 20.7 miles upstream from southerly international boundary, and 21 miles downstream from Laguna Dam.
DRAINAGE AREA.--243,000 sq mi, approximately.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)
OCT.								
06...	12	105	43	170	200	380	178	--
07...	12	106	40	175	200	380	178	--
13...	12	106	40	177	192	390	178	--
20...	13	108	44	162	184	380	182	--
27...	11	102	43	170	188	380	178	--
NOV.								
03...	13	111	40	189	212	390	192	--
10...	14	97	38	174	188	360	178	--
12...	9.0	103	40	169	188	390	162	1060
17...	12	110	43	197	216	400	202	1210
24...	14	124	46	237	248	425	262	--
DEC.								
01...	13	116	46	208	212	415	232	1260
08...	13	111	40	210	208	410	212	1170
15...	12	121	46	221	200	425	258	--
22...	12	118	45	241	208	425	278	1320
29...	12	116	46	233	208	430	262	1300
JAN.								
05...	12	114	45	230	196	415	268	1290
12...	11	116	46	227	200	420	265	1270
19...	13	118	45	243	214	445	262	1340
26...	12	114	43	209	220	415	215	1200
FEB.								
02...	12	114	43	210	220	420	212	1200
09...	12	113	41	196	216	400	200	1180
16...	11	118	43	226	220	425	240	1270
24...	11	108	41	202	198	405	210	1150
MAR.								
02...	10	105	40	161	190	375	162	1010
04...	--	95	34	--	168	--	128	--
09...	11	110	43	188	206	390	202	1150
16...	13	113	43	217	204	420	232	1260
23...	12	113	41	204	196	405	222	1150
30...	10	114	40	208	198	410	222	1160
APR.								
06...	10	110	45	203	194	405	228	1190
13...	9.0	114	43	218	196	420	238	1210
20...	11	115	42	208	196	405	235	1230
27...	11	123	45	246	206	440	282	1340
MAY								
04...	11	114	44	198	204	430	200	1200
11...	12	122	43	221	220	435	232	1280
18...	12	118	48	209	208	430	232	1270
25...	12	121	42	224	214	435	237	1260
JUNE								
01...	12	119	46	220	218	440	232	1290
08...	13	116	45	230	216	445	238	1260
15...	12	118	45	241	208	445	262	1330
22...	11	115	48	237	208	435	268	1310
29...	12	116	46	238	208	435	265	1320
JULY								
06...	10	119	45	248	204	450	272	1340
13...	12	113	47	250	206	440	278	1340
20...	12	113	49	251	202	445	285	1360
27...	13	123	45	258	210	455	288	1370
AUG.								
03...	14	121	46	264	212	450	300	1420
10...	12	122	40	239	204	440	258	1260
17...	12	113	41	220	202	425	228	1230
24...	13	116	41	226	204	425	242	1270
31...	11	118	44	236	214	450	245	1270
SEP.								
08...	13	119	40	228	212	432	235	1260
14...	12	117	42	224	212	435	230	1260
21...	14	111	40	198	212	405	195	1060
28...	15	114	43	210	220	425	208	1200

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--Continued

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.
EXTREMES.--1969-70:
Specific conductance: Maximum, 2,230 micromhos Dec. 9; minimum, 1,360 micromhos Mar. 4.
REMARKS.--Unpublished chemical analyses for water years 1962-68 available in district office, Tucson Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AB-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
06...	988	1.34	440	276	3.5	1600	8.2
07...	991	1.35	430	266	3.7	1570	8.2
13...	999	1.36	430	272	3.7	1590	8.1
20...	981	1.33	450	299	3.3	1630	8.2
27...	978	1.33	430	276	3.6	1600	8.1
NOV.							
03...	1040	1.41	440	266	3.9	1650	8.1
10...	955	1.30	400	246	3.8	1510	8.1
12...	967	1.44	420	266	3.6	1520	8.2
17...	1070	1.65	450	273	4.0	1720	8.1
24...	1230	1.67	500	296	4.6	2010	8.1
DEC.							
01...	1140	1.71	480	306	4.1	1850	8.1
08...	1100	1.59	440	270	4.3	1730	8.1
15...	1180	1.60	490	326	4.3	1900	8.2
22...	1220	1.80	480	310	4.8	1960	8.2
29...	1200	1.77	480	310	4.6	1910	8.1
JAN.							
05...	1180	1.75	470	320	4.6	1910	8.0
12...	1180	1.73	480	316	4.5	1900	8.1
19...	1230	1.82	480	304	4.8	1950	8.1
26...	1120	1.63	460	280	2.0	1780	8.0
FEB.							
02...	1120	1.63	460	280	4.3	1780	8.1
09...	1070	1.60	450	273	4.0	1730	8.0
16...	1170	1.73	470	290	4.5	1900	8.1
24...	1080	1.56	440	278	4.2	1750	8.1
MAR.							
02...	948	1.37	425	269	3.4	1540	8.1
04...	--	--	375	237	--	1360	8.0
09...	1050	1.56	450	281	3.8	1710	8.1
16...	1140	1.71	460	292	4.4	1840	8.1
23...	1100	1.56	450	290	4.2	1760	8.1
30...	1100	1.58	450	288	4.3	1760	8.1
APR.							
06...	1100	1.62	460	301	4.1	1800	8.2
13...	1140	1.65	460	300	4.4	1850	8.2
20...	1110	1.67	460	300	4.2	1870	8.1
27...	1250	1.82	302	133	2.3	2020	8.1
MAY							
04...	1100	1.63	465	298	4.0	1800	8.1
11...	1180	1.74	480	300	4.4	1900	8.1
18...	1150	1.73	490	320	4.1	1890	8.2
25...	1180	1.71	475	300	4.5	1900	8.1
JUNE							
01...	1180	1 75	485	306	4.3	1910	8.2
08...	1200	1.71	475	298	4.6	1910	8.1
15...	1230	1.81	480	310	4.8	1990	8.2
22...	1220	1.78	485	314	4.7	2000	8.1
29...	1220	1.80	480	310	4.7	2000	8.1
JULY							
06...	1250	1.82	480	312	4.9	2030	8.1
13...	1240	1.82	475	306	5.0	2020	8.2
20...	1260	1.85	485	320	5.0	2060	8.2
27...	1290	1.86	490	318	5.1	2080	8.1
AUG.							
03...	1300	1.93	490	316	5.2	2120	8.2
10...	1210	1.71	470	302	4.8	1960	8.1
17...	1140	1.67	450	284	4.5	1860	8.1
24...	1160	1.73	460	292	4.6	1890	8.1
31...	1210	1.73	475	300	4.7	1930	8.1
SEP.							
08...	1170	1.71	460	286	.6	1910	8.1
14...	1170	1.71	465	291	4.5	1910	8.2
21...	1070	1.44	440	266	4.1	1700	8.2
28...	1120	1.63	460	280	4.3	1790	8.2

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1550	1620	1850	1690	1770	1660	1760	1740	1910	2030	1890	1920
2	1550	1600	1860	1970	1780	1540	1760	1760	1910	2030	1880	1880
3	1550	1650	1800	1890	1790	1400	1820	1780	1900	1950	2120	1880
4	1560	1640	1820	1860	1730	1360	1710	1800	1950	1960	2070	1910
5	1570	1630	1860	1910	1740	1560	1730	1840	1900	1960	2050	1800
6	1600	1560	1800	1850	1710	1630	1800	1860	1870	2030	2040	1810
7	1570	1580	1770	1860	1710	1830	1790	1820	1850	2020	1990	1840
8	1580	1560	1730	1850	1760	1660	1840	1830	1910	2020	1710	1910
9	1550	1550	2230	1890	1730	1710	1830	1820	1860	2030	1770	1930
10	1560	1510	2160	1890	1720	1940	1850	1840	1910	2000	1960	1890
11	1550	1620	2040	1880	1580	1920	1750	1900	1910	1910	1930	1880
12	1550	1520	1930	1900	1470	1920	1820	1840	2040	1930	1920	1740
13	1590	1580	1890	1890	1570	1870	1850	1900	1870	2020	1890	1880
14	1520	1630	1930	1890	1640	1760	1870	1840	1880	2030	1880	1910
15	1520	1630	1900	1860	1650	1860	1850	1930	1990	2000	1680	1820
16	1550	1590	1890	1870	1900	1840	1820	1800	1990	2020	1740	1700
17	1650	1720	1880	1890	1930	1840	1850	1800	2000	2010	1860	1720
18	1600	1860	1930	1870	1870	1820	1760	1890	2020	1910	1890	1740
19	1570	1870	1920	1950	1830	1760	1790	1890	2020	1870	1850	1730
20	1630	1960	1910	1900	1810	1750	1870	1890	1850	2060	1810	1710
21	1600	1930	1950	1820	1840	1720	1860	1870	1890	2050	1830	1700
22	1670	1930	1960	1800	1790	1720	1870	1860	2000	2050	1720	1740
23	1640	2070	1960	1790	1730	1760	1870	1830	1980	1970	1750	1760
24	1590	2010	1950	1770	1750	1740	1930	1840	1990	1990	1890	1770
25	1570	1910	2020	1760	1780	1740	1860	1900	1960	1850	1850	1770
26	1580	1990	1960	1780	1750	1740	1910	1910	1990	2000	1860	1760
27	1600	1950	2090	1780	1760	1740	2020	1890	1940	2080	1880	1770
28	1610	1940	1960	1780	1710	1650	1970	1800	1850	2050	1830	1790
29	1610	1910	1910	1740	---	1510	1770	1870	2000	2090	1640	1810
30	1610	1850	1930	1730	---	1760	1770	1880	1990	2090	1780	1780
31	1580	---	1930	1740	---	1760	---	1870	---	2010	1930	---
AVG	1580	1750	1930	1840	1740	1720	1830	1850	1940	2000	1870	1810

09522200 COLORADO RIVER AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.

LOCATION.--Lat 32°29'48", long 114°48'48", at gaging station in Mexico, 0.2 mile upstream from southerly international boundary, 2 miles west of San Luis, Ariz., 19.4 miles downstream from Morelos Dam, and 20.5 miles downstream from northerly international boundary.

DRAINAGE AREA.--243,000 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Unpublished chemical analyses for water years 1962-68 available in district office, Tucson Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180° C) (MG/L)
OCT.								
30...	--	250	121	--	324	--	1560	--
NOV.								
12...	19	202	94	739	304	750	1040	--
25...	--	270	128	--	350	--	1590	--
DEC.								
30...	26	274	121	1150	346	1010	1660	--
JAN.								
29...	21	258	130	1030	324	1000	1500	4320
FEB.								
27...	21	202	96	704	312	830	930	3140
MAR.								
31...	16	182	84	559	276	715	741	2620
APR.								
30...	21	230	104	772	302	900	1060	3440
MAY								
28...	20	194	96	691	278	840	908	3140
JUNE								
30...	20	214	96	806	284	850	1110	3480
AUG.								
04...	19	202	87	676	250	770	938	3030
28...	16	167	68	477	236	640	620	2260
SEP.								
30...	24	244	95	836	340	895	1140	3630

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
30...	--	--	1120	854	--	6770	8.0
NOV.							
12...	3000	4.08	890	640	11	4830	8.1
25...	--	--	1200	913	--	6840	7.9
DEC.							
30...	4410	6.00	1180	896	15	6980	7.8
JAN.							
29...	4100	5.88	1180	914	13	6770	7.7
FEB.							
27...	2940	4.27	900	644	10	4900	7.8
MAR.							
31...	2440	3.56	800	574	8.6	3990	8.0
APR.							
30...	3240	4.68	1000	752	11	5210	7.9
MAY							
28...	2890	4.27	880	652	10	4760	7.8
JUNE							
30...	3240	4.73	930	697	12	5260	7.9
AUG.							
04...	2820	4.12	860	655	10	4610	8.0
28...	2110	3.07	695	502	7.9	3450	8.0
SEP.							
30...	3400	4.94	1000	721	12	5560	7.9

09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, ARIZ.-CALIF.

LOCATION.--Lat 32°52'34", long 114°27'18", in SE¼SW¼ sec.30, T.6 S., R.21 W., Gila and Salt River meridian, Yuma County, Ariz., temperature recorder at gaging station 0.6 mile downstream from intake at east end of Imperial Dam.

PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1970 (partial records).
Water temperatures: January 1956 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 33.0°C Aug. 29-31; minimum, 10.0°C Jan. 29 to Feb. 6.

Period of record:
Water temperatures: Maximum, 33.0°C Aug. 29-31, 1970; minimum, 7.0°C Jan. 13-17, 1964.

REMARKS.--Temperature probe above water surface Nov. 21-27. Unpublished chemical analyses for water years 1965-67 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT. 22...	0950	1160	--	95	40	--	172	--	138
JAN. 14...	1100	826	9.0	95	37	156	172	385	133
JULY 15...	--	--	8.0	91	37	139	160	370	118

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT. 22...	--	--	--	400	259	--	1390	8.1	18.0
JAN. 14...	954	901	1.30	390	249	3.4	1380	8.1	11.0
JULY 15...	898	843	1.22	380	249	3.1	1350	8.1	--

09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, ARIZ.-CALIF.--Continued

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

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	27.0	27.0	19.0	19.0	14.0	14.0	12.0	12.0	10.0	10.0	14.0	14.0
2	27.0	27.0	19.0	19.0	15.0	14.0	12.0	12.0	10.0	10.0	14.0	14.0
3	27.0	26.0	19.0	19.0	16.0	15.0	12.0	12.0	10.0	10.0	14.0	14.0
4	26.0	23.0	19.0	19.0	16.0	16.0	12.0	12.0	11.0	10.0	14.0	14.0
5	23.0	22.0	19.0	19.0	16.0	16.0	12.0	12.0	11.0	10.0	14.0	14.0
6	22.0	21.0	19.0	19.0	16.0	15.0	12.0	12.0	11.0	10.0	14.0	14.0
7	21.0	21.0	19.0	19.0	15.0	15.0	12.0	12.0	12.0	11.0	15.0	14.0
8	22.0	21.0	19.0	19.0	14.0	13.0	12.0	12.0	12.0	12.0	15.0	15.0
9	22.0	21.0	19.0	19.0	14.0	13.0	12.0	11.0	12.0	12.0	16.0	15.0
10	23.0	22.0	19.0	18.0	13.0	13.0	12.0	11.0	12.0	12.0	16.0	15.0
11	23.0	21.0	19.0	18.0	13.0	12.0	11.0	11.0	13.0	12.0	15.0	14.0
12	22.0	21.0	19.0	19.0	13.0	12.0	11.0	11.0	14.0	13.0	15.0	15.0
13	21.0	20.0	20.0	19.0	12.0	12.0	12.0	11.0	14.0	14.0	16.0	15.0
14	20.0	20.0	19.0	19.0	12.0	12.0	12.0	12.0	14.0	14.0	16.0	15.0
15	21.0	20.0	19.0	19.0	12.0	12.0	12.0	11.0	14.0	14.0	17.0	16.0
16	22.0	21.0	19.0	18.0	12.0	12.0	12.0	11.0	15.0	14.0	17.0	16.0
17	22.0	21.0	19.0	18.0	12.0	12.0	13.0	12.0	14.0	14.0	16.0	16.0
18	22.0	20.0	18.0	17.0	12.0	11.0	13.0	13.0	14.0	13.0	16.0	15.0
19	21.0	20.0	17.0	15.0	12.0	12.0	13.0	13.0	13.0	12.0	16.0	15.0
20	20.0	19.0	15.0	15.0	12.0	12.0	13.0	13.0	12.0	11.0	15.0	15.0
21	20.0	19.0	---	---	12.0	12.0	13.0	13.0	12.0	11.0	15.0	15.0
22	19.0	18.0	---	---	13.0	12.0	13.0	13.0	12.0	11.0	16.0	15.0
23	19.0	19.0	---	---	13.0	13.0	13.0	12.0	12.0	12.0	16.0	15.0
24	20.0	19.0	---	---	13.0	12.0	13.0	12.0	12.0	12.0	17.0	16.0
25	21.0	20.0	---	---	12.0	11.0	13.0	12.0	12.0	12.0	17.0	17.0
26	21.0	20.0	---	---	15.0	12.0	13.0	12.0	13.0	12.0	17.0	17.0
27	21.0	21.0	---	---	15.0	15.0	13.0	12.0	13.0	13.0	17.0	16.0
28	21.0	21.0	14.0	14.0	15.0	13.0	12.0	12.0	14.0	13.0	16.0	15.0
29	21.0	20.0	14.0	14.0	13.0	12.0	12.0	10.0	---	---	16.0	16.0
30	20.0	19.0	14.0	14.0	12.0	12.0	10.0	10.0	---	---	16.0	16.0
31	20.0	19.0	---	---	12.0	12.0	10.0	10.0	---	---	16.0	16.0
MONTH	27.0	18.0	---	---	16.0	11.0	13.0	10.0	15.0	10.0	17.0	14.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	16.0	19.0	18.0	27.0	26.0	28.0	27.0	30.0	29.0	32.0	32.0
2	16.0	16.0	20.0	19.0	27.0	26.0	28.0	27.0	31.0	30.0	32.0	31.0
3	17.0	16.0	21.0	20.0	27.0	27.0	29.0	28.0	31.0	29.0	31.0	31.0
4	17.0	16.0	21.0	20.0	27.0	27.0	30.0	29.0	29.0	29.0	31.0	31.0
5	17.0	16.0	22.0	21.0	27.0	27.0	31.0	30.0	30.0	29.0	31.0	30.0
6	17.0	17.0	22.0	21.0	27.0	27.0	31.0	30.0	31.0	29.0	30.0	28.0
7	17.0	17.0	22.0	21.0	27.0	27.0	31.0	29.0	32.0	31.0	28.0	27.0
8	18.0	17.0	22.0	21.0	27.0	27.0	30.0	29.0	32.0	31.0	29.0	28.0
9	18.0	18.0	23.0	22.0	27.0	26.0	29.0	28.0	32.0	31.0	29.0	28.0
10	20.0	18.0	23.0	22.0	26.0	25.0	29.0	29.0	32.0	31.0	31.0	29.0
11	21.0	19.0	23.0	22.0	26.0	24.0	29.0	29.0	31.0	31.0	31.0	31.0
12	21.0	19.0	23.0	22.0	26.0	25.0	30.0	29.0	31.0	30.0	31.0	31.0
13	20.0	19.0	23.0	23.0	25.0	24.0	30.0	29.0	31.0	31.0	31.0	29.0
14	19.0	18.0	24.0	23.0	24.0	24.0	30.0	29.0	32.0	31.0	29.0	28.0
15	18.0	17.0	24.0	23.0	24.0	24.0	30.0	29.0	31.0	31.0	28.0	27.0
16	18.0	18.0	24.0	23.0	25.0	24.0	30.0	29.0	31.0	31.0	27.0	26.0
17	18.0	18.0	25.0	24.0	26.0	25.0	30.0	29.0	31.0	30.0	27.0	26.0
18	18.0	18.0	26.0	25.0	27.0	26.0	31.0	30.0	31.0	31.0	27.0	26.0
19	19.0	18.0	26.0	25.0	28.0	27.0	31.0	30.0	31.0	31.0	27.0	27.0
20	19.0	19.0	26.0	25.0	28.0	27.0	31.0	29.0	31.0	31.0	27.0	26.0
21	19.0	18.0	25.0	24.0	28.0	28.0	29.0	29.0	32.0	31.0	27.0	26.0
22	18.0	18.0	25.0	24.0	28.0	28.0	29.0	29.0	32.0	31.0	26.0	26.0
23	18.0	18.0	25.0	24.0	28.0	28.0	30.0	29.0	32.0	31.0	26.0	26.0
24	19.0	18.0	25.0	24.0	29.0	28.0	30.0	29.0	32.0	32.0	26.0	26.0
25	20.0	19.0	25.0	24.0	29.0	29.0	31.0	29.0	32.0	32.0	26.0	24.0
26	21.0	20.0	24.0	24.0	29.0	29.0	31.0	29.0	32.0	31.0	24.0	23.0
27	20.0	19.0	24.0	23.0	29.0	29.0	31.0	29.0	31.0	31.0	23.0	23.0
28	19.0	18.0	24.0	23.0	29.0	29.0	30.0	29.0	32.0	31.0	23.0	23.0
29	18.0	18.0	24.0	23.0	29.0	28.0	31.0	29.0	33.0	32.0	24.0	23.0
30	18.0	18.0	25.0	24.0	28.0	27.0	31.0	29.0	33.0	32.0	25.0	24.0
31	---	---	26.0	24.0	---	---	31.0	30.0	33.0	32.0	---	---
MONTH	21.0	16.0	26.0	18.0	29.0	24.0	31.0	27.0	33.0	29.0	32.0	23.0

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09523000 ALL-AMERICAN CANAL NEAR IMPERIAL DAM, ARIZ.-CALIF

LOCATION.--Lat 32°52'17", long 114°28'47", in SE¼NW¼ sec.17, T.15 S., R.24 E., San Bernardino meridian in California, Imperial County, at gaging station on left bank, 6,000 ft downstream from intake at west end of Imperial Dam and 13.7 miles upstream from turnout to Yuma Main Canal.

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	AMMONIA (NH4) (MG/L)	NITRATE (NO3) (MG/L)
OCT.								
22...	1355	5000	19.0	.31	--	--	.02	1.2
NOV.								
19...	1600	1670	15.0	.00	--	--	--	1.2
DEC.								
17...	1345	4600	13.0	.24	--	--	.18	1.9
JAN.								
14...	1200	5140	11.0	--	--	--	--	--
20...	1300	3870	13.6	.27	--	.27	.00	1.8
FEB.								
18...	1030	4450	15.5	.76	--	.86	.13	2.4
MAR.								
17...	1115	8490	17.5	.31	--	.55	.31	2.5
APR.								
22...	1145	8400	18.0	.14	--	.41	.35	1.9
MAY								
19...	1100	7600	25.0	.72	1.1	.74	.03	1.7
JUNE								
16...	1115	6950	25.0	.51	.96	.54	.04	1.8
JULY								
29...	1115	7610	28.5	.66	.94	.66	.00	1.2
AUG.								
13...	1115	7800	39.0	.54	--	.57	.04	1.3
SEP.								
16...	1045	5590	31.0	.36	--	.39	.04	1.0

DATE	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.							
22...	.17	.00	.04	896	1.22	12100	1360
NOV.							
19...	.19	.05	.08	1120	1.52	5050	1700
DEC.							
17...	.20	.04	.08	944	1.28	11700	1420
JAN.							
14...	--	--	--	952	1.29	13200	1360
20...	.09	.04	.04	938	1.28	9800	1400
FEB.							
18...	.17	.05	.06	1000	1.36	12000	1470
MAR.							
17...	.49	.04	.11	--	--	--	--
APR.							
22...	.34	.07	.08	868	1.18	19700	1320
MAY							
19...	.70	.07	.33	902	1.23	18500	1340
JUNE							
16...	.07	.05	.07	904	1.23	17000	1380
JULY							
29...	.05	.03	.05	908	1.23	18700	1340
AUG.							
13...	.09	.01	.01	886	1.20	18700	1330
SEP.							
16...	.08	.01	.01	912	1.24	13800	1360

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)
OCT.												
22...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	--
NOV.												
19...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	--
JAN.												
20...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	--
FEB.												
18...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	--
MAR.												
17...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	--
APR.												
22...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	--
MAY												
19...	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
JUNE												
16...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

09525500 YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.
(Irrigation network, pesticide, and radiochemical station)

LOCATION.--Lat 32°43'39", long 114°37'13", in NW¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, Yuma County, at gaging station at Colorado River siphon outlet on Arizona side of river, 0.2 mile upstream from bridge on U.S. Highway 80 over Colorado River at Yuma, 0.3 mile west of old Yuma Territorial Prison, and 3.5 miles downstream from siphon-drop powerplant.

PERIOD OF RECORD.--Chemical analyses: September 1926 to September 1928, October 1942 to September 1970 (discontinued).
Water temperatures: May 1961 to September 1970 (discontinued).

EXTREMES.--1969-70:
Dissolved solids: Maximum, 1,090 mg/l Nov. 20-26; minimum, 867 mg/l Apr. 1-30.
Hardness: Maximum, 440 mg/l Nov. 20-26; minimum, 368 mg/l July 1-31, Aug. 1-31.
Specific conductance: Maximum daily, 1,740 micromhos Nov. 25; minimum daily, 1,260 micromhos Aug. 20.
Water temperatures: Maximum, 31.0°C on several days during August and September; minimum, 6.0°C Jan. 7

Period of record (1943-70):
Dissolved solids: Maximum, 1,090 mg/l Nov. 20-26, 1969; minimum, 532 mg/l Jan. 1-10, 1953.
Hardness: Maximum, 520 mg/l July 7, 1962; minimum, 260 mg/l Jan. 1-10, 1953.
Specific conductance: Maximum daily, 1,740 micromhos Nov. 25, 1969; minimum daily, 795 micromhos Jan. 5, 1953.
Water temperatures (1961-70): Maximum, 32.0°C Aug. 21, 1961; minimum, 5.0°C Jan. 15, 1963.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED SODIUM PLUS POTASSIUM (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
OCT.									
01-31	415	14	119	20	--	152	--	176	0
NOV.									
01-16	187	15	94	37	--	163	--	181	0
20-26	146	16	108	41	--	208	--	223	0
27-30	202	15	101	44	--	177	--	201	0
DEC.									
01-31	158	15	98	37	--	171	--	184	4
JAN.									
01-31	254	14	94	39	--	156	--	181	2
FEB.									
01-28	424	13	98	36	--	164	--	193	3
MAR.									
01-31	357	11	105	30	--	151	--	180	4
APR.									
01-30	564	9.5	100	32	140	--	4.4	174	0
MAY									
01-31	598	9.8	100	32	--	155	--	170	0
JUNE									
01-30	519	10	100	31	--	160	--	161	2
JULY									
01-31	561	11	95	32	--	155	--	159	0
AUG.									
01-31	441	12	100	29	--	152	--	150	2
SEP.									
01-30	508	11	100	32	--	161	--	163	4
WTD. AVG.	--	12	101	32	--	157	--	171	2
TIME WTD. AVG.	416	12	101	32	--	159	--	173	2
TOT. LOAD (TONS)	--	4680	41000	12800	--	56900	--	69400	634

09525500 YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P04) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT.									
01-31	356	139	--	1.4	1.7	--	1.4	.02	--
NOV.									
01-16	363	152	--	.26	.71	.16	1.3	.04	--
20-26	410	200	--	--	--	--	1.2	--	--
27-30	390	175	--	--	--	--	1.3	--	--
DEC.									
01-31	373	157	--	.39	.84	.13	1.4	.01	--
JAN.									
01-31	364	144	--	.42	.84	.09	1.5	.03	--
FEB.									
01-28	366	144	--	.47	1.0	.21	1.6	.02	--
MAR.									
01-31	352	132	--	3.0	5.0	.00	9.0	.06	--
APR.									
01-30	362	130	.5	.66	1.0	.00	1.7	.05	230
MAY									
01-31	368	137	--	.54	.86	.00	1.4	.07	230
JUNE									
01-30	371	142	--	.50	.86	.00	1.6	.03	230
JULY									
01-31	365	137	--	.35	.69	.00	1.5	.05	210
AUG.									
01-31	365	136	--	.45	.79	.00	1.5	.03	220
SEP.									
01-30	372	142	--	.60	.89	.00	1.3	.05	220
WTD. AVG.	365	139	--	.76	1.2	.03	2.0	.04	--
TIME WTD. AVG.	366	142	--	.78	1.3	.05	2.1	.04	--
TOT. LOAD (TONS)	149000	56700	--	305	498	12	830	17	--

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.									
01-31	950	895	1.29	1060	380	236	3.4	1380	8.2
NOV.									
01-16	956	916	1.30	483	388	240	3.6	1440	8.1
20-26	--	1090	1.48	430	440	258	4.3	1710	8.1
27-30	--	1000	1.36	545	434	270	3.7	1560	8.2
DEC.									
01-31	998	949	1.36	426	396	238	3.7	1470	8.3
JAN.									
01-31	962	906	1.31	660	396	244	3.4	1400	8.3
FEB.									
01-28	936	923	1.27	1070	392	229	3.6	1400	8.3
MAR.									
01-31	916	896	1.25	883	386	232	3.3	1350	8.3
APR.									
01-30	870	867	1.18	1330	380	238	3.1	1330	8.1
MAY									
01-31	854	888	1.16	1380	380	240	3.5	1360	8.2
JUNE									
01-30	914	898	1.24	1280	376	240	3.6	1380	8.3
JULY									
01-31	972	875	1.32	1470	368	238	3.5	1350	8.2
AUG.									
01-31	914	873	1.24	1090	368	242	3.4	1340	8.3
SEP.									
01-30	882	904	1.20	1210	380	240	3.6	1390	8.4
WTD. AVG.	916	895	1.25		381	238	3.5	1370	8.2
TIME WTD. AVG.	926	903	1.26	--	384	239	3.5	1390	8.3
TOT. LOAD (TONS)	368000	364000	--	--	--	--	--	--	--

09525500 YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	ALDRIN (UG/L)	CHLOR-DANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)
OCT.							
07...	1030	.00	--	.00	.00	.00	.00
NOV.							
04...	1115	.00	--	.00	.00	.00	.00
DEC.							
02...	1100	.00	--	.00	.00	.00	.00
JAN.							
06...	1100	.00	--	.00	.00	.00	.00
FEB.							
03...	1115	.00	--	.00	.00	.00	.00
MAR.							
03...	0930	.00	--	.00	.00	.00	.00
APR.							
07...	1100	.00	--	.00	.00	.00	.00
MAY							
05...	1030	.00	.0	.00	.00	.00	.00
JUNE							
02...	1045	.00	.0	.00	.00	.00	.00
JULY							
07...	0930	.00	.0	.00	.00	.00	.00
AUG.							
04...	1000	.00	.0	.00	.00	.00	.00
SEP.							
01...	1330	.00	.0	.00	.00	.00	.00

DATE	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
OCT.							
07...	.00	.00	.00	.00	.00	.00	.00
NOV.							
04...	.00	.00	.00	.00	.00	.00	.00
DEC.							
02...	.00	.00	.00	.00	.00	.00	.00
JAN.							
06...	.00	.00	.00	.00	.00	.00	.00
FEB.							
03...	.00	.00	.00	.00	.00	.00	.00
MAR.							
03...	.00	.00	.00	.00	.00	.00	.00
APR.							
07...	.00	.00	.00	.00	.00	.00	.00
MAY							
05...	.00	.00	.00	.00	.00	.00	.00
JUNE							
02...	.00	.00	.00	.00	.00	.00	.00
JULY							
07...	.00	.00	.00	.00	.00	.00	.00
AUG.							
04...	.00	.00	.00	.00	.00	.00	.00
SEP.							
01...	.00	.00	.00	.00	.00	.00	.00

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED NATURAL URANIUM (U) (UG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)
JAN.												
06...	8.8	<.1	26	<.4	15	.6	12	.6	.15	5.9	970	2
JULY												
07...	6.7	.4	20	1.2	12	2.7	9.4	2.4	.24	5.5	940	20

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09525500 YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1360	1430	1480	1450	1430	1320	1290	1330	1410	1330	1370	1370
2	1350	1460	1500	1450	1480	1300	1300	1320	1410	1330	1390	1380
3	1360	1480	1490	1450	1480	1290	1300	1350	1380	1320	1340	1350
4	1360	1490	1490	1380	1420	1310	1330	1390	1370	1330	1350	1410
5	1350	1450	1480	1380	1410	1290	1330	1340	1370	1320	1310	1420
6	1370	1430	1470	1390	1380	1340	1320	1350	1450	1330	1280	1420
7	1370	1440	1460	1360	1360	1400	1320	1320	1400	1320	1330	1440
8	1370	1410	1520	1360	1380	1420	1320	1350	1440	1310	1340	1410
9	1380	1430	1640	1350	1380	1490	1310	1360	1380	1360	1340	1420
10	1350	1420	1630	1360	1370	1490	1310	1370	1350	1320	1370	1410
11	1350	1430	1520	1360	1390	1500	1320	1430	1360	1360	1380	1400
12	1360	1430	1470	1380	1370	1480	1340	1360	1370	1390	1380	1360
13	1380	1460	1440	1380	1350	1350	1320	1340	1370	1340	1330	1400
14	1350	1440	1450	1390	1370	1340	1330	1320	1390	1340	1350	1410
15	1350	1430	1480	1380	1430	1360	1320	1340	1360	1350	1390	1430
16	1370	---	1470	1360	1530	1330	1320	1330	1360	1340	1340	1400
17	1380	---	---	1380	1600	1430	1340	1340	1380	1330	1350	1410
18	1390	---	1410	1390	1630	1340	1360	1350	1360	1360	1350	1350
19	1400	---	1430	1400	1490	1310	1360	1330	1380	1360	1300	1370
20	1420	1710	1520	1470	1430	1320	1360	1290	1400	1370	1260	1400
21	1390	1710	1450	1440	1360	1330	1360	1340	1400	1330	1320	1410
22	1380	1690	1440	1490	1340	1310	1350	1330	1380	1320	1370	1400
23	1370	1710	1450	1470	---	---	1350	1370	1350	1340	1370	1400
24	1370	1730	1430	1450	---	---	1360	1410	1390	1350	---	1390
25	1400	1740	1460	1450	---	1310	1360	1400	1360	1400	---	1370
26	1440	1700	1480	1460	1310	1310	1370	1400	1370	1400	---	1400
27	1460	1610	1530	---	1320	1330	---	1400	1390	1370	1320	1420
28	1460	1570	1600	---	1310	1320	---	1380	1410	1350	1340	1410
29	1440	1580	1460	1440	---	1330	---	1410	1400	1380	1300	1400
30	1410	1480	1440	1430	---	1340	1360	1430	1380	1370	1370	1400
31	1420	---	1460	1420	---	1310	---	1450	---	1360	1460	---
AVG	1380	1530	1490	1410	1410	1360	1330	1360	1380	1350	1350	1400

09525500 YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.0	18.0	13.0	9.0	10.0	16.0	16.0	18.0	25.0	27.0	29.0	31.0
2	26.0	18.0	14.0	8.0	11.0	14.0	16.0	19.0	26.0	27.0	30.0	31.0
3	26.0	18.0	14.0	8.0	10.0	14.0	16.0	19.0	26.0	28.0	30.0	30.0
4	23.0	18.0	14.0	8.0	11.0	14.0	16.0	20.0	26.0	29.0	29.0	30.0
5	21.0	18.0	14.0	8.0	11.0	14.0	16.0	21.0	26.0	29.0	29.0	29.0
6	21.0	18.0	14.0	8.0	11.0	13.0	17.0	21.0	26.0	29.0	30.0	28.0
7	20.0	18.0	14.0	6.0	12.0	14.0	17.0	21.0	27.0	29.0	30.0	27.0
8	17.0	18.0	13.0	7.0	12.0	15.0	17.0	21.0	27.0	29.0	31.0	27.0
9	18.0	18.0	13.0	7.0	13.0	15.0	18.0	21.0	27.0	29.0	31.0	28.0
10	20.0	18.0	13.0	8.0	14.0	16.0	19.0	22.0	26.0	29.0	31.0	28.0
11	22.0	18.0	12.0	9.0	14.0	15.0	19.0	22.0	25.0	28.0	31.0	29.0
12	20.0	18.0	13.0	10.0	14.0	15.0	19.0	22.0	25.0	28.0	31.0	30.0
13	19.0	18.0	13.0	10.0	14.0	13.0	19.0	22.0	24.0	29.0	31.0	29.0
14	19.0	18.0	12.0	11.0	15.0	16.0	19.0	23.0	23.0	29.0	31.0	30.0
15	19.0	18.0	12.0	11.0	15.0	14.0	18.0	23.0	23.0	29.0	30.0	27.0
16	20.0	---	12.0	12.0	15.0	16.0	18.0	23.0	24.0	29.0	30.0	24.0
17	21.0	---	---	12.0	15.0	17.0	17.0	23.0	24.0	29.0	30.0	26.0
18	20.0	---	12.0	12.0	16.0	17.0	17.0	24.0	25.0	29.0	31.0	25.0
19	19.0	---	12.0	12.0	14.0	16.0	17.0	25.0	26.0	29.0	30.0	26.0
20	18.0	13.0	12.0	12.0	13.0	15.0	18.0	24.0	27.0	29.0	30.0	24.0
21	18.0	13.0	13.0	12.0	13.0	14.0	18.0	24.0	27.0	29.0	30.0	25.0
22	18.0	13.0	13.0	13.0	13.0	16.0	17.0	24.0	28.0	29.0	30.0	27.0
23	18.0	13.0	13.0	12.0	---	---	17.0	24.0	27.0	29.0	30.0	24.0
24	18.0	13.0	13.0	12.0	---	---	18.0	24.0	27.0	29.0	---	24.0
25	18.0	13.0	13.0	12.0	---	17.0	18.0	24.0	28.0	29.0	---	24.0
26	19.0	14.0	13.0	12.0	14.0	18.0	19.0	24.0	28.0	29.0	---	22.0
27	19.0	14.0	13.0	---	14.0	18.0	---	24.0	28.0	29.0	29.0	25.0
28	20.0	13.0	13.0	---	14.0	16.0	---	24.0	28.0	29.0	30.0	23.0
29	21.0	13.0	11.0	11.0	---	16.0	---	24.0	28.0	29.0	30.0	21.0
30	19.0	13.0	10.0	10.0	---	16.0	17.0	24.0	27.0	29.0	31.0	22.0
31	18.0	---	9.0	11.0	---	16.0	---	24.0	---	29.0	31.0	---
AVG	20.0	16.0	12.5	10.0	13.0	15.5	17.5	22.5	26.0	29.0	30.0	26.5

09529160 SOUTH GILA PUMP OUTLET CHANNEL NO. 3 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°43'04", long 114°30'12", in NW¼SE¼ sec.22, T.8 S., R.22 W., Yuma County, at gaging station 0.5 mile upstream from outlet to Gila River and 6 miles east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--No flow for many days of most months. Unpublished miscellaneous chemical analyses for water years 1965-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
FEB.									
25...	1240	38	--	234	118	--	364	--	1280
MAR.									
31...	--	--	21	166	77	393	304	300	725
APR.									
27...	0930	46	22	262	118	727	354	520	1340
JUNE									
26...	--	--	20	256	98	600	256	370	1240
SEP.									
25...	0915	1.4	10	103	35	158	170	390	141

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
FEB.									
25...	--	--	--	1070	772	--	5350	7.7	22.0
MAR.									
31...	2030	1830	2.76	730	480	6.3	3310	7.9	21.0
APR.									
27...	3490	3170	4.75	1140	850	9.4	5570	7.8	22.0
JUNE									
26...	3060	2710	4.16	1040	830	8.1	4990	7.9	--
SEP.									
25...	992	922	1.35	400	260	3.4	1450	8.3	21.0

09529240 SOUTH GILA PUMP OUTLET CHANNEL NO. 2 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°42'31", long 114°31'45", in NW¼SW¼ sec.28, T.8 S., R.22 W., Yuma County, at gaging station 0.6 mile upstream from outlet to Gila River and 4 miles east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--No flow Oct. 1-3, 5-15, May 10 to June 11, Aug. 29 to Sept. 29. Unpublished miscellaneous chemical analyses for water years 1965-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
17...	0935	--	--	111	49	--	292	--	388
DEC.									
18...	1445	--	23	146	69	441	264	465	645
FEB.									
16...	1120	--	23	153	65	448	276	455	655
MAR.									
17...	1145	41	25	153	65	470	274	450	695
APR.									
20...	1035	41	21	158	65	463	272	460	685
JUNE									
15...	--	--	22	148	58	446	276	455	625
JULY									
27...	--	--	20	151	67	477	280	460	695
AUG.									
21...	--	--	23	145	58	439	276	470	595

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
17...	--	--	--	480	240	--	2600	7.7	--
DEC.									
18...	--	1920	2.61	650	434	7.5	3160	7.9	23.0
FEB.									
16...	2060	1940	2.80	650	424	7.6	3320	7.8	24.0
MAR.									
17...	2120	2000	2.88	650	426	8.0	3430	7.9	24.0
APR.									
20...	2170	1990	2.95	660	437	7.8	3460	7.9	23.0
JUNE									
15...	2040	1890	2.77	610	384	7.9	3270	7.8	--
JULY									
27...	2160	2010	2.94	650	420	8.1	3440	8.0	24.0
AUG.									
21...	2010	1870	2.73	600	374	7.8	3180	8.1	24.0

09529300 WELLTON-MOHAWK MAIN OUTLET DRAIN NEAR YUMA, ARIZ.

LOCATION.--Lat 32°44'35", long 114°26'02", in NW¼NE¼ sec.17, T.8 S., R.21 W., Yuma County, at gaging station 8 miles upstream from outlet to Gila River and 11 miles east of Yuma.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.	--							
06...	--	22	310	133	1180	420	1050	1740
13...	--	--	294	143	--	408	--	1810
20...	--	--	298	128	--	376	--	1900
27...		--	290	143	--	396	--	1860
NOV.	--							
03...	--	27	302	123	1250	396	1080	1790
10...	--	--	282	126	--	392	--	1760
17...	--	--	298	130	--	410	--	1840
24...	--	--	294	128	--	420	--	1690
DEC.								
01...	--	25	302	128	1160	404	1040	1700
08...	--	24	262	152	1210	412	1040	1760
15...	--	--	274	165	--	406	--	1760
22...	--	--	298	133	--	404	--	1710
29...		--	294	128	--	404	--	1690
JAN.	--							
05...	--	24	298	121	1160	394	1010	1690
12...	--	--	298	126	--	400	--	1690
19...	--	--	306	126	--	410	--	1690
26...		--	290	130	--	408	--	1610
FEB.								
02...	0305	24	298	130	1140	416	1060	1640
09...	0540	22	286	133	1110	414	1030	1610
16...	0230	24	210	94	679	372	797	888
23...	0235	24	234	91	752	388	850	988
MAR.								
02...	--	23	214	108	733	380	840	985
09...	0200	23	222	108	758	388	870	1010
16...	0415	24	238	108	848	352	950	1140
23...	--	24	238	91	793	382	880	1040
30...	--	23	238	99	793	384	880	1060
APR.								
06...	0115	23	238	113	897	384	950	1210
13...	--	23	266	106	904	380	940	1260
20...	0140	22	254	113	892	382	940	1240
27...	--	23	266	111	948	380	970	1320
MAY								
03...	0215	21	230	94	737	348	850	988
11...	0230	22	224	93	762	376	860	988
18...	0430	24	230	99	728	380	860	962
25...	--	23	234	94	770	384	870	1010
JUNE								
01...	--	24	230	104	737	384	860	988
08...	0330	22	238	94	755	382	880	988
15...	--	23	250	116	880	388	910	1240
22...	1340	23	242	111	898	388	950	1210
29...	--	23	250	108	902	392	910	1250
JULY								
06...	--	21	246	113	947	384	940	1310
13...	--	24	218	106	911	252	940	1260
20...	1325	25	226	108	897	308	963	1210
27...	0235	24	254	113	915	332	960	1290
AUG.								
03...	--	24	250	111	943	376	950	1300
10...	--	24	254	89	788	390	890	1040
17...	0305	23	246	94	765	376	840	1050
24...	--	24	260	95	748	386	850	1040
31...	--	21	242	96	734	388	850	988
SEP.								
07...	--	24	222	79	702	366	820	888
14...	--	24	226	79	726	384	850	900
21...	--	25	262	99	838	404	880	1160
28...	0135	23	260	100	871	400	910	1190

09529300 WELLTON-MOHAWK MAIN OUTLET DRAIN NEAR YUMA, ARIZ.--Continued

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.
REMARKS.--Unpublished chemical analyses for water years 1961-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.								
06...	--	4640	6.31	1320	976	14	7250	8.0
13...	--	--	--	1320	986	--	7420	8.0
20...	--	--	--	1270	962	--	7670	8.0
27...	--	--	--	1310	986	--	7850	8.1
NOV.								
03...	--	4770	6.49	1260	936	15	7570	8.1
10...	--	--	--	1220	898	--	7310	8.0
17...	--	--	--	1280	944	--	7440	8.0
24...	--	--	--	1260	916	--	7260	8.1
DEC.								
01...	--	4560	6.20	1280	948	14	7300	8.0
08...	--	4650	6.32	1280	942	15	7380	8.0
15...	--	--	--	1360	1030	--	7410	8.0
22...	--	--	--	1290	958	--	7290	8.1
29...	--	--	--	1260	928	--	7270	8.2
JAN.								
05...	--	4500	6.12	1240	917	14	7220	8.0
12...	--	--	--	1260	932	--	7220	8.0
19...	--	--	--	1280	944	--	7240	8.0
26...	--	--	--	1260	926	--	6990	8.1
FEB.								
02...	4910	4500	6.68	1280	939	14	7340	8.0
09...	4840	4400	6.58	1260	920	14	7250	8.0
16...	3170	2880	4.31	910	605	9.8	4790	8.1
23...	3420	3130	4.65	960	642	11	5110	8.0
MAR.								
02...	3280	3090	4.46	980	668	10	5060	8.0
09...	3430	3180	4.66	1000	682	10	5180	8.0
16...	3610	3480	4.91	1040	752	11	5520	8.0
23...	3500	3260	4.76	970	657	11	5350	7.9
30...	3510	3280	4.77	1000	685	11	5320	8.2
APR.								
06...	3910	3620	5.32	1060	745	12	5900	8.1
13...	4000	3690	5.44	1100	788	12	6080	7.9
20...	3910	3650	5.32	1100	787	12	5920	8.0
27...	4040	3830	5.49	1120	808	12	6130	7.9
MAY								
03...	3340	3090	4.54	960	674	10	5060	7.9
11...	3340	3140	4.54	940	632	11	5010	8.1
18...	3340	3090	4.54	980	668	10	5010	8.1
25...	3380	3190	4.60	970	655	11	5090	8.0
JUNE								
01...	3430	3140	4.66	1000	685	10	5130	8.1
08...	3390	3170	4.61	980	667	11	5120	8.1
15...	3930	3610	5.34	1100	782	12	5970	8.0
22...	3910	3630	5.32	1060	742	12	5890	8.0
29...	3920	3640	5.33	1070	748	12	5960	8.1
JULY								
06...	3960	3770	5.39	1080	765	13	6010	8.0
13...	4000	3580	5.44	980	774	13	5920	7.9
20...	3990	3580	5.43	1010	758	12	5940	7.9
27...	3940	3720	5.36	1100	778	12	6020	7.9
AUG.								
03...	4010	3770	5.45	1080	772	13	6140	7.9
10...	3560	3280	4.84	1000	680	11	5360	8.0
17...	3480	3210	4.73	1000	692	11	5270	8.0
24...	--	3210	4.37	1040	724	10	5270	7.9
31...	3380	3120	4.60	1000	682	10	5150	8.1
SEP.								
07...	3190	2920	4.34	880	580	10	4780	7.9
14...	3180	3000	4.32	890	575	11	4820	8.1
21...	3740	3470	5.09	1060	728	11	5660	8.0
28...	3880	3550	5.28	1060	732	12	5760	8.1

09529360 SOUTH GILA PUMP OUTLET CHANNEL NO. 1 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°42'24", long 114°33'19", in SW¼NE¼ sec.30, T.8 S., R.22 W., Yuma County, at gaging station 0.2 mile upstream from outlet to Gila River and 4 miles east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--No flow May 5-7. Unpublished miscellaneous chemical analyses for water years 1966-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
09...	--	--	22	138	55	439	292	455	575
17...	1100	--	--	138	62	--	280	--	555
DEC.									
18...	1435	--	21	154	72	483	290	505	685
FEB.									
16...	1230	--	22	159	64	466	292	505	645
MAR.									
17...	1240	41	24	154	67	458	290	495	640
APR.									
20...	0915	40	20	161	63	453	288	500	630
MAY									
18...	1330	23	20	123	54	438	284	490	525
JUNE									
15...	--	--	21	148	69	468	288	520	635
JULY									
27...	--	--	20	153	68	469	292	510	645
AUG.									
21...	--	--	20	163	60	460	292	500	635
SEP.									
29...	1005	37	19	146	56	445	286	510	565

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
09...	--	1830	2.49	570	330	8.0	3050	8.1	--
17...	--	--	--	600	370	--	3120	8.0	26.0
DEC.									
18...	--	2060	2.80	680	442	8.1	3420	8.0	23.0
FEB.									
16...	2120	2010	2.88	660	420	7.9	3380	7.9	24.0
MAR.									
17...	2110	1980	2.87	660	422	7.8	3370	7.9	25.0
APR.									
20...	2140	1970	2.91	660	424	7.7	3380	7.9	23.0
MAY									
18...	1950	1790	2.65	530	297	8.3	3030	8.2	26.0
JUNE									
15...	2150	2000	2.92	655	419	8.0	3380	7.9	--
JULY									
27...	2120	2010	2.88	660	420	7.9	3370	8.0	24.0
AUG.									
21...	2140	1980	2.91	655	416	7.8	3370	7.9	24.0
SEP.									
29...	2030	1880	2.76	595	360	7.9	3120	8.1	22.5

09529440 SOUTH GILA PUMP OUTLET CHANNEL NO. 4 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°42'46", long 114°35'50", in NW¼NW¼ sec.26, T.8 S., R.23 W., Yuma County, at gaging station 1.5 miles upstream from outlet to Colorado River and 1.5 miles east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--No flow for many days during fall and winter months. Unpublished miscellaneous chemical analyses for water years 1966-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
NOV.									
19...	1145	--	--	230	89	--	268	--	905
DEC.									
31...	--	--	21	330	140	869	356	590	1690
FEB.									
25...	1020	22	--	298	135	--	370	--	1490
MAR.									
30...	--	--	21	294	133	701	344	540	1390
APR.									
27...	1100	25	21	314	135	761	358	550	1510
MAY									
25...	--	--	20	238	91	624	292	680	979
JUNE									
26...	--	--	20	242	87	653	296	685	1010
AUG.									
21...	--	--	23	372	163	913	368	580	1900

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
NOV.									
19...	--	--	--	940	720	--	4350	8.0	26.0
DEC.									
31...	4060	3820	5.52	1400	1110	10	6390	7.8	24.0
FEB.									
25...	--	--	--	1300	996	--	6110	7.7	24.0
MAR.									
30...	3570	3250	4.86	1280	998	8.5	5640	7.7	24.0
APR.									
27...	3740	3470	5.09	1340	1050	9.0	6030	7.7	24.0
MAY									
25...	3060	2780	4.16	970	730	8.7	4680	7.9	25.0
JUNE									
26...	3130	2840	4.26	960	718	9.2	4760	7.8	--
AUG.									
21...	4800	4130	6.53	1600	1300	9.9	7320	7.7	25.0

09530000 RESERVATION MAIN DRAIN NO. 4 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°44'09", long 114°37'16", in NW¼SE¼ sec.26, T.16 S., R.22 E., San Bernardino meridian, Imperial County, Calif., at gaging station at railroad culvert, 0.2 mile upstream from crossing of U.S. Highway 80 and 0.7 mile north of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.									
07...	1425	--	--	146	51	--	260	--	238
DEC.									
23...	1112	--	18	148	51	208	264	475	228
JAN.									
23...	0830	36	--	148	49	--	272	--	228
FEB.									
25...	--	--	19	151	47	210	268	475	222
MAR.									
10...	--	--	19	150	53	208	270	480	228
MAY									
12...	0930	62	17	151	49	210	264	480	228
JULY									
27...	--	--	18	152	46	209	266	475	222
AUG.									
27...	1140	58	16	159	58	285	256	565	325
SEP.									
29...	1015	44	17	157	52	222	272	500	245

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.									
07...	--	--	--	575	362	--	1980	8.0	26.0
DEC.									
23...	--	1260	1.71	580	364	3.8	1930	8.0	18.0
JAN.									
23...	1310	--	--	570	347	--	1940	7.8	18.0
FEB.									
25...	1300	1260	1.77	570	350	3.8	1950	7.9	18.0
MAR.									
10...	1380	1270	1.88	590	368	3.7	1990	8.0	16.0
MAY									
12...	1380	1270	1.88	580	364	3.8	1990	8.1	21.0
JULY									
27...	1340	1260	1.82	570	352	3.8	1970	8.0	--
AUG.									
27...	1650	1540	2.24	635	425	4.9	2420	8.1	28.0
SEP.									
29...	1390	1330	1.89	605	382	3.9	2020	8.1	21.0

09531700 MAIN OUTLET DRAIN EXTENSION NEAR MORELOS DAM, ARIZ.

LOCATION.--Lat 32°43'43", long 114°42'24", in NW¼ sec.36, T.16 S., R.21 E., San Bernardino meridian, Yuma County, at gaging station at gate structure dividing M.O.D.E. 2 and M.O.D.E. 3, 2 miles northeast of Morelos Dam.

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

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
AUG.1969									
25...	1745	59	234	98	872	9.0	324	0	885
SEP.									
23...	0830	288	288	131	1200	9.8	372	0	1020
OCT.									
20...	1530	258	248	126	1160	10	322	0	1040
NOV.									
20...	0915	300	234	130	1200	14	216	0	1010
DEC.									
19...	0810	265	264	126	1170	14	300	0	1020
JAN.1970									
23...	0930	295	274	125	1130	14	316	0	1000
FEB.									
19...	0835	194	202	95	780	9.5	284	0	805
MAR.									
19...	0930	286	210	100	845	10	254	0	885
APR.									
24...	0900	307	234	111	940	9.9	282	0	870
MAY									
21...	0815	187	198	100	760	9.4	272	0	830
JUNE									
19...	0845	194	198	102	915	9.9	290	0	800
JULY									
24...	0900	250	200	96	949	9.0	296	0	835
AUG.									
20...	0800	241	200	97	790	9.3	280	0	815
SEP.									
24...	0815	296	208	105	850	9.6	272	0	860

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
AUG.1969								
25...	1220	3660	4.98	988	722	12	5580	7.6
SEP.								
23...	1780	4840	6.58	1260	954	15	7420	7.6
OCT.								
20...	1760	4750	6.46	1140	876	15	7300	7.8
NOV.								
20...	1740	4580	6.23	1120	943	16	6900	7.9
DEC.								
19...	1730	4610	6.27	1180	934	15	7000	8.0
JAN.1970								
23...	1680	4520	6.15	1200	941	14	7100	7.8
FEB.								
19...	1050	3280	4.46	895	662	11	5100	7.5
MAR.								
19...	1140	3410	4.64	940	732	12	5500	7.5
APR.								
24...	1360	3920	5.33	1040	809	13	6000	8.0
MAY								
21...	1040	3280	4.46	905	682	11	5000	7.8
JUNE								
19...	1290	3820	5.20	915	677	13	6000	7.6
JULY								
24...	1300	3850	5.24	895	652	14	5860	7.5
AUG.								
20...	1080	3340	4.54	900	670	12	5140	7.7
SEP.								
24...	1170	3610	4.91	950	727	12	5540	7.7

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09534000 MAIN DRAIN NEAR SAN LUIS, ARIZ.

LOCATION.--Lat 32°29'17", long 114°47'16", in SE¼NE¼ sec.11, T.11 S., R.25 W., Yuma County, at gaging station at pumping plant, 0.1 mile upstream from international boundary and 0.4 mile west of San Luis.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)
OCT.								
06...	20	142	55	336	268	500	405	--
13...	--	127	64	--	272	--	398	--
20...	--	118	71	--	272	--	402	--
27...	--	138	55	--	268	--	395	--
NOV.								
03...	20	145	55	332	276	490	408	--
10...	--	142	40	--	268	--	408	--
17...	--	142	52	--	270	--	378	--
24...	--	148	54	--	280	--	412	--
DEC.								
01...	20	137	63	323	272	485	408	--
08...	--	148	54	--	274	--	415	--
15...	--	142	60	--	272	--	412	--
22...	--	146	52	--	272	--	415	--
29...	--	148	49	--	276	--	415	--
JAN.								
05...	22	142	55	350	274	470	445	--
14...	21	134	56	340	272	490	405	1640
19...	--	142	52	--	268	--	405	--
26...	--	138	55	--	278	--	415	--
FEB.								
02...	20	138	52	331	272	480	395	1660
09...	21	145	53	324	278	485	392	1700
16...	19	142	54	317	276	480	382	1750
24...	--	142	50	--	268	--	378	--
MAR.								
02...	19	135	49	312	242	495	358	1590
09...	21	145	58	337	280	510	398	1760
16...	20	143	52	336	272	510	388	1680
23...	20	129	53	313	256	500	348	1560
30...	19	146	54	320	272	495	385	1700
APR.								
06...	20	145	55	344	276	520	405	1710
20...	19	149	54	336	278	520	395	1730
27...	19	135	52	286	252	480	330	1530
MAY								
04...	19	149	53	309	272	490	375	1800
11...	21	134	57	332	248	510	395	1790
18...	21	117	68	322	268	500	375	1680
25...	20	147	57	338	280	520	400	1790
JUNE								
01...	22	125	68	323	276	490	395	1700
08...	20	143	55	320	270	510	375	1690
15...	20	145	58	351	276	550	400	1770
22...	19	140	58	329	274	490	405	1740
29...	23	137	63	342	274	540	395	1760
JULY								
06...	19	131	62	327	264	510	385	1680
13...	20	135	55	329	236	510	395	1700
20...	18	145	54	319	268	510	375	1700
27...	18	139	57	331	272	500	395	1680
AUG.								
03...	20	148	54	320	278	495	385	1710
10...	23	145	55	335	278	500	405	1700
17...	19	145	57	319	280	510	375	1710
24...	19	147	48	324	264	490	385	1620
31...	20	143	49	315	264	480	375	1630
SEP.								
08...	21	143	54	323	272	490	390	1670
14...	21	149	53	322	278	500	385	1730
21...	21	159	49	321	282	490	395	1750
28...	20	156	50	338	288	510	400	1740

09534000 MAIN DRAIN NEAR SAN LUIS, ARIZ.--Continued

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.
REMARKS.--Unpublished chemical analyses for water years 1961-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
06...	1590	2.16	580	360	6.1	2410	8.1
13...	--	--	580	357	--	2450	8.0
20...	--	--	585	362	--	2510	8.1
27...	--	--	570	350	--	2480	8.0
NOV.							
03...	1590	2.16	590	364	6.0	2560	8.1
10...	--	--	570	350	--	2530	8.0
17...	--	--	570	348	--	2430	8.0
24...	--	--	590	360	--	2550	8.0
DEC.							
01...	1570	2.14	600	377	5.7	2540	8.0
08...	--	--	590	366	--	2550	8.0
15...	--	--	600	377	--	2500	8.1
22...	--	--	580	357	--	2550	8.1
29...	--	--	570	344	--	2520	8.1
JAN.							
05...	1620	2.20	580	356	6.3	2500	8.0
14...	1580	2.23	565	342	6.2	2540	7.9
19...	--	--	570	350	--	2510	7.9
26...	--	--	570	342	--	2550	8.0
FEB.							
02...	1550	2.26	560	337	6.1	2510	8.0
09...	1560	2.31	580	352	5.9	2550	8.1
16...	1530	2.38	575	348	5.7	2510	8.0
24...	--	--	560	340	--	2490	7.9
MAR.							
02...	1490	2.16	540	342	5.8	2440	7.9
09...	1600	2.39	600	370	5.9	2590	8.0
16...	1580	2.28	570	347	6.1	2550	7.9
23...	1490	2.12	540	330	5.9	2350	8.1
30...	1560	2.31	585	362	5.7	2560	8.0
APR.							
06...	1630	2.33	590	364	6.2	2580	8.1
20...	1610	2.35	595	367	6.0	2590	8.0
27...	1430	2.08	550	344	5.3	2310	8.0
MAY							
04...	1530	2.45	590	367	5.5	2530	8.0
11...	1570	2.43	570	366	6.1	2620	8.0
18...	1540	2.28	570	350	5.9	2520	8.1
25...	1620	2.43	600	370	6.0	2650	8.0
JUNE							
01...	1560	2.31	590	364	5.8	2590	8.1
08...	1560	2.30	585	364	5.8	2570	8.1
15...	1660	2.41	600	374	6.2	2670	8.1
22...	1580	2.37	590	366	5.9	2600	8.0
29...	1640	2.39	600	376	6.1	2640	8.0
JULY							
06...	1570	2.28	580	364	5.9	2540	8.0
13...	1560	2.31	565	372	6.0	2570	8.1
20...	1560	2.31	585	365	5.7	2530	8.3
27...	1580	2.28	580	357	6.0	2570	8.1
AUG.							
03...	1560	2.33	590	362	5.7	2580	8.1
10...	1600	2.31	590	362	6.0	2590	8.0
17...	1560	2.33	595	366	5.7	2550	8.0
24...	1540	2.20	565	348	5.9	2480	8.1
31...	1510	2.22	560	344	5.8	2460	8.0
SEP.							
08...	1560	2.27	580	357	5.8	2560	8.0
14...	1570	2.35	590	362	5.8	2570	8.1
21...	1580	2.38	600	369	--	2610	8.1
28...	1620	2.37	595	359	6.0	2600	8.1

09534500 EAST MAIN CANAL WASTEWAY NEAR SAN LUIS, ARIZ.

LOCATION.--Lat 32°29'13", long 114°47'01", in NW¼SW¼ sec.12, T.11 S., R.25 W., Yuma County, at gaging station 0.2 mile east of Main drain pumping plant and 0.2 mile west of San Luis.
PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.
REMARKS.--No flow Oct. 3, 15, 30, Nov, 8, 21, 27, Mar. 24, May 9, 10, 16, 23, 24, June 19, 26, July 17, 27. Unpublished miscellaneous chemical analyses for water years 1962-65, and continuing record chemical analyses for water years 1966-68 available in district office, Tucson, Ariz.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM PLUS POTASSIUM (MG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180°C) (MG/L)
OCT.								
06...	11	95	42	192	156	390	208	--
21...	--	89	46	--	172	--	215	--
NOV.								
03...	12	98	50	229	196	420	248	--
17...	--	100	41	--	142	--	238	--
DEC.								
01...	10	113	43	222	196	425	242	--
15...	--	90	52	--	192	--	222	--
29...	--	118	43	--	198	--	248	--
JAN.								
14...	11	111	47	206	190	410	238	1190
26...	--	110	44	--	184	--	248	--
FEB.								
09...	7.0	98	40	181	172	390	182	1120
24...	--	89	37	--	160	--	142	--
MAR.								
09...	8.0	106	43	220	184	425	230	1250
23...	3.5	87	36	169	144	385	152	946
APR.								
06...	4.0	87	37	163	140	385	148	936
20...	6.0	98	38	175	164	405	160	1040
MAY								
05...	7.0	97	38	181	176	405	162	1040
18...	3.0	86	39	167	132	385	162	988
JUNE								
01...	6.0	95	40	188	152	400	190	1070
16...	5.0	82	38	183	116	405	172	1010
29...	8.0	94	40	183	158	415	168	1050
JULY								
13...	11	86	38	181	134	395	172	1010
28...	9.0	87	40	185	132	420	168	1020
AUG.								
10...	12	97	38	186	150	400	188	1060
24...	11	95	41	181	154	405	178	1060
SEP.								
10...	11	90	40	207	122	430	208	1120
21...	9.0	97	35	176	146	395	168	1020

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.							
06...	1020	1.39	410	282	4.1	1560	8.2
21...	--	--	410	269	--	1710	8.1
NOV.							
03...	1160	1.58	450	290	4.7	1860	8.2
17...	--	--	420	204	--	1710	8.2
DEC.							
01...	1150	1.56	460	300	4.5	1840	8.2
15...	--	--	440	282	--	1820	8.3
29...	--	--	470	308	--	1850	8.2
JAN.							
14...	1120	1.62	470	314	4.1	1810	8.0
26...	--	--	455	304	--	1830	8.2
FEB.							
09...	984	1.52	410	269	3.9	1590	8.3
24...	--	--	376	245	--	1430	8.2
MAR.							
09...	1120	1.70	440	289	2.1	1830	8.1
23...	905	1.29	365	247	3.8	1440	8.3
APR.							
06...	894	1.27	370	255	3.7	1430	8.2
20...	964	1.41	400	266	3.8	1530	8.3
MAY							
05...	978	1.41	400	256	3.9	1550	8.2
18...	908	1.34	375	267	3.8	1480	8.2
JUNE							
01...	995	1.46	400	276	4.1	1640	8.1
16...	943	1.37	360	265	4.2	1540	8.0
29...	987	1.43	400	270	4.0	1570	8.1
JULY							
13...	950	1.37	370	260	4.1	1520	8.2
28...	975	1.39	380	272	4.1	1560	7.9
AUG.							
10...	996	1.44	400	277	4.1	1610	8.0
24...	988	1.44	405	278	3.9	1570	8.1
SEP.							
10...	1050	1.52	390	290	4.6	1700	7.9
21...	953	1.39	385	266	3.9	1540	8.2

09534600 MAIN DRAIN BELOW EAST MAIN CANAL WASTEWAY, AT INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.

LOCATION.--Lat 32°29'15", long 114°47'22", in SE¼NE¼ sec.11, T.11 S., R.25 W., Yuma County, at international boundary, 300 ft downstream from outlet of East Main Canal wasteway, 0.1 mile downstream from pumping plant, and 0.4 mile west of San Luis.

PERIOD OF RECORD.--Chemical analyses: September 1969 to June 1970 (discontinued).

CHEMICAL ANALYSES, SEPTEMBER 1969 TO JUNE 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
SEP 1969									
23...	1030	235	146	49	323	5.9	273	0	474
NOV.									
21...	0930	169	111	56	342	7.4	203	0	472
DEC.									
19...	0930	139	149	49	332	6.6	282	0	462
JAN 1970									
23...	1100	13	126	44	247	6.6	228	0	420
FEB.									
19...	0945	165	125	60	336	6.2	230	0	480
MAR.									
19...	1130	165	110	53	347	6.1	168	0	485
APR.									
24...	1045	205	112	64	338	6.7	244	0	480
MAY									
21...	0945	166	122	60	343	6.0	257	0	480
JUNE									
19...	1130	166	109	55	344	6.3	215	0	455

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
SEP 1969								
23...	395	1600	2.18	568	344	5.9	2480	7.8
NOV.								
21...	424	1580	2.15	510	343	6.6	2400	8.0
DEC.								
19...	415	1620	2.20	574	343	6.0	2450	7.8
JAN 1970								
23...	295	1300	1.77	496	309	4.8	2000	8.0
FEB.								
19...	425	1610	2.19	558	39	6.2	2600	8.1
MAR.								
19...	430	1550	2.11	494	356	6.8	2600	7.8
APR.								
24...	410	1600	2.18	544	344	6.3	2450	7.9
MAY								
21...	425	1630	2.22	554	343	6.4	2640	8.0
JUNE								
19...	430	1590	2.16	498	322	6.7	2670	7.9

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED POTAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
DIRTY DEVIL RIVER BASIN											
09333500 DIRTY DEVIL RIVER NEAR HITE, UTAH (LAT 38 05 50 LONG 110 24 27)											
OCT											
06...	1515	33	16	362	55	178	--	9.9	141	0	1300
APR											
27...	1200	20	--	219	70	220	--	8.2	257	0	810
JUL											
28...	1045	24	--	--	--	342	--	14	--	0	1720
ESCALANTE RIVER BASIN											
09337500 ESCALANTE RIVER NEAR ESCALANTE, UTAH (LAT 37 46 00 LONG 111 34 00)											
DEC											
11...	0730	18	--	75	35	53	--	3.4	247	0	160
APR											
15	1600	24	--	63	24	54	--	3.6	195	3	130
AUG											
20...	1025	45	--	--	--	--	--	--	--	--	--
LITTLE COLORADO RIVER BASIN											
09402000 LITTLE COLORADO RIVER NEAR CAMERON, ARIZ. (LAT 35 55 35 LONG 111 34 00)											
OCT											
28...	1145	75	--	34	4.6	170	--	4.3	232	0	202
NOV											
25...	1155	21	--	34	5.1	194	--	4.3	258	0	148
DEC											
29...	1610	.50	--	79	23	170	--	5.7	234	0	380
MAR											
26...	1130	56	--	17	2.8	96	--	2.6	155	0	37
APR											
17...	1335	.49	--	38	6.6	110	--	2.8	123	0	46
VIRGIN RIVER BASIN											
09413500 VIRGIN RIVER NEAR ST. GEORGE UTAH (LAT 37 01 00 LONG 113 40 00)											
OCT											
01...	1630	17	21	28	97	410	--	29	234	0	1100
MAR											
18...	1400	154	--	149	72	214	--	17	374	0	440
MAY											
20...	1130	28	--	220	80	304	--	20	330	0	660
AUG											
26...	1200	8.0	--	305	141	479	--	32	244	0	1250
BILL WILLIAMS RIVER BASIN											
09426600 BILL WILLIAMS RIVER NEAR PLANET, ARIZ. (LAT 34 15 43 LONG 114 01 40)											
JAN											
19...	1350	<10	--	56	17	103	--	6.6	280	0	72
APR											
20...	1200	<6.0	--	43	24	105	--	6.8	284	0	74
JUL											
20...	1030	A1.0	--	44	23	104	--	7.1	280	0	72
TRIBUTARIES AND DIVERSIONS BETWEEN PARKER DAM AND PALO VERDE DAM											
09429130 OLIVE LAKE DRAIN NEAR BLYTHE, CALIF. (LAT 33 40 36 LONG 114 32 09)											
OCT											
13...	1450	--	--	143	42	--	--	--	282	--	--
JAN											
15...	1430	1.2	13	137	43	--	150	--	272	--	425
APR											
29...	1150	12	15	143	45	--	156	--	288	--	440
JUL											
17...	--	12	14	148	43	--	166	--	296	--	450
AUG											
25...	1345	20	15	143	42	--	155	--	284	--	435
SEP											
24...	1500	--	15	140	44	--	151	--	274	--	430
DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM											
09529000 NORTH GILA DRAIN NO. 1 NEAR YUMA, ARIZ. (LAT 32 45 29 LONG 114 31 20)											
OCT											
30...	--	--	18	114	48	--	303	--	250	--	515
JAN											
22...	1255	5.0	--	116	46	--	--	--	264	--	--
APR											
29...	--	--	19	114	48	--	294	--	264	--	505
JUL											
31...	--	--	18	119	45	--	283	--	268	--	505

A ESTIMATED.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTIT-UENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION-RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
DIRTY DEVIL RIVER BASIN											
09333500 DIRTY DEVIL RIVER NEAR HITE, UTAH, (LAT 38 05 50 LONG 110 24 27)											
OCT											
06...	140	2100	2130	2.90	187	1130	1010	2.3	2400	7.6	--
APR											
27...	194	1750	1650	2.24	97.8	834	623	3.3	2220	8.2	--
JUL											
28...	200	2900	--	3.94	188	--	--	--	3150	7.9	--
ESCALANTE RIVER BASIN											
09337500 ESCALANTE RIVER NEAR ESCALANTE, UTAH (LAT 37 46 00 LONG 111 34 00)											
DEC											
11...	64	552	511	.75	26.8	332	129	1.3	831	7.9	--
APR											
15...	64	456	437	.62	30.0	258	94	1.5	731	8.3	--
AUG											
20...	--	507	--	.69	--	--	--	--	800	7.9	--
LITTLE COLORADO RIVER BASIN											
09402000 LITTLE COLORADO RIVER NEAR CAMERON, ARIZ. (LAT 35 55 35 LONG 111 34 00)											
OCT											
28...	72	628	--	.85	--	104	0	7.3	990	7.8	11.0
NOV											
25...	121	663	--	.90	--	106	0	8.2	1020	8.1	2.0
DEC											
29...	56	866	--	1.18	--	294	102	4.3	1230	8.2	4.0
MAR											
26...	78	355	--	.48	--	54	0	5.7	570	8.2	4.5
APR											
17...	156	492	--	.67	--	122	21	4.3	810	7.9	15.0
VIRGIN RIVER BASIN											
09413500 VIRGIN RIVER NEAR ST. GEORGE, UTAH (LAT 37 01 00 LONG 113 40 00)											
OCT											
01...	560	2650	2620	3.56	122	1120	928	5.3	3470	7.6	--
MAR											
18...	290	1390	1370	1.86	578	670	363	3.6	2030	8.0	--
MAY											
20...	440	1960	1890	2.57	151	878	607	4.5	2730	7.4	--
AUG											
26...	640	3270	2970	4.04	70.6	1340	1140	5.7	4090	8.2	--
BILL WILLIAMS RIVER BASIN											
09426600 BILL WILLIAMS RIVER NEAR PLANET, ARIZ. (LAT 34 15 43 LONG 114 01 40)											
JAN											
19...	97	531	--	.72	--	210	0	3.1	860	7.7	--
APR											
20...	96	542	--	.74	--	204	0	3.2	880	7.9	--
JUL											
20...	95	537	--	.73	--	206	0	3.2	870	7.7	--
TRIBUTARIES AND DIVERSIONS BETWEEN PARKER DAM AND PALO VERDE DAM											
09429130 OLIVE LAKE DRAIN NEAR BLYTHE, CALIF. (LAT 33 40 36 LONG 114 32 09)											
OCT											
13...	138	--	960	1.31	--	530	299	--	1600	8.0	22.0
JAN											
15...	128	1130	1100	1.54	--	520	297	2.9	1580	8.0	--
APR											
29...	132	1120	1080	1.52	--	540	304	2.9	1640	7.8	21.0
JUL											
17...	138	1150	1110	1.56	--	545	302	3.1	1660	7.9	19.0
AUG											
25...	128	1100	1060	1.50	--	530	297	2.9	1610	8.0	19.0
SEP											
24...	132	1100	1050	1.50	--	530	306	2.9	1600	8.2	19.0
DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM											
09529000 NORTH GILA DRAIN NO. 1 NEAR YUMA ARIZ. (LAT 32 45 29 LONG 114 31 20)											
OCT											
30...	282	--	1400	1.90	--	480	275	6.0	2210	8.0	24.0
JAN											
22...	282	--	1340	1.82	--	480	264	--	2240	8.1	18.0
APR											
29...	268	1480	1380	2.01	--	480	264	5.8	2190	8.1	21.0
JUL											
31...	248	1410	1350	1.92	--	480	260	5.6	2110	8.1	24.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED POTAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM--CONTINUED											
09529050 NORTH GILA DRAIN NO. 3 NEAR YUMA, ARIZ. (LAT 32 44 28 LONG 114 26 39)											
OCT 30...	--	--	17	97	35	--	162	--	180	--	375
JAN 23...	1110	43	--	103	37	--	--	--	196	--	--
MAR 30...	--	--	16	97	38	--	171	--	186	--	395
APR 30...	--	--	15	102	35	--	174	--	196	--	395
JUL 31...	--	--	17	98	33	--	163	--	188	--	380
09529200 BRUCE CHURCH DRAIN NEAR YUMA, ARIZ. (LAT 32 43 46 LONG 114 31 07)											
MAR 31...	--	--	23	182	78	--	227	--	378	--	680
APR 29...	--	--	26	190	72	--	265	--	384	--	650
SEP 29...	0910	--	27	199	69	--	290	--	436	--	670
09530500 DRAIN 8-B NEAR YUMA, ARIZ. (LAT 32 44 39 LONG 114 41 45)											
OCT 30...	--	--	19	106	28	--	190	--	218	--	390
JAN 20...	1100	1.2	17	92	31	--	181	--	212	--	365
MAY 04...	--	--	16	87	36	--	194	--	184	--	410
JUL 27...	--	--	20	105	25	--	194	--	184	--	410
AUG 27...	1400	1.9	12	131	45	--	568	--	220	--	860
SEP 29...	1000	1.9	18	97	31	--	187	--	202	--	395

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTIT-UENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION-RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM--CONTINUED											
09529050 NORTH GILA DRAIN NO. 3 NEAR YUMA, ARIZ. (LAT 32 44 28 LONG 114 26 39)											
OCT											
30...	142	--	918	1.25	--	385	238	3.6	1430	8.0	24.0
JAN											
23...	150	--	906	1.23	--	410	250	--	1510	8.2	16.0
MAR											
30...	148	1010	958	1.37	--	400	248	3.7	1490	8.2	22.0
APR											
30...	146	990	965	1.35	--	400	240	3.8	1490	8.1	19.0
JUL											
31...	132	984	917	1.34	--	380	226	3.6	1450	8.1	28.0
09529200 BRUCE CHURCH DRAIN NEAR YUMA, ARIZ. (LAT 32 43 46 LONG 114 31 07)											
MAR											
31...	255	1820	1680	2.48	--	775	465	4.3	2490	8.0	21.0
APR											
29...	252	1780	1650	2.42	--	770	455	4.2	2460	7.9	18.0
SEP											
29...	245	1840	1720	2.50	--	780	422	4.5	2540	8.0	20.0
09530500 DRAIN 8-B NEAR YUMA, ARIZ. (LAT 32 44 39 LONG 114 41 45)											
OCT											
30...	148	--	990	1.35	--	380	201	4.2	1510	8.2	23.0
JAN											
20...	138	984	930	1.34	--	355	181	4.2	1450	8.2	16.0
MAY											
04...	148	1030	983	1.40	--	365	214	4.4	1560	8.7	--
JUL											
27...	148	1020	994	1.39	--	365	214	4.4	1540	8.2	--
AUG											
27...	475	2360	2200	3.21	--	510	330	11	3460	8.1	34.0
SEP											
29...	142	1000	971	1.36	--	370	204	4.2	1490	8.3	24.0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN COLORADO RIVER BASIN

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1968 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
WILLIAMS FORK BASIN												
09038500 WILLIAMS FORK BELOW WILLIAMS FORK RESERVOIR, COLO. (LAT 40 02 07 LONG 106 12 17)												
JUL 1969												
09...	--	14	--	13	2.9	2.9	--	1.5	53	--	4.2	1.2
OCT												
21...	--	260	--	13	2.9	2.5	--	1.4	57	--	1.8	1.7
JAN 1970												
23...	--	7.0	--	16	2.6	2.9	--	1.6	66	--	3.0	1.8
APR												
22...	--	8.0	--	17	2.2	2.9	--	1.7	68	--	4.8	1.3
BLUE RIVER BASIN												
09057700 BLUE RIVER AT MOUTH, NEAR KREMMLING, COLO. (LAT 40 01 55 LONG 106 23 09)												
JUL 1969												
09...	--	1640	--	21	4.5	3.5	--	1.6	61	--	24	1.4
OCT												
21...	--	807	--	22	4.0	3.6	--	1.5	69	--	22	1.9
JAN 1970												
23...	--	620	--	25	4.3	4.1	--	1.7	77	--	26	2.0
APR												
22...	--	789	--	28	5.4	5.0	--	1.9	90	--	30	1.1
EAGLE RIVER BASIN												
09070400 EAGLE RIVER AT MOUTH, NEAR DOTSERO, COLO. (LAT 39 38 36 LONG 107 03 20)												
AUG 1969												
26...	--	251	--	112	22	41	--	2.7	189	--	215	54
NOV												
20...	--	201	--	125	28	50	--	2.5	208	--	245	73
FEB 1970												
25...	--	170	--	105	21	40	--	2.7	170	--	219	56
MAY												
21...	--	3510	--	32	4.4	3.9	--	1.5	85	--	27	4.0
COLORADO RIVER MAIN STEM												
09070500 COLORADO RIVER NEAR DOTSERO, COLO. (LAT 39 38 40 LONG 107 04 40)												
NOV 1969												
20...	--	1120	9.7	52	13	26	--	2.2	134	--	92	31
FEB 1970												
25...	--	1220	7.6	42	8.9	19	--	--	115	--	71	22
MAY												
21...	--	13000	9.1	24	6.8	5.4	--	1.7	88	--	23	2.1
SEP												
23...	--	1540	11	53	11	20	--	1.9	124	--	77	21
PLATEAU CREEK BASIN												
09105000 PLATEAU CREEK NEAR CAMEO, COLO. (LAT 39 11 00 LONG 108 16 10)												
NOV 1969												
21...	--	130	26	48	39	69	--	46	394	--	95	9.7
FEB 1970												
11...	--	114	20	58	28	60	--	5.1	362	--	88	11
JUN												
01...	--	710	13	28	9.2	16	--	2.1	152	--	21	2.9
AUG												
31...	--	124	33	52	37	75	--	8.6	437	--	86	9.0
UNCOMPAHGRE RIVER BASIN												
09149500 UNCOMPAHGRE RIVER AT DELTA, COLO. (LAT 38 44 30 LONG 108 04 50)												
NOV 1969												
25...	--	225	13	180	88	172	--	4.2	210	--	925	18
FEB 1970												
09...	--	130	11	216	88	184	--	3.2	274	--	1000	8.0
MAY												
18...	--	1190	11	81	22	39	--	2.8	138	--	254	6.5
AUG												
25...	--	438	17	191	44	104	--	3.9	243	--	662	9.7
SAN JUAN RIVER BASIN												
09346000 NAVAJO RIVER AT EDITH, COLO. (LAT 37 00 10 LONG 106 54 25)												
OCT 1969												
14...	--	95	22	28	5.8	9.2	--	1.7	77	--	48	1.0
JAN 1970												
12...	--	42	24	28	5.6	9.6	--	1.6	77	--	48	.8
APR												
13...	--	77	21	30	7.0	9.9	--	1.6	87	--	48	.6
JUN												
08...	--	551	19	17	3.6	5.6	--	1.1	57	--	20	.2
JUL												
13...	--	104	21	20	4.3	6.3	--	1.3	66	--	25	.6

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1968 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION-RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
WILLIAMS FORK BASIN												
09038500 WILLIAMS FORK BELOW WILLIAMS FORK RESERVOIR, COLO. (LAT 40 02 07 LONG 106 12 17)												
JUL 1969												
09...	--	--	--	67	.09	2.5	44	1	.2	97	7.2	10.0
OCT												
21...	--	--	--	66	.09	46.3	44	0	.2	98	6.9	9.0
JAN 1970												
23...	--	--	--	72	.10	1.4	59	0	.2	111	7.5	3.0
APR												
22...	--	--	--	83	.11	1.8	51	0	.2	119	6.6	4.0
BLUE RIVER BASIN												
09057700 BLUE RIVER AT MOUTH, NEAR KREMMLING, COLO. (LAT 40 01 55 LONG 106 23 09)												
JUL 1969												
09...	--	--	--	98	.13	434	70	20	.2	156	7.3	10.0
OCT												
21...	--	--	--	96	.13	209	72	16	.2	164	7.1	9.5
JAN 1970												
23...	--	--	--	106	.14	177	80	17	.2	182	7.6	6.0
APR												
22...	--	--	--	134	.18	285	93	19	.2	217	6.8	6.0
EAGLE RIVER BASIN												
09070400 EAGLE RIVER AT MOUTH, AT DOTSERO, COLO. (LAT 39 38 36 LONG 107 03 20)												
AUG 1969												
26...	--	--	--	576	.78	390	372	218	.9	859	7.4	18.0
NOV												
20...	--	--	--	688	.94	373	428	257	1.1	1000	7.2	0.0
FEB 1970												
25...	--	--	--	556	.76	255	349	210	.9	830	7.7	4.0
MAY												
21...	--	--	--	130	.18	1230	97	27	.2	203	7.6	7.5
COLORADO RIVER MAIN STEM												
09070500 COLORADO RIVER NEAR DOTSERO, COLO. (LAT 39 38 40 LONG 107 04 40)												
NOV 1969												
20...A	.2	.3	0	308	.42	931	184	74	.8	477	7.7	.5
FEB 1970												
25...A	--	.3	--	224	.30	738	142	48	.7	367	7.9	4.0
MAY												
21...B	.3	.9	4	166	.23	5830	87	15	.3	196	6.9	11.0
SEP												
23...A	.4	.2	50	271	.37	1130	177	75	.7	426	7.7	11.0
PLATEAU CREEK BASIN												
09105000 PLATEAU CREEK NEAR CAMEO, COLO. (LAT 39 11 00 LONG 108 16 10)												
NOV 1969												
21...C	.4	1.2	0	478	.65	168	281	0	1.8	753	7.9	1.5
FEB1970												
11...D	.6	2.3	9	448	.61	138	260	0	1.6	706	7.7	2.0
JUN												
01...E	.3	.8	0	179	.24	343	109	0	.7	273	7.9	13.5
AUG												
31...F	.8	1.2	90	546	.74	183	282	0	1.9	833	7.7	18.0
UNCOMPAHGRE RIVER BASIN												
09149500 UNCOMPAHGRE RIVER AT DELTA, COLO. (LAT 38 44 30 LONG 108 04 50)												
NOV 1969												
25...G	.7	13	0	1640	2.07	996	810	638	2.6	1900	7.9	2.5
FEB 1970												
09...G	.7	14	0	1870	2.26	656	900	675	2.7	2140	7.6	1.5
MAY												
18...H	.6	4.8	0	544	.74	1750	292	179	1.0	728	7.8	13.0
AUG												
25...D	.4	7.2	0	1230	1.58	1460	656	457	1.8	1520	8.0	18.0
SAN JUAN RIVER BASIN												
09346000 NAVAJO RIVER AT EDITH, COLO. (LAT 37 00 10 LONG 106 54 25)												
OCT 1969												
14...	.2	.1	--	160	.22	41	90	27	.4	226	7.7	6.0
JAN 1970												
12...	.2	.0	--	166	.23	19	93	30	.4	228	8.0	0.0
APR												
13...	.2	.0	--	156	.21	32	99	28	.4	242	7.8	6.0
JUN												
08...	.3	.2	--	94	.13	140	55	8	.3	138	7.5	6.5
JUL												
13...	.3	.0	.0	113	.15	32	66	12	.3	162	7.5	12.5

A INCLUDES 0.00 MG/L OF ORTHO PHOSPHATE AS PO4.
B INCLUDES 0.01 MG/L OF ORTHO PHOSPHATE AS PO4.
C INCLUDES 0.24 MG/L OF ORTHO PHOSPHATE AS PO4.
D INCLUDES 0.11 MG/L OF ORTHO PHOSPHATE AS PO4.
E INCLUDES 0.05 MG/L OF ORTHO PHOSPHATE AS PO4.
F INCLUDES 5.0 MG/L OF ORTHO PHOSPHATE AS PO4.
G INCLUDES 0.02 MG/L OF ORTHO PHOSPHATE AS PO4.
H INCLUDES 0.04 MG/L OF ORTHO PHOSPHATE AS PO4.

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1968 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
					SAN JUAN RIVER BASIN--CONTINUED							
		09346400 SAN JUAN RIVER NEAR CARRACAS, COLO. (LAT 37 00 47 LONG 107 18 39)										
OCT 1969												
14...	--	420	19	24	5.9	14	--	1.7	85	--	46	1.8
NOV												
17...	--	310	10	31	9.2	21	--	2.3	89	--	77	2.0
DEC												
09...	--	154	21	32	7.9	21	--	2.2	101	--	70	2.0
JAN 1970												
13...	--	220	21	34	7.3	26	--	3.0	102	--	77	3.6
FEB												
09...	--	160	16	34	8.1	27	--	2.7	106	--	82	3.8
MAR												
09...	--	207	16	44	13.0	30	--	3.3	127	--	114	3.8
APR												
13...	--	395	18	30	7.7	17	--	2.1	102	--	54	1.8
MAY												
11...	--	1460	16	15	2.9	6.9	--	.8	60	--	17	.2
JUN												
08...	--	1510	16	20	3.4	6.8	--	1.2	64	--	20	.4
JUL												
13...	--	415	16	22	4.6	9.9	--	1.8	80	--	28	1.1
		09367950 CHACO RIVER NEAR WATERFLOW, N. MEX. (LAT 36 44 10 LONG 108 33 50)										
OCT 1969												
08...	1430	I 5.0	18	180	39	--	353	--	338	0	964	68
APR 1970												
27...	1500	I 8.0	3.2	260	124	--	484	--	9	11	1820	168
		09371000 MANCOS RIVER NEAR TOWAOC, COLO. (LAT 37 01 39 LONG 108 44 27)										
AUG 1969												
27...	--	11	--	192	107	113	--	5.0	182	--	930	16
DEC												
19...	--	35	--	160	97	103	--	2.6	238	--	785	15
MAR 1970												
31...	--	20	--	210	119	129	--	3.2	254	--	1040	30
MAY												
13...	--	46	--	96	41	41	--	3.3	170	--	342	7.3
SEP												
10...	--	42	--	156	72	67	--	4.1	187	--	642	10
		09372000 MCELMO CREEK NEAR COLORADO-UTAH STATE LINE (LAT 37 19 27 LONG 109 00 54)										
AUG 1969												
27...	--	49	--	240	156	157	--	5.3	292	--	1200	38
SEP												
10...	--	133	--	240	126	120	--	5.1	239	--	1060	30
DEC												
19...	--	45	--	337	277	273	--	4.3	338	--	2180	54
MAR 1970												
31...	--	51	--	369	253	203	--	4.8	420	--	1940	58
MAY												
13...	--	14	--	269	197	241	--	8.6	257	--	1630	48
					GILA RIVER BASIN							
		09480500 SANTA CRUZ RIVER NEAR NOGALES, ARIZ. (LAT 31 20 40 LONG 110 51 05)										
NOV 1969												
07...	1200	5.5	--	51	5.6	31	--	3.4	212	0	27	10
SEP 1970												
23...	1050	22	--	45	5.3	21	--	3.5	182	0	25	8.5

I ESTIMATED.

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1968 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION-RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
SAN JUAN RIVER BASIN--CONTINUED												
09346400 SAN JUAN RIVER NEAR CARRACAS, COLO. (LAT 37 00 47 LONG 107 18 39)												
OCT 1969												
14...	.2	.3	--	156	.21	177	84	14	.7	237	8.0	9.0
NOV												
17...	.2	.0	--	200	.27	167	114	41	.9	310	7.8	5.0
DEC												
09...	.0	.5	--	215	.29	89	112	29	.9	325	7.6	0.0
JAN 1970												
13...	.3	.0	--	231	.31	137	114	27	1.1	339	8.3	0.0
FEB												
09...	.3	.0	--	233	.32	101	119	32	1.1	356	8.0	.5
MAR												
09...	.3	.6	--	298	.40	166	160	56	1.0	446	7.6	8.5
APR												
13...	.3	.2	100	184	.25	196	98	14	.7	278	7.9	6.5
MAY												
11...	.2	.6	--	98	.13	386	48	0	.4	137	7.6	12.0
JUN												
08...	.2	.4	--	101	.14	411	56	4	.4	146	7.7	11.5
JUL												
13...	.3	.1	20	124	.17	139	74	8	.5	193	7.1	20.0
09367950 CHACO RIVER NEAR WATERFLOW, N. MEX. (LAT 36 44 10 LONG 108 33 50)												
OCT 1969												
08...J	--	.2	--	K1790	--	--	610	333	6.2	2480	7.4	18.0
APR 1970												
27...L	.6	65	--	K2940	--	--	1160	1130	6.2	3660	8.9	19.0
09371000 MANCOS RIVER NEAR TOWAOC, COLO. (LAT 37 01 39 LONG 108 44 27)												
AUG 1969												
27...	--	--	--	1570	1.99	49.6	--	761	1.6	1830	8.4	21.0
DEC												
19...	--	--	--	1360	1.74	129	800	597	1.6	1590	8.4	3.0
MAR 1970												
31...	--	--	--	1760	2.26	99.3	1020	807	1.8	1970	8.0	7.0
MAY												
13...	--	--	--	677	.92	85.5	408	269	.9	896	7.5	13.0
SEP												
10...	--	--	--	1140	1.55	131	688	516	1.1	1370	8.8	16.0
09372000 MCELMO CREEK NEAR COLORADO-UTAH STATE LINE (LAT 37 19 27 LONG 109 00 54)												
AUG 1969												
27...	--	--	--	2180	2.64	294	--	1000	1.9	2390	8.3	25.0
SEP												
10...	--	--	--	1100	2.31	610	1120	924	1.6	2100	8.1	19.0
DEC												
19...	--	--	--	3350	4.52	414	1980	1650	2.7	3370	8.4	2.0
MAR 1970												
31...	--	--	--	3220	4.12	444	1960	1620	2.0	3340	7.9	4.0
MAY												
13...	--	--	--	2700	3.43	106	1480	1270	2.7	2910	7.7	19.0
GILA RIVER BASIN												
09480500 SANTA CRUZ RIVER NEAR NOGALES, ARIZ. (LAT 31 20 40 LONG 110 51 05)												
NOV 1969												
07...	--	--	--	271	.37	--	150	0	1.1	407	7.9	20.0
SEP 1970												
23...	--	--	--	249	.34	--	134	0	.8	375	7.7	--

J INCLUDES 0.00 MG/L OF DISSOLVED NITRATE AS N.
K SUM OF CONSTITUENTS.
L INCLUDES 15 MG/L OF DISSOLVED NITRATE AS N.

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND PARTICLE-SIZE DISTRIBUTION, WATER YEARS OCTOBER 1968 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL-ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CSF)	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
GREEN RIVER BASIN																	
09220000 EAST FORK OF SMITH FORK NEAR ROBERTSON, WYO. (LAT 41 03 15 LONG 110 23 52)																	
JUN 4 1969	1415	12.0	102	10	2.8	--	--	--	--	--	--	--	--	--	--	--	
09220500 WEST FORK OF SMITH FORK NEAR ROBERTSON, WYO. (LAT 41 01 20 LONG 110 28 43)																	
JUN 4 1969	1205	11.0	31.8	4	.3	--	--	--	--	--	--	--	--	--	--	--	
09223000 HAMS FORK NEAR ELK CREEK RANGER STATION, WYO. (LAT 42 06 40 LONG 110 42 40)																	
JUN 4 1969	1350	12.0	344	22	20	--	--	--	--	--	--	--	--	--	--	--	
09223500 HAMS FORK NEAR FRONTIER, WYO. (LAT 41 51 26 LONG 110 33 45)																	
JUN 4 1969	1130	14.0	208	8	4.5	--	--	--	--	--	--	--	--	--	--	--	
09226000 HENRYS FORK NEAR LONETREE, WYO. (LAT 41 00 23 LONG 110 16 13)																	
JUN 4 1969	1745	13.0	94.4	45	11	--	--	--	--	--	--	--	--	--	--	--	
09228500 BURNT FORK NEAR BURNTFORK, WYO. (LAT 40 56 50 LONG 110 04 20)																	
JUN 4 1969	2030	13.0	86.3	10	2.3	--	--	--	--	--	--	--	--	--	--	--	
SAN JUAN RIVER BASIN																	
09341200 WOLF CREEK NEAR PAGOSA SPRINGS, COLO. (LAT 37 26 47 LONG 106 53 00)																	
MAY 6 1970	1100	6.0	35	35	3.3	--	--	--	--	--	--	--	--	--	--	--	
MAY 19.....	1220	12.0	135	44	16	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1730	9.0	164	86	38	--	--	--	--	--	--	--	--	--	--	--	
JUN 3.....	1110	9.0	118	12	3.8	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1045	9.0	91	6	1.5	--	--	--	--	--	--	--	--	--	--	--	
JUL 8.....	0920	9.0	27	10	.73	--	--	--	--	--	--	--	--	--	--	--	
AUG 5.....	0900	12.0	9.3	4	.10	--	--	--	--	--	--	--	--	--	--	--	
SEP 2.....	0930	8.0	8.4	5	.11	--	--	--	--	--	--	--	--	--	--	--	
09347200 MIDDLE FORK PIEDRA RIVER NEAR PAGOSA SPRINGS, COLO. (LAT 37 29 12 LONG 107 09 46)																	
MAY 6 1970	1530	6.0	57	41	6.3	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1330	14.0	149	24	9.7	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1900	10.0	197	88	47	--	--	--	--	--	--	--	--	--	--	--	
JUN 3.....	1430	9.0	138	6	2.2	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1350	11.0	114	6	1.8	--	--	--	--	--	--	--	--	--	--	--	
JUN 8.....	1300	14.0	37	12	1.2	--	--	--	--	--	--	--	--	--	--	--	
AUG 5.....	1200	17.0	20	8	.43	--	--	--	--	--	--	--	--	--	--	--	
SEP 2.....	1200	16.0	28	2	.15	--	--	--	--	--	--	--	--	--	--	--	
09357500 ANIMAS RIVER AT HOWARDSVILLE, COLO. (LAT 37 50 00 LONG 107 36 00)																	
MAY 7 1970	1530	4.0	196	322	170	15	17	--	--	--	62	86	99	100	--	--	VPWC
MAY 20.....	1100	4.0	425	30	34	--	--	--	--	--	--	--	--	--	--	--	
MAY 20.....	1835	4.0	552	113	168	--	--	--	--	--	--	--	--	--	--	--	
JUN 4.....	1200	5.0	485	54	71	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1720	10.0	415	36	40	--	--	--	--	--	--	--	--	--	--	--	
JUL 9.....	1410	12.0	238	4	2.6	--	--	--	--	--	--	--	--	--	--	--	
AUG 3.....	1010	11.0	69	2	.37	--	--	--	--	--	--	--	--	--	--	--	
SEP 4.....	1015	8.0	69	11	2.0	--	--	--	--	--	--	--	--	--	--	--	
09358900 MINERAL CREEK ABOVE SILVERTON, COLO. (LAT 37 51 04 LONG 107 43 31)																	
MAY 7 1969	1100	4.0	42	92	10	31	36	--	--	--	80	90	98	100	--	--	VPWC
MAY 20.....	1315	4.0	110	42	12	--	--	--	--	--	77	83	90	98	100	--	VPWC
MAY 20.....	1650	4.0	160	181	78	14	24	--	--	--	59	72	80	88	89	100	SVPWC
JUN 4.....	1000	5.0	108	53	15	--	--	--	--	--	--	--	--	--	--	--	
JUN 17.....	1545	10.0	83	44	9.9	--	--	--	--	--	--	--	--	--	--	--	
JUL 9.....	1145	9.0	57	10	1.5	--	--	--	--	--	--	--	--	--	--	--	
AUG 3.....	1115	10.0	14	4	.15	--	--	--	--	--	--	--	--	--	--	--	
SEP 4.....	0915	6.0	12	8	.26	--	--	--	--	--	--	--	--	--	--	--	
GILA RIVER BASIN																	
09480500 SANTA CRUZ RIVER NEAR NOGALES, ARIZ. (LAT 31 20 40 LONG 110 51 05)																	
OCT 2 1969	--	--	4.6	31	.39	--	--	--	--	--	--	--	--	--	--	--	
DEC 22.....	--	--	6.2	12	.20	--	--	--	--	--	--	--	--	--	--	--	
MAR 24 1970	--	--	3.4	36	.33	--	--	--	--	--	--	--	--	--	--	--	
AUG 11.....	--	--	85	865	199	--	--	--	--	--	--	--	--	--	--	--	
SEP 23.....	--	--	12	42	1.4	--	--	--	--	--	--	--	--	--	--	--	
SEP 26.....	--	--	6.6	21	.37	--	--	--	--	--	--	--	--	--	--	--	

BEAR RIVER BASIN

10020100 BEAR RIVER ABOVE RESERVOIR, NEAR WOODRUFF, UTAH

LOCATION.--Lat 41°26'05", long 111°01'00", in NW¼NW¼ sec.29, T.17 N., R.120 W., Uinta County, Wyo., at gaging station 9.3 miles upstream from Woodruff Narrows Dam and 10 miles southeast of Woodruff.

DRAINAGE AREA.--780 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
NOV.												
18...	1245	62	7.3	49	31	13	1.9	262	9	14	20	.2
DEC.												
15...	1600	62	6.0	55	15	8.8	1.4	232	0	6.6	17	.2
JAN.												
21...	1045	75	7.6	54	23	11	1.6	231	6	7.4	28	.3
FEB.												
24...	1800	90	5.6	54	13	10	1.2	180	18	12	11	.2
APR.												
01...	1030	68	6.8	59	22	15	2.1	232	18	26	15	.3
MAY												
06...	1100	733	14	53	20	10	2.3	239	0	20	8.1	.2
JUNE												
05...	1530	1230	5.4	26	6.9	3.2	1.1	109	0	6.2	.7	.1
JULY												
08...	1030	99	9.7	46	15	11	1.9	220	0	6.6	10	.3
SEP.												
14...	--	35	11	63	25	22	4.4	290	6	31	19	.2

DATE	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
NOV.											
18...	.2	50	275	.37	45.2	250	20	.4	483	8.3	0.0
DEC.											
15...	.7	20	225	.29	35.8	198	8	.3	395	8.2	0.0
JAN.											
21...	.0	90	252	.33	49.8	228	28	.3	430	8.3	0.0
FEB.											
24...	.5	0	214	.30	53.0	190	12	.3	381	8.6	0.0
APR.											
01...	.4	20	279	.39	52.9	240	20	.4	502	8.5	0.5
MAY											
06...	1.4	130	246	.33	475	213	17	.3	419	7.8	10.0
JUNE											
05...	.0	20	104	.14	345	94	5	.1	192	7.3	14.0
JULY											
08...	.1	70	209	.30	58.8	177	0	.4	373	7.9	17.5
SEP.											
14...	.2	90	324	.45	31.2	260	12	.6	564	8.3	13.5

10039500 BEAR RIVER AT BORDER, WYO.

LOCATION.--Lat 42°12'40", long 111°03'11", in NE¼NE¼ sec.15, T.14 S., R.46 E., Bear Lake County, Idaho, at gaging station 0.2 mile west of Wyoming-Idaho State line, 0.5 mile west of Border, and 2.1 miles upstream from Thomas Fork.
DRAINAGE AREA.--2,490 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1970.
Water temperatures: October 1965 to September 1970.
Sediment records: October 1968 to September 1969 (miscellaneous).
EXTREMES.--1969-70:
Dissolved solids: Maximum, 369 mg/l July 1-31; minimum, 273 mg/l May 1-31.
Hardness: Maximum, 265 mg/l July 1-31; minimum, 200 mg/l Nov. 1-19, Apr. 1-30.
Specific conductance: Maximum daily, 688 micromhos July 19; minimum daily, 464 micromhos May 21.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	MEAN DISCHARGE (CFS)	SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
OCT.												
01-31	--	168	11	--	48	26	22	1.6	201	0	66	30
NOV.												
01-19	--	181	8.1	--	44	22	22	1.6	171	0	67	29
20-30	--	174	9.4	--	46	25	25	1.9	177	0	77	34
DEC.												
01-31	--	168	8.2	--	54	27	23	1.9	204	0	67	34
JAN.												
01-11	--	165	9.9	--	51	22	26	1.6	198	0	73	30
12-29	--	198	9.4	--	52	23	19	1.6	199	0	64	27
30-31	--	184	9.1	--	54	25	22	1.6	207	0	72	25
FEB.												
01-28	--	184	9.1	--	54	25	22	1.6	207	0	72	25
MAR.												
01-31	--	181	7.4	--	59	24	25	2.1	214	15	58	29
APR.												
01-30	--	195	9.2	--	42	23	25	2.0	186	0	71	22
MAY												
01-31	--	461	10	--	46	22	22	2.1	153	21	52	22
JUNE												
01-17	--	1380	12	--	53	24	28	3.0	255	0	43	27
18-30	--	910	12	--	63	24	32	2.8	271	0	52	35
JULY												
01-31	--	409	9.8	--	61	27	34	2.3	300	0	56	30
AUG.												
01-31	--	161	8.6	--	49	25	29	2.2	195	12	65	27
SEP.												
01-15	--	155	7.3	--	63	25	26	2.2	250	0	73	22
16-30	--	164	6.5	--	63	26	25	2.1	250	0	69	24
WTD. AVG.	--	--	10	--	53	24	27	2.3	226	4	57	28
TIME WTD. AVG.	--	302	9.2	--	52	25	25	2.0	212	4	64	28
TONS PER DAY	--	--	8.2	--	44	20	22	1.9	184	3	47	23

ANALYSES OF ADDITIONAL SAMPLES

OCT.												
12...	1335	153	9.0	20	69	24	22	1.4	267	0	71	22
DEC.												
04...	1545	200	--	--	64	28	25	1.7	276	0	65	29
MAR.												
09...	1050	205	7.2	100	64	24	25	1.6	238	0	74	30
11...	1200	240	--	--	61	25	28	1.8	233	9	62	30
JUNE												
10...	1030	1430	--	--	49	24	24	2.8	248	0	48	24
AUG.												
05...	1520	216	--	--	62	27	30	2.3	288	0	57	29
SEP.												
01...	1720	129	8.5	0	59	28	28	2.3	247	6	75	30

FIELD DETERMINATIONS

DATE	TIME	DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	DISSOLVED OXYGEN (MG/L)	TEMPERATURE (DEG C)
DEC.						
04...	1545	200	620	7.8	12.6	0.0
MAR.						
11...	1200	240	580	8.5	12.2	0.0
JUNE						
10...	1030	1430	540	8.0	8.0	11.5

10039500 BEAR RIVER AT BORDER, WYO.--Continued

EXTREMES.--1969-70:--Continued
Water temperatures: Maximum, 23.0°C Aug. 7; minimum, freezing point Nov. 19, Jan. 2, 30.
Period of record:
Dissolved solids: Maximum, 480 mg/l Mar. 29 to Apr. 6, 1967; minimum, 219 mg/l Mar. 31 to Apr. 6, 1969.
Hardness: Maximum, 311 mg/l July 1-15, 1969; minimum, 159 mg/l Mar. 31 to Apr. 6, 1969.
Specific conductance: Maximum daily, 883 micromhos July 21, 1966; minimum daily, 312 micromhos Apr. 3, 1969.
Water temperatures: Maximum, 23.0°C Aug. 7, 1970; minimum, freezing point on many days during winter periods.
REMARKS.--Daily samples for chemical analysis composited by discharge. Additional samples were collected for more comprehensive definition of water quality. Maximum observed during water year: Hardness, 276 mg/l Dec. 4.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)
OCT.												
01-31	.2	.3	80	304	.40	134	229	64	.6	512	8.2	--
NOV.												
01-19	.3	.5	100	279	.36	130	200	60	.7	471	8.0	--
20-30	.3	.6	60	306	.39	135	218	73	.7	509	7.9	--
DEC.												
01-31	.3	2.8	20	318	.44	146	245	78	.6	529	8.0	--
JAN.												
01-11	.3	1.0	80	312	.43	140	218	56	.8	533	8.0	--
12-29	.3	1.0	20	295	.41	159	225	62	.6	501	8.0	--
30-31	.3	.4	40	311	.41	149	239	69	.6	542	8.2	--
FEB.												
01-28	.3	.4	40	311	.41	149	239	69	.6	542	8.2	--
MAR.												
01-31	.3	.3	50	325	.46	164	246	45	.7	590	8.4	--
APR.												
01-30	.3	.0	40	286	.40	154	200	47	.8	504	8.2	--
MAY												
01-31	.2	.8	10	273	.36	326	205	44	.7	468	8.5	--
JUNE												
01-17	.3	.5	70	316	.44	1190	230	21	.8	538	8.1	--
18-30	.3	.3	80	354	.50	904	255	33	.9	603	8.2	--
JULY												
01-31	.3	.4	80	369	.52	422	265	19	.9	643	8.2	--
AUG.												
01-31	.7	.2	80	315	.44	141	225	45	.8	538	8.5	--
SEP.												
01-15	.3	.1	70	342	.47	144	260	55	.7	578	8.0	--
16-30	.2	.1	60	339	.48	156	264	59	.6	586	8.0	--
WTD. AVG.	.3	.6	58	318	.44	--	233	41	.8	545	8.2	--
TIME WTD. AVG.	.3	.6	56	314	.43	--	232	51	.7	540	8.2	--
TONS PER DAY	.2	.5	0	259	--	--	--	--	--	--	--	--

ANALYSES OF ADDITIONAL SAMPLES

OCT.												
12...	.2	.6	0	350	.48	146	271	52	.6	603	8.1	3.5
DEC.												
04...	--	--	--	349	.47	187	276	50	.7	--	--	0.0
MAR.												
09...	.3	.0	40	343	.47	190	259	64	.7	577	8.2	1.5
11...	--	--	--	331	.46	220	254	48	.8	--	--	0.0
JUNE												
10...	--	--	--	293	.44	1240	220	13	.7	--	--	11.5
AUG.												
05...	--	--	--	349	.49	209	266	30	.8	603	8.1	19.0
SEP.												
01...	.4	.1	80	358	.51	130	265	52	.8	633	8.4	20.0

10039500 BEAR RIVER AT BORDER, WYO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	603	554	621	620	579	556	569	593	575	597	594	553
2	579	571	627	645	524	557	589	608	578	611	606	590
3	564	557	628	621	599	562	596	608	590	618	611	566
4	573	543	561	622	612	562	624	570	529	621	617	586
5	530	545	615	638	557	544	628	576	523	613	587	562
6	554	578	542	642	596	572	594	526	520	636	633	555
7	584	557	602	661	551	569	610	506	516	652	609	548
8	589	539	626	638	552	551	582	468	504	646	604	581
9	586	571	613	643	571	570	601	474	511	648	605	624
10	585	576	620	641	580	579	611	494	518	625	609	622
11	564	574	547	626	603	589	564	499	531	607	599	592
12	590	562	606	576	569	590	540	526	538	639	604	594
13	595	567	547	586	517	577	572	545	542	645	585	596
14	544	582	584	575	548	578	599	588	558	642	613	590
15	582	576	589	581	545	593	604	599	572	658	611	586
16	614	579	598	570	539	594	639	604	568	671	572	556
17	573	583	602	566	543	604	640	602	572	677	603	565
18	585	575	601	556	532	610	554	530	588	680	566	583
19	578	591	593	552	570	617	549	470	609	688	606	580
20	557	631	566	545	593	626	550	477	617	680	580	641
21	575	622	549	547	612	620	563	464	612	682	576	607
22	566	595	546	541	602	607	563	465	601	686	582	585
23	581	613	553	534	572	619	576	477	652	657	577	583
24	578	652	553	532	569	605	582	477	630	657	574	576
25	587	648	575	536	569	607	594	545	601	673	586	587
26	572	627	594	540	559	621	584	554	592	652	604	619
27	573	649	588	535	569	625	584	475	588	647	605	624
28	576	643	625	551	568	599	576	474	580	646	623	614
29	570	648	623	571	---	594	589	465	571	647	620	586
30	575	645	653	602	---	598	599	573	578	636	611	587
31	585	---	669	654	---	623	---	577	---	627	613	---
AVG	576	592	594	589	568	591	588	529	567	647	600	588

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	8.0	1.5	0.5	0.5	1.5	2.0	10.0	12.0	15.0	18.5	18.0
2	10.0	6.0	1.0	0.0	1.0	1.0	4.0	7.0	14.5	19.5	22.0	17.5
3	10.0	5.0	0.5	1.0	1.0	1.0	6.5	15.0	19.0	20.5	17.5	18.0
4	12.0	6.0	1.0	0.5	1.5	1.0	7.5	12.0	17.0	22.0	21.0	14.0
5	8.0	6.0	1.0	1.0	1.5	4.0	6.5	12.5	19.0	20.0	18.5	13.5
6	10.0	6.0	1.5	0.5	1.5	4.0	6.0	16.5	17.0	20.0	21.5	10.5
7	12.0	5.0	2.0	0.5	0.5	2.0	10.0	20.0	15.0	19.5	23.0	13.0
8	10.0	6.0	2.0	1.0	1.0	2.5	9.0	10.5	14.5	21.5	21.5	15.5
9	10.0	6.0	1.0	1.0	1.0	4.5	12.5	7.5	20.0	17.5	15.5	15.0
10	8.0	6.0	1.0	1.0	1.5	4.0	9.0	7.0	12.0	20.0	16.5	14.5
11	4.0	5.0	1.5	1.0	1.5	4.5	6.5	7.5	12.5	20.0	15.0	15.0
12	5.0	5.0	1.0	1.5	1.5	5.0	7.0	12.0	10.0	20.5	20.5	12.0
13	4.0	4.0	1.5	1.0	2.0	5.0	4.5	8.5	13.0	20.0	21.0	14.0
14	5.0	5.0	1.0	1.0	1.0	4.5	7.5	9.0	10.5	20.5	20.0	12.5
15	4.0	5.0	1.0	1.5	2.0	4.5	6.5	14.5	13.0	21.0	18.5	12.0
16	4.0	4.0	1.5	1.0	1.5	5.0	7.0	12.0	13.5	17.0	20.5	13.0
17	5.0	2.0	1.0	2.5	1.0	2.5	8.0	11.5	14.5	20.5	20.5	14.0
18	5.0	2.0	1.5	2.0	0.5	3.0	7.0	16.5	18.0	21.5	20.0	15.0
19	6.0	0.0	1.5	2.0	0.5	5.0	6.0	14.0	19.0	21.0	20.0	15.0
20	6.0	2.0	1.5	1.5	1.0	6.0	3.5	14.5	19.0	21.0	18.5	12.5
21	6.0	2.0	1.0	1.5	1.0	4.0	5.0	12.5	20.0	21.0	19.0	12.0
22	8.0	2.0	0.5	0.5	1.5	4.0	4.5	13.5	19.5	17.0	20.5	11.5
23	10.0	2.0	1.0	0.5	2.0	7.0	7.0	14.0	20.0	18.0	21.5	9.0
24	8.0	2.0	0.5	0.5	1.0	5.5	7.0	14.5	15.5	20.0	21.0	9.0
25	8.0	3.0	1.0	0.5	1.5	4.0	6.5	17.0	20.5	16.5	20.0	6.5
26	8.0	2.0	1.0	1.5	2.0	4.5	6.0	10.5	21.0	21.0	19.0	11.0
27	8.0	2.0	0.5	1.0	1.5	4.0	7.0	12.5	18.0	19.5	20.0	8.5
28	6.0	2.0	1.5	1.0	1.0	4.5	5.5	14.5	15.0	20.5	17.0	10.0
29	6.0	1.0	1.0	1.0	---	5.0	4.5	15.0	17.5	16.5	20.5	10.5
30	6.0	2.0	0.5	0.0	---	4.5	5.5	15.5	13.5	19.5	20.0	15.0
31	5.0	---	0.5	0.5	---	3.5	---	17.5	---	20.5	19.0	---
AVG	7.5	4.0	1.0	1.0	1.5	4.0	6.5	12.5	16.0	19.5	19.5	13.0

10046000 RAINBOW INLET CANAL NEAR DINGLE, IDAHO

LOCATION.--Lat 42°13'48", long 111°17'43", in SE¼ sec.3, T.14 S., R.44 E., Bear Lake County, at gaging station 1.5 miles west of Dingle and 1.8 miles downstream from headworks of Stewart Dam.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1969 (miscellaneous), October 1969 to September 1970.

REMARKS.--Canal diverts from Bear River at Stewart Dam in NE¼ sec.34, T.13 S., R.44 E., for storage in Bear Lake. At times flow in canal is augmented by surplus water from Black Otter Slough entering at station and by seepage and wastage from irrigation lands on both sides of canal.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.												
10...	180	6.2	66	27	36	1.8	271	0	66	39	.2	1.0
NOV.												
06...	182	5.9	65	25	34	1.2	270	0	64	39	.2	.1
DEC.												
04...	130	--	63	35	36	1.6	286	0	68	44	--	--
JAN.												
09...	85	--	71	29	37	1.9	323	0	69	44	--	--
FEB.												
09...	145	--	71	26	36	1.8	290	0	74	42	--	--
MAR.												
11...	112	--	63	24	32	1.7	220	16	65	38	--	--
APR.												
10...	267	--	59	29	43	2.5	258	0	80	54	--	--
MAY												
13...	173	--	60	24	33	2.3	257	0	50	40	--	--
JUNE												
10...	1030	--	54	23	28	2.8	257	0	42	29	--	--
AUG.												
05...	195	--	60	27	39	2.3	140	71	61	44	--	--

DATE	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	TEMPER-ATURE (DEG C)
OCT.											
10...	.00	.00	393	191	274	51	.9	644	6.7	9.7	7.5
NOV.											
06...	.02	40	390	192	267	46	.9	637	7.9	10.7	4.0
DEC.											
04...	--	--	416	146	300	65	.9	671	7.8	12.0	1.0
JAN.											
09...	--	--	429	98.5	296	31	.9	715	7.6	10.5	0.0
FEB.											
09...	--	--	408	160	282	44	.9	670	7.7	11.4	1.0
MAR.											
11...	--	--	354	107	258	50	.9	604	8.4	11.6	3.0
APR.											
10...	--	--	412	297	265	53	1.1	667	7.8	9.8	9.0
MAY											
13...	--	--	356	166	250	39	.9	577	7.6	9.3	9.0
JUNE											
10...	--	--	330	918	228	17	.8	532	8.1	8.0	15.0
AUG.											
05...	--	--	383	202	260	28	1.1	646	8.3	8.0	20.0

10059500 BEAR LAKE OUTLET CANAL NEAR PARIS, IDAHO

LOCATION.--Lat 42°13'00", long 111°20'35", in SW¼ sec.8, T.14 S., R.44 E., Bear Lake County, at gaging station on right bank, 2,000 ft downstream from headgates (at dike) and 3 miles southeast of Paris.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1969 (miscellaneous), October 1969 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.												
10...	16	8.3	65	43	51	3.7	335	0	89	54	.3	.1
NOV.												
06...	463	5.9	66	27	36	1.3	276	0	64	41	.2	.1
DEC.												
04...	408	--	83	28	38	3.5	330	0	62	44	--	--
JAN.												
09...	400	--	40	55	41	4.4	350	0	69	46	--	--
FEB.												
09...	6.0	--	64	42	42	4.1	336	0	87	47	--	--
MAR.												
11...	5.0	--	60	30	43	9.7	275	7	69	47	--	--
APR.												
10...	5.0	--	60	37	45	2.3	334	0	83	51	--	--
MAY												
13...	8.0	--	51	25	22	2.6	261	0	32	26	--	--
JUNE												
10...	8.0	--	58	53	59	4.0	366	0	104	66	--	--
AUG.												
05...	750	--	42	42	37	3.3	170	67	54	40	--	--

DATE	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	TEMPER-ATURE (DEG C)
OCT.											
10...	.05	80	497	21.5	338	64	1.2	798	7.3	10.0	5.5
NOV.											
06...	.03	40	388	485	274	48	.9	647	8.0	10.8	4.0
DEC.											
04...	--	--	435	479	324	53	.9	704	8.2	12.3	1.5
JAN.											
09...	--	--	432	467	328	41	1.0	749	8.2	11.2	0.0
FEB.											
09...	--	--	468	7.58	332	56	1.0	770	7.8	12.7	0.0
MAR.											
11...	--	--	418	5.64	274	36	1.1	701	8.4	12.0	5.5
APR.											
10...	--	--	452	6.10	304	55	1.1	729	7.9	10.5	8.5
MAY											
13...	--	--	301	6.50	230	16	.6	495	7.7	9.1	7.5
JUNE											
10...	--	--	580	12.5	360	60	1.4	886	8.0	10.5	16.0
AUG.											
05...	--	--	391	792	278	27	1.0	654	8.3	7.2	21.0

10092200 BEAR RIVER AT CORNISH, UTAH

LOCATION.--Lat 41°58'32", long 111°56'11", in SW¼SE¼ sec.3, T.14 N., R.1 E., Cache County, on upstream side of bridge on State Highway 61, 0.9 mile east of Cornish.

DRAINAGE AREA.--4,500 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: September 1969 (miscellaneous), October 1969 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.										
06...	340	11	63	50	90	14	416	0	70	105
NOV.										
05...	310	--	59	50	94	15	399	0	67	118
DEC.										
08...	800	--	58	54	52	7.8	386	0	60	68
JAN.										
13...	850	--	59	49	47	7.2	398	0	65	54
FEB.										
06...	580	--	68	44	98	14	405	0	70	137
MAR.										
12...	900	--	78	38	57	2.0	362	16	60	68
APR.										
08...	800	--	67	39	51	9.5	372	0	57	62
MAY										
11...	750	--	58	36	46	8.9	335	0	52	58
JUNE										
12...	530	--	57	26	43	8.6	296	0	39	54
AUG.										
04...	500	--	96	18	59	9.3	345	0	62	80

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)	DIS-SOLVED OXYGEN (MG/L)	TEMPER-ATURE (DEG C)
OCT.									
06...	623	572	364	22	2.1	1030	7.9	9.6	14.0
NOV.									
05...	610	511	352	25	2.2	1060	7.6	10.4	9.0
DEC.									
08...	501	1080	364	47	1.2	857	8.0	12.1	1.5
JAN.									
13...	497	1140	349	23	1.1	835	8.2	12.4	0.0
FEB.									
06...	636	996	352	20	2.3	1090	8.1	11.6	5.0
MAR.									
12...	526	1280	352	28	1.3	881	8.5	10.9	6.5
APR.									
08...	489	1060	330	25	1.2	813	8.0	11.9	10.0
MAY									
11...	448	907	294	19	1.2	727	7.6	9.2	11.0
JUNE									
12...	396	567	250	7	1.2	667	8.1	9.1	16.0
AUG.									
04...	492	664	316	33	1.4	849	8.1	10.6	23.0

10136500 WEBER RIVER AT GATEWAY, UTAH

LOCATION.--Lat 41°08'15", long 111°49'55", in NW¼SW¼ sec.27, T.5 N., R.1 E., Morgan County, at gaging station on left bank, 400 ft downstream from tailrace of Gateway powerplant, 500 ft upstream from Union Pacific Railroad bridge, 1,200 ft downstream from Strawberry Creek, and 3,200 ft east of section house at Gateway.

DRAINAGE AREA.--1,610 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: May 1958 to September 1970.
Water temperatures: October 1958 to September 1959.

REMARKS.--Flow regulated by Rockport, Echo, and East Canyon Reservoirs.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
27...	1640	368	--	--	--	--	--	239	0	40	22	--
NOV.												
24...	1600	100	--	--	--	--	--	281	0	40	30	--
JAN.												
22...	1400	939	13	26	16	9.3	1.3	139	0	15	12	.4
MAR.												
10...	1640	153	8.9	62	17	20	3.3	249	0	39	27	.2
APR.												
06...	1600	410	5.5	61	16	17	2.4	245	--	37	21	.3
MAY												
05...	1600	787	12	41	11	12	2.0	168	0	26	16	.2
JUNE												
02...	1600	1000	8.1	45	11	11	2.0	179	0	20	13	.2
JULY												
13...	1600	554	7.6	63	18	13	2.5	249	0	27	17	.2
AUG.												
04...	1600	542	9.9	61	15	13	3.1	250	--	26	18	.6
31...	1600	490	31	57	18	13	3.3	240	0	32	18	.3
SEP.												
28...	1530	275	8.5	45	20	16	4.1	244	0	30	18	.1

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
27...	--	--	292	--	.40	290	222	26	.6	492	7.5
NOV.											
24...	--	--	338	--	.46	91.3	258	28	.7	569	7.5
JAN.											
22...	--	40	183	165	.25	464	132	18	.4	280	7.2
MAR.											
10...	--	60	298	301	.41	123	226	22	.6	512	7.5
APR.											
06...	--	30	284	283	.39	314	218	18	.5	473	--
MAY											
05...	--	50	208	204	.28	442	149	11	.4	331	7.8
JUNE											
02...	--	40	230	200	.31	621	156	9	.4	347	8.0
JULY											
13...	.20	40	274	271	.37	410	228	24	.4	459	7.8
AUG.											
04...	.36	30	274	271	.37	401	215	21	.4	461	--
31...	.40	10	276	292	.38	365	218	21	.4	456	8.2
SEP.											
28...	--	20	285	262	.39	212	195	0	.5	478	8.1

10172200 RED BUTTE CREEK AT FORT DOUGLAS, NEAR SALT LAKE CITY, UTAH
(Hydrologic bench-mark, pesticide, and radiochemical station)

LOCATION.--Lat 40°46'48", long 111°48'19", in NW¼ sec.35, T.1 N., R.1 E., Salt Lake County, at gaging station 0.3 mile upstream from spillway of Red Butte Reservoir, 1.5 miles northeast of Fort Douglas, and 5 miles northeast of Salt Lake City.

DRAINAGE AREA.--7.25 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1964 to September 1966, August 1967 to September 1970.
Water temperatures: April 1964 to September 1970.
Sediment records: October 1966 to September 1969 (partial records).

EXTREMES.--1969-70:
Water temperatures: Maximum, 21.0°C Aug. 12-14, 18, 29-30; minimum, freezing point Nov. 4, 5.

Period of record:
Water temperatures: Maximum, 24.0°C July 29, 31, Aug. 1, 3, 4, 1969; minimum, freezing point on many days during winter periods.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
NOV.											
05...	1200	1.7	11	83	34	12	1.0	302	0	100	16
DEC.											
18...	1225	1.6	10	58	32	12	.5	215	0	96	15
JAN.											
27...	1615	2.5	9.5	91	30	12	.9	295	0	110	17
MAR.											
03...	1400	2.4	9.8	85	28	12	.9	276	0	106	14
MAY											
01...	1145	1.5	9.6	77	21	11	1.1	266	0	71	12
AUG.											
11...	1253	2.5	14	71	27	12	1.1	271	0	74	13
SEP.											
22...	1425	2.0	12	72	28	13	.9	271	0	92	8.0

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
NOV.											
05...	.3	30	414	406	.56	1.99	348	100	.3	642	7.9
DEC.											
18...	.4	20	351	332	.48	1.54	276	100	.3	543	7.9
JAN.											
27...	.3	40	419	416	.57	2.87	352	110	.3	645	8.0
MAR.											
03...	.4	30	401	392	.55	2.67	328	102	.3	617	7.7
MAY											
01...	.3	40	345	334	.47	1.40	278	60	.3	545	8.0
AUG.											
11...	.3	30	--	350	.48	2.36	290	68	.3	556	8.1
SEP.											
22...	.2	80	386	359	.52	2.15	294	72	.3	601	7.9

10172200 RED BUTTE CREEK AT FORT DOUGLAS, NEAR SALT LAKE CITY, UTAH--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(WATER-STAGE RECORDER WITH TEMPERATURE ATTACHMENT)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	10.0	6.0	5.5	2.5	2.5	2.0	2.0	2.5	2.5	5.5	4.5
2	11.0	8.0	5.5	5.0	2.5	2.5	2.0	2.0	2.5	2.5	8.0	3.0
3	9.0	8.0	5.5	5.0	2.5	2.5	2.0	2.0	2.5	2.5	6.5	2.0
4	8.0	8.0	6.0	0.0	2.5	2.5	2.0	2.0	4.0	2.5	4.5	2.5
5	9.0	8.0	9.0	0.0	2.5	2.5	2.0	2.0	3.5	2.5	5.0	3.0
6	9.5	8.0	7.0	6.0	2.5	2.5	2.0	2.0	5.5	3.5	6.5	1.5
7	10.5	8.0	7.0	5.5	2.5	2.5	2.0	2.0	5.5	3.0	8.5	3.0
8	9.0	7.5	6.5	4.5	2.5	2.0	2.5	2.5	5.5	3.0	5.5	4.0
9	9.0	7.5	7.0	5.0	2.5	2.0	2.5	2.5	5.5	2.5	8.0	3.0
10	7.5	7.5	6.5	4.5	2.0	1.5	2.5	2.5	6.5	3.5	5.5	3.0
11	8.0	7.5	6.5	4.5	2.5	1.5	2.5	2.5	6.5	3.5	6.5	3.0
12	---	---	8.0	5.5	2.5	2.5	3.0	2.5	7.5	5.0	7.5	3.0
13	---	---	7.0	5.0	3.0	3.0	3.0	3.0	4.5	3.5	8.0	3.5
14	---	---	6.5	5.0	3.5	2.5	3.5	3.0	4.5	1.5	6.5	3.5
15	8.5	5.0	5.5	5.0	3.5	2.5	3.5	2.5	4.5	2.5	4.5	3.5
16	8.5	6.5	5.5	5.0	3.5	2.5	3.0	3.0	4.5	2.5	7.0	3.5
17	9.0	8.0	---	---	3.5	2.5	3.0	3.0	3.5	1.5	5.5	3.5
18	6.5	6.5	---	---	3.5	2.5	4.0	3.0	3.0	1.5	4.0	3.5
19	7.0	6.5	---	---	4.0	3.5	4.5	3.5	2.5	1.5	5.5	3.5
20	9.0	6.5	---	---	4.5	3.5	4.5	4.0	3.0	1.5	6.0	3.5
21	10.0	6.5	---	---	5.5	4.5	4.5	3.5	4.5	1.5	6.0	3.5
22	10.5	6.5	---	---	4.5	2.5	4.5	4.5	7.0	2.5	9.0	3.5
23	10.0	6.5	---	---	3.5	2.5	4.5	3.5	6.5	2.5	10.0	3.5
24	10.0	6.5	---	---	3.5	2.0	4.5	4.5	6.5	1.5	11.0	4.5
25	10.0	6.5	---	---	2.5	2.0	5.0	3.5	6.5	1.5	9.0	3.5
26	10.0	6.0	---	---	2.5	1.5	4.5	3.5	6.5	1.5	5.5	3.5
27	9.0	6.0	---	---	2.5	2.0	4.5	3.0	6.5	1.5	7.5	3.5
28	7.0	5.5	---	---	2.0	2.0	3.0	2.5	6.5	3.5	6.0	3.5
29	6.5	5.5	---	---	2.0	2.0	2.5	2.5	---	---	3.5	3.5
30	6.0	5.5	---	---	2.0	2.0	2.5	2.5	---	---	5.5	3.5
31	6.5	5.5	---	---	2.0	2.0	2.5	2.5	---	---	3.5	3.5
MONTH	14.5	5.0	---	---	5.5	1.5	5.0	2.0	7.5	1.5	11.0	1.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.5	3.5	11.0	4.0	15.5	7.0	16.5	9.0	---	---	20.0	14.5
2	9.0	4.0	12.0	4.5	16.0	8.0	18.5	10.0	---	---	19.5	13.5
3	8.5	4.0	13.0	5.0	16.5	9.0	19.0	11.0	---	---	19.0	12.0
4	10.5	4.0	13.5	5.5	15.5	9.0	20.0	11.5	---	---	18.5	13.5
5	11.0	4.0	13.5	6.5	14.0	9.0	20.0	12.0	---	---	15.0	11.0
6	13.5	7.0	13.5	8.0	13.5	9.0	19.0	12.5	---	---	11.0	10.0
7	11.5	7.0	9.0	6.5	13.5	9.5	19.0	11.5	---	---	16.5	10.0
8	9.0	7.0	12.0	5.5	14.5	9.0	19.0	11.0	---	---	18.0	11.5
9	12.0	7.0	10.0	6.5	11.0	9.5	13.5	12.0	---	---	15.5	10.0
10	12.0	7.0	8.0	6.0	10.0	3.0	---	---	---	---	15.5	9.5
11	8.5	7.0	9.0	5.0	9.0	5.5	---	---	---	---	16.5	11.0
12	10.0	6.5	11.0	5.0	11.0	6.5	---	---	21.0	14.5	16.0	11.0
13	10.5	6.5	10.0	5.0	10.5	8.0	---	---	21.0	14.0	15.5	11.0
14	9.0	6.5	10.0	5.0	13.5	7.0	---	---	21.0	14.5	13.5	9.0
15	6.5	4.0	12.5	5.0	13.5	8.0	---	---	20.0	12.5	13.0	9.0
16	9.5	4.0	14.5	5.5	13.5	8.0	---	---	20.5	13.5	13.5	9.0
17	11.5	5.0	14.5	6.0	15.5	8.0	---	---	19.5	14.0	14.5	9.0
18	11.0	5.0	14.0	6.5	16.5	9.0	---	---	21.0	13.5	15.5	10.0
19	5.5	4.0	12.0	6.5	16.5	9.0	---	---	16.5	15.0	13.5	10.0
20	8.5	4.0	12.0	6.5	17.5	9.5	---	---	19.5	13.5	14.0	10.0
21	9.0	6.0	12.5	6.5	18.5	10.0	---	---	20.0	13.5	10.5	9.0
22	4.5	3.5	14.0	6.5	17.5	10.5	---	---	20.0	12.5	11.5	7.0
23	9.0	3.5	10.5	6.5	19.0	10.5	---	---	20.0	13.0	12.5	7.0
24	10.0	4.5	14.5	6.5	19.0	11.0	---	---	20.0	12.0	11.0	8.0
25	11.0	5.5	15.5	7.5	19.0	11.0	---	---	20.0	13.5	10.0	6.5
26	9.0	5.5	15.5	8.0	20.0	11.0	---	---	20.0	14.5	10.0	5.0
27	5.0	3.5	14.5	9.0	15.5	12.0	---	---	19.5	15.5	11.5	6.5
28	5.5	3.5	15.5	9.0	18.0	10.0	---	---	19.5	14.5	13.0	8.0
29	7.5	3.5	15.0	9.0	15.0	11.0	---	---	21.0	14.5	13.0	8.0
30	6.5	3.5	14.0	8.0	14.0	9.0	---	---	21.0	14.5	13.0	8.0
31	---	---	14.5	6.5	---	---	---	---	19.5	14.5	---	---
MONTH	13.5	3.5	15.5	4.0	20.0	0	---	---	---	---	20.0	5.0

10191500 SEVIER RIVER BELOW PIUTE DAM, NEAR MARYSVALE, UTAH
(Irrigation network station)

LOCATION.--Lat 38°19'55", long 112°11'15", in NW¼SE¼ sec.34, T.28 S., R.3 W., Piute County, at gaging station 0.8 mile downstream from Piute Dam and 8 miles south of Marysvale.

DRAINAGE AREA.--2,440 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: March 1958 to September 1959, February 1961 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.												
20...	1030	79	--	--	--	A23	--	246	6	13	12	--
NOV.												
20...	1335	52	--	--	--	A31	--	271	0	24	12	--
DEC.												
18 ..	1355	38	18	30	30	27	3.9	272	0	23	12	.5
JAN.												
30...	1020	201	20	48	25	24	3.8	294	0	22	12	.5
FEB.												
26...	1300	12	18	45	21	24	3.7	276	0	20	11	.3
MAR.												
30...	1035	273	20	42	22	23	3.9	270	0	19	10	.4
APR.												
21...	1250	456	18	39	24	23	2.9	268	0	22	11	.3
MAY												
25...	1055	155	19	39	23	26	3.9	264	0	24	12	.4
JUNE												
17...	1415	18	19	37	20	29	3.5	244	0	24	13	.4
JULY												
15...	1100	594	19	43	22	27	4.3	268	0	30	12	.4
AUG.												
17...	1300	487	28	49	28	28	4.9	262	0	35	14	.5
SEP.												
14...	0915	177	23	43	26	31	5.6	268	0	36	13	.2

DATE	NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
20...	--	--	283	--	.38	60.4	192	0	0.7	457	8.4
NOV.											
20...	--	--	277	--	.38	38.9	196	0	1.0	468	7.6
DEC.											
08...	--	70	285	279	.39	29.5	200	0	.8	463	7.6
JAN.											
30...	--	60	300	301	.41	163	222	0	.7	489	7.8
FEB.											
26...	--	70	293	279	.40	9.49	200	0	.7	459	7.0
MAR.											
30...	--	60	265	274	.36	195	194	0	.7	447	8.2
APR.											
21...	--	10	292	273	.40	360	196	0	.7	452	7.5
MAY											
25...	--	60	300	278	.41	126	192	0	.8	461	8.2
JUNE											
17...	--	70	280	266	.38	13.6	174	0	1.0	438	8.1
JULY											
15...	.00	70	291	290	.40	467	200	0	.8	481	7.6
AUG.											
17...	.3	90	295	309	.40	388	216	1	.8	484	8.1
SEP.											
14...	--	50	330	311	.45	158	214	0	.9	510	7.9

A SODIUM (NA) PLUS POTASSIUM (K).

10224000 SEVIER RIVER NEAR LYNNDYL, UTAH
(Irrigation network station)

LOCATION.--Lat 39°30', long 112°24', in SE¼ sec.23, T.15 S., R.5 W., Millard County, at bridge on county road, 1.5 miles upstream from gaging station and about 2 miles south of Lynndyl.

DRAINAGE AREA.--6,270 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: March 1951 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: March 1951 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 4,610 micromhos Dec. 31, Jan. 2; minimum daily, 1,430 micromhos Nov. 23-25.
Water temperatures: Maximum, 25.0°C Aug. 3-6; minimum, 1.0°C on many days during December and January.

Period of record:
Dissolved solids (1951-69): Maximum, 5,980 mg/l Dec. 25-27, 1962; minimum, 275 mg/l Feb. 3-11, 1962.
Hardness (1951-69): Maximum, 1,970 mg/l Dec. 29, 30, 1962; minimum, 188 mg/l Feb. 3-11, 1962.
Specific conductance: Maximum daily, 8,300 micromhos Dec. 27, 1962; minimum daily, 431 micromhos Feb. 4, 1962.
Water temperatures: Maximum, 29.5°C July 21-23, 1956, Aug. 9, 10, 1963; minimum, 1.0°C on many days during winter periods.

REMARKS.--Discharges are adjusted to compensate for inflow from deep well discharging to the river between the sampling point and the gaging station.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
NOV. 25...	78	13	64	80	145	4.6	296	0	198	255	.5
JAN. 26...	11	13	116	141	585	8.2	376	0	740	790	.7
APR. 29...	164	19	71	77	261	6.4	344	0	347	320	.5
MAY 26...	724	14	66	74	243	3.2	339	0	301	305	.6
JUNE 24...	555	14	61	75	240	7.7	337	0	290	292	.6
JULY 30...	192	12	60	73	243	6.7	319	7	294	301	.8
AUG. 25...	284	9.2	58	76	240	6.9	283	20	305	295	.5
SEP. 24...	38	8.9	79	96	386	8.8	346	0	480	480	.5

DATE	NITRATE (ND3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
NOV. 25...	2.4	170	970	909	1.32	204	490	247	1540	8.0
JAN. 26...	1.8	640	2760	2580	3.51	82.0	870	562	3980	8.1
APR. 29...	1.7	350	1300	1270	1.73	576	496	214	2000	8.2
MAY 26...	2.1	390	1270	1180	1.60	2480	470	192	1940	8.2
JUNE 24...	1.5	370	1230	1150	1.56	1840	460	184	1910	8.3
JULY 30...	1.1	370	1180	1160	1.58	612	450	176	1860	8.5
AUG. 25...	1.2	340	1180	1150	1.56	905	456	191	1870	8.5
SEP. 24...	2.4	480	1780	1710	2.33	184	592	308	2690	8.2

10224000 SEVIER RIVER NEAR LYNNDYL, UTAH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2000	1740	2140	4520	4080	1740	1920	1960	1930	1840	1930	2130
2	2010	1750	1860	4610	2040	1800	1920	1970	1940	1840	1910	2130
3	2000	1750	1830	4570	1780	1820	1900	2070	1930	1850	1930	1960
4	1810	1710	1790	4520	1770	1920	1930	1910	1940	1850	1870	1950
5	1800	1710	1820	4530	1760	1820	1930	1910	1940	1850	1930	1940
6	1800	1710	1820	4510	1770	1820	1920	1910	1930	1850	1930	1930
7	1670	1710	1600	4430	1760	1810	1930	1980	1930	1850	1880	1940
8	1740	1720	1590	4490	1760	1820	1900	1980	1920	1850	1870	2060
9	1740	1720	1690	3780	1750	1820	1910	1970	2180	1820	1870	2070
10	1740	1720	1720	3780	1760	1810	1910	1990	2180	1850	1890	2060
11	1840	1720	1730	3760	1830	1990	1980	1970	2180	1850	1880	2100
12	1850	1710	1730	3700	1800	1980	1980	1970	2180	1860	1890	2090
13	1860	1710	1760	3700	1760	1990	1970	1970	2180	1850	1870	2110
14	1890	1740	1760	3750	1760	2000	1980	1970	2180	1870	1870	2120
15	1860	1720	2650	3060	1940	1990	1970	1980	2170	1870	1880	2110
16	2030	1750	2700	3060	1960	2010	1970	1970	1890	1870	1890	2090
17	2040	1750	2700	3050	1770	1990	1980	1970	1900	1870	1900	2390
18	2170	1740	2700	3020	1760	2010	1970	1970	1900	1870	1880	2410
19	2180	1730	2700	3380	1760	2020	1970	1940	1890	1820	1890	2400
20	2180	1740	3150	3410	1760	2010	1980	1930	1880	1830	2010	2390
21	1960	1460	3140	3690	1760	2020	2160	1930	1890	1820	2010	2390
22	1960	1450	3160	3700	1740	1990	2140	1950	1890	1820	1990	2400
23	1940	1430	3190	3690	1760	1990	2140	1950	---	1830	1990	2410
24	1800	1430	3170	3690	1760	1980	2140	1950	---	1830	2010	2930
25	1780	1430	3170	3920	1780	1980	2140	1940	---	1830	2010	2930
26	1780	2140	3170	3920	1770	1990	2140	1940	---	1830	2010	3000
27	1730	2160	3160	3980	1750	1930	2160	1930	---	1870	2010	3000
28	1770	2160	3580	4100	1740	1990	2150	1940	---	1870	2010	2300
29	1780	2160	3600	4050	---	1990	2150	1930	---	1870	1990	2270
30	1800	2160	3530	4000	---	1990	1970	1930	---	1860	2110	2270
31	1790	---	4610	4100	---	1990	---	1940	---	1850	2150	---
AVG	1880	1750	2550	3890	1870	1940	2010	1960	---	1850	1940	2280

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	9.0	3.0	1.0	3.0	8.0	7.0	11.0	17.0	21.0	24.0	22.0
2	14.0	9.0	2.0	1.0	5.0	8.0	8.0	14.5	17.0	21.0	24.0	20.0
3	9.0	9.0	2.0	1.0	5.0	9.0	8.0	18.0	17.0	21.0	25.0	20.0
4	11.0	7.0	2.0	1.0	6.0	8.0	8.0	16.0	17.0	22.0	25.0	20.0
5	12.0	7.0	1.0	1.0	6.0	7.5	10.0	16.0	17.0	22.0	25.0	20.0
6	12.0	7.0	1.0	1.0	8.0	7.5	12.0	16.0	17.0	22.0	25.0	16.0
7	12.0	7.0	1.0	1.0	8.0	7.5	12.0	12.0	17.0	22.0	24.0	14.0
8	12.0	7.0	1.0	1.0	8.0	7.5	12.0	12.0	17.0	22.0	24.0	20.0
9	11.0	7.0	1.0	1.0	8.0	7.5	12.0	12.0	17.0	22.0	24.0	20.0
10	8.0	7.0	1.0	1.0	8.0	7.5	12.0	12.0	17.0	22.0	24.0	20.5
11	10.0	7.0	1.0	1.0	8.0	8.0	12.0	12.0	17.0	22.0	24.0	19.0
12	10.0	7.0	3.0	1.0	8.0	8.0	12.0	13.0	17.0	22.0	24.0	19.0
13	8.0	7.0	2.0	1.0	8.0	9.0	9.0	13.0	17.0	24.0	24.0	18.0
14	8.0	6.0	2.0	1.0	8.5	9.0	9.0	13.0	20.0	24.0	22.0	18.0
15	8.0	6.0	3.0	1.0	8.5	8.0	9.0	13.0	20.5	24.0	22.0	16.0
16	10.0	5.0	3.0	1.0	7.0	8.0	11.0	16.0	20.0	24.0	22.0	16.0
17	10.0	3.0	3.0	1.0	8.0	8.0	11.0	16.0	20.5	24.0	22.0	16.0
18	10.0	2.0	4.0	2.0	8.0	8.0	9.0	16.0	21.0	24.5	22.0	16.0
19	10.0	2.0	4.0	4.0	8.0	8.0	10.0	17.0	21.0	24.0	22.0	16.0
20	10.0	4.0	3.0	7.0	8.0	8.0	9.0	17.0	21.0	24.0	24.0	16.0
21	11.0	4.0	3.0	7.0	8.0	8.0	9.0	17.0	21.0	24.0	24.0	16.0
22	11.0	4.0	3.0	7.0	9.0	7.5	9.0	17.0	22.0	24.0	24.0	16.0
23	12.0	4.0	3.0	7.0	9.0	7.5	9.0	17.0	22.0	24.0	24.0	16.0
24	10.0	4.0	3.0	6.5	9.0	7.5	9.0	17.0	22.0	24.0	24.0	14.0
25	10.0	4.0	3.0	7.0	10.0	7.5	9.0	17.0	20.0	22.0	24.0	14.0
26	13.0	3.0	3.0	7.0	10.5	6.5	8.0	17.0	20.0	22.0	24.0	16.0
27	10.0	3.0	2.0	5.0	9.0	6.0	8.0	17.0	20.0	22.0	24.0	17.0
28	9.0	3.0	2.0	1.5	9.0	6.0	8.0	17.0	20.0	22.0	24.0	16.0
29	9.0	3.0	1.0	2.0	---	6.0	8.0	17.0	20.0	22.0	24.0	16.0
30	10.0	3.0	1.0	1.5	---	6.0	9.0	17.0	20.0	22.0	24.0	16.0
31	10.0	---	2.0	3.0	---	6.0	---	17.0	---	22.0	24.0	---
AVG	10.5	5.5	2.3	2.5	8.0	7.5	9.5	15.0	19.0	22.5	23.5	17.5

10244950 STEPTOE CREEK NEAR ELY, NEV.
(Hydrologic bench-mark station)

LOCATION.--Lat 39°12'05", long 114°41'15", in NW¼SW¼ sec.32, T.16 N., R.65 E., White Pine County, at gaging station on left bank, 0.1 mile downstream from Clear Creek, 0.8 mile upstream from Cave Creek, and 11 miles east-southeast of Ely.

DRAINAGE AREA.--11.1 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1970.
Water temperatures: October 1966 to September 1970.
Sediment records: February 1968 to September 1970 (partial records).

EXTREMES.--1969-70:
Water temperatures: Maximum, 10.5°C May 3, 15, 16; minimum, 4.0°C Jan. 28, 29.

Period of record:
Water temperatures: Maximum, 11.0°C on many days in May, July and August of most years; minimum, 3.0°C Feb. 21, 1968.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
23...	1000	6.4	6.1	6.5	49	11	1.7	.5	196	0	8.0	1.0
NOV.												
24...	0930	5.3	5.0	6.5	43	11	1.7	.4	198	0	8.0	.7
DEC.												
29...	1525	3.9	6.0	6.4	49	11	1.9	.5	194	0	7.0	.4
JAN.												
27...	1415	4.3	5.0	6.8	47	11	1.9	.4	198	0	7.0	.9
MAR.												
10...	1420	4.0	6.0	6.8	48	11	1.8	.5	188	0	15	.8
APR.												
23...	1340	4.2	8.5	7.0	49	11	1.9	.5	194	0	8.0	1.0
MAY												
27...	0830	8.8	6.5	6.8	44	8.2	1.7	.5	163	0	11	1.0
JUNE												
25...	1800	9.3	8.0	6.3	47	7.8	--	.3	179	0	7.0	.5
JULY												
27...	1105	6.1	8.0	6.6	45	9.6	1.8	.3	180	0	6.0	.4
AUG.												
26...	1415	4.4	9.5	6.5	45	10	1.6	.5	182	0	7.0	.6
SEPT.												
22...	1545	4.4	8.5	6.5	50	9.7	1.9	.5	190	0	7.0	1.2

DATE	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	PERCENT SODIUM	ALKA-LINITY AS CACO3 (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.												
23...	.1	.6	0	175	.24	168	7	.1	2	161	314	8.0
NOV.												
24...	.1	.8	90	169	.23	152	0	.1	2	162	318	7.9
DEC.												
29...	.2	1.0	30	173	.24	168	9	.1	2	159	315	7.9
JAN.												
27...	.1	.8	0	168	.23	162	8	.1	2	154	312	7.8
MAR.												
10...	.0	--	30	178	.24	165	11	.1	2	154	311	8.0
APR.												
23...	.1	.5	0	174	.24	168	9	.1	2	159	313	7.9
MAY												
27...	.0	--	30	155	.21	144	10	.1	3	134	272	8.0
JUNE												
25...	.1	.6	0	--	--	150	3	--	--	147	284	7.7
JULY												
27...	.0	.5	0	159	.22	152	4	.1	3	148	281	7.7
AUG.												
26...	.1	.5	0	161	.22	154	5	.1	2	149	298	7.6
SEPT.												
22...	.0	.5	40	171	.24	165	9	.1	2	156	314	8.0

10244950 STEPTOE CREEK NEAR ELY, NEV.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TOTAL PHOS-PHORUS AS PO4 (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	AMMONIA (NH4) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)
OCT. 23...	.03	.03	.00	.33	.33
NOV. 24...	.00	.00	.05	.14	.19
DEC. 29...	.06	.06	--	.20	--
JAN. 27...	.07	.02	.04	.01	.02
MAR. 10...	.15	.09	.00	1.2	1.2
APR. 23...	.43	.33	.04	.09	.12
JUNE 25...	.48	.43	.04	1.0	1.0
JULY 27...	.57	.51	.08	.04	.10
AUG. 26...	.05	.02	.00	.24	.24
SEPT. 22...	.04	.01	.06	.12	.17

SPECTROGRAPHIC ANALYSES

DATE	ALU-MINUM (AL)	IRON (FE)	MAN-GANESE (MN)	MOLYB-DENUM (MO)	NICKEL (NI)	VANA-DIUM (V)	ZINC (ZN)	BIS-MUTH (BI)	CAD-MIUM (CD)
MAY 27...	<3.3	5.9	<3.3	<.7	<.7	<.7	<.13	<.7	<3.3

DATE	CO-BALT (CO)	COP-PER (CU)	CHRO-MIUM (CR)	GAL-LIUM (GA)	GERMA-NIUM (GE)	LEAD (PB)	TITA-NIUM (TI)	BERYL-LIUM (BE)
MAY 27...	<3.3	<3.3	<3.3	<13	<.7	<3.3	<1.3	<1.3

RADIOCHEMICAL ANALYSES

DATE OF COLLECTION	DISSOLVED URANIUM (UG/L)	DISSOLVED RADIUM (PC/L)	DISSOLVED GROSS ALPHA (UG/L)	DISSOLVED GROSS BETA (PC/L)	IN SUSPENDED SEDIMENTS GROSS ALPHA (PC/L)	IN SUSPENDED SEDIMENTS GROSS BETA (PC/L)
FEB. 02.....	.27	.07	5.7	1.1	1.2	1.3
AUG. 17.....	.4	.08	<2.5	1.2	.9	.6

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
APR 23, 1970	1340	8.5	4.2	27	.31
MAY 27.....	0830	6.5	8.8	38	.90
JUN 24.....	1830	8.0	9.3	17	.43
JUL 27.....	1105	8.0	6.1	11	.18

10244950 STEPTOE CREEK NEAR ELY, NEV.--Continued

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

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.5	8.0	7.0	6.0	5.5	5.0	5.0	4.5	5.0	4.5	6.0	5.0
2	9.0	7.0	7.0	5.5	5.5	5.0	5.5	4.5	5.0	4.5	6.0	4.5
3	8.0	6.5	7.0	6.0	5.5	5.0	5.5	4.5	5.5	4.5	5.5	4.5
4	7.0	6.5	7.0	6.0	5.0	4.5	5.5	4.5	5.5	5.0	5.5	4.5
5	8.0	6.0	7.0	6.0	5.0	4.5	5.5	4.5	6.0	5.0	6.0	4.5
6	8.5	6.0	6.5	6.0	5.5	4.5	5.5	4.5	6.0	5.5	6.0	4.5
7	9.0	6.5	6.5	5.5	5.5	5.0	5.5	4.5	6.0	5.0	6.5	5.0
8	8.0	6.5	6.5	6.0	5.5	5.0	5.5	4.5	6.0	5.0	6.5	5.0
9	8.5	7.0	7.0	6.0	5.5	4.5	5.5	4.5	6.0	5.0	5.5	4.5
10	7.0	6.0	6.5	5.5	5.0	4.5	5.5	4.5	6.5	5.5	6.0	4.5
11	7.0	6.0	6.5	5.5	5.5	5.0	5.5	5.0	6.5	5.5	6.0	4.5
12	7.0	6.0	6.5	5.5	5.5	5.0	5.5	5.0	6.0	5.5	6.5	4.5
13	8.0	6.0	6.5	5.5	5.5	5.0	5.5	4.5	5.5	4.5	8.0	5.0
14	6.5	6.0	6.0	5.0	5.5	5.0	5.5	5.0	6.0	4.5	6.0	5.0
15	7.0	6.0	6.0	5.5	5.5	5.0	5.0	5.0	5.5	4.5	5.5	4.5
16	8.5	6.5	6.0	5.0	5.5	5.0	5.5	5.0	6.0	5.0	7.0	4.5
17	8.0	7.0	5.0	4.5	5.5	5.0	5.5	5.0	5.5	4.5	5.5	4.5
18	7.0	6.5	5.5	4.5	6.0	5.0	5.5	5.0	6.0	4.5	5.5	4.5
19	7.0	6.5	5.5	4.5	6.0	5.5	5.5	5.0	5.5	4.5	5.5	4.5
20	7.0	5.5	6.0	5.0	5.5	5.0	5.5	5.5	5.5	4.5	5.5	4.5
21	8.0	5.5	6.0	5.0	6.0	5.0	6.0	5.5	5.5	5.0	7.0	4.5
22	8.0	5.5	5.5	4.5	5.0	4.5	6.0	5.5	6.0	5.0	7.0	4.5
23	8.0	6.0	5.5	4.5	5.5	4.5	6.0	5.5	6.0	4.5	8.0	5.0
24	8.0	6.5	6.5	5.0	5.5	4.5	6.0	5.0	6.0	5.0	8.0	5.0
25	8.0	6.0	6.0	5.0	5.5	4.5	5.5	5.0	6.5	4.5	7.0	4.5
26	8.0	6.5	5.5	5.0	5.5	4.5	5.5	5.0	6.0	5.0	5.5	4.5
27	7.0	6.5	5.5	4.5	5.5	4.5	5.5	5.0	6.0	5.0	6.0	4.5
28	7.0	6.0	5.5	4.5	5.5	4.5	5.0	4.0	5.5	5.0	6.0	4.5
29	6.5	5.5	5.0	4.5	5.5	5.0	5.5	4.0	--	--	6.0	4.5
30	7.0	5.5	5.5	4.5	5.5	5.0	5.5	4.5	--	--	5.5	4.5
31	7.0	5.5	--	--	5.5	5.0	5.5	4.5	--	--	6.0	4.5
AVG	7.6	6.2	6.1	5.2	5.4	4.8	5.5	4.7	5.8	4.8	6.2	4.6

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.5	9.5	5.0	9.5	6.0	9.0	6.5	9.5	7.0	9.5	7.0
2	8.0	4.5	10.0	5.0	9.5	6.0	9.0	6.5	10.0	7.0	9.5	7.0
3	7.0	4.5	10.5	5.5	9.0	6.5	9.5	7.0	9.5	8.0	9.5	7.0
4	8.0	4.5	10.0	6.0	9.0	6.5	9.0	7.0	9.0	8.0	9.5	7.0
5	8.5	4.5	10.0	6.0	7.0	6.5	9.0	7.0	10.0	8.5	7.0	6.5
6	9.0	5.0	8.5	6.0	8.0	6.5	9.0	7.0	10.0	8.0	7.0	6.0
7	8.5	4.5	8.5	5.5	9.0	6.5	9.0	7.0	10.0	8.0	9.5	6.5
8	6.5	5.0	9.5	5.5	8.5	6.5	9.0	7.0	10.0	8.0	9.5	7.0
9	9.0	5.0	9.5	6.0	8.0	6.5	8.5	8.0	10.0	7.0	9.5	7.0
10	8.5	5.0	9.5	6.0	8.0	6.0	8.5	7.0	10.0	8.0	9.5	7.0
11	7.0	4.5	9.0	5.5	8.5	5.5	9.0	7.0	10.0	8.0	9.5	7.0
12	8.0	4.5	9.5	5.5	6.5	6.0	9.0	7.0	10.0	8.0	9.5	7.0
13	8.0	4.5	10.0	5.5	7.0	5.5	9.5	7.0	9.5	8.0	8.5	6.5
14	5.5	4.5	9.5	5.5	7.0	5.5	9.5	7.0	9.5	8.0	8.5	6.0
15	6.0	4.5	10.5	5.5	9.0	6.0	9.0	8.0	9.0	8.0	8.5	6.0
16	6.5	4.5	10.5	6.5	8.0	6.0	9.0	8.0	9.0	8.0	8.5	6.0
17	6.0	5.0	10.0	6.5	9.0	6.0	9.5	8.0	9.5	8.0	9.0	6.5
18	8.0	4.5	9.5	6.5	9.0	6.5	9.0	8.0	9.5	8.0	9.0	6.5
19	6.5	5.0	9.5	6.5	9.0	6.5	9.5	8.0	9.0	8.0	8.5	6.5
20	8.0	5.0	8.5	6.0	9.0	6.5	9.0	8.0	10.0	8.0	8.5	6.5
21	6.5	5.0	8.5	6.0	9.0	6.5	9.5	8.0	9.0	8.0	8.5	6.0
22	8.0	5.5	10.0	6.0	9.0	7.0	9.0	8.0	9.0	8.0	8.5	6.0
23	9.0	5.5	9.5	6.5	9.0	6.5	9.5	7.0	10.0	8.0	8.5	6.5
24	10.0	5.5	9.5	6.5	9.0	6.5	9.5	8.0	9.0	8.0	8.0	6.0
25	9.0	5.5	9.5	6.5	9.5	7.0	9.5	8.0	9.5	8.0	7.5	5.5
26	8.0	5.0	9.5	6.5	9.0	7.0	9.0	8.0	10.0	8.0	8.0	6.0
27	5.5	5.0	9.0	6.5	9.0	7.0	9.5	8.0	8.5	8.5	8.5	6.0
28	6.0	5.0	8.5	6.0	9.0	6.5	9.5	8.0	10.0	8.0	8.5	6.5
29	6.5	5.0	9.0	6.0	8.0	6.5	9.5	8.0	9.5	8.0	8.5	6.5
30	8.5	5.0	9.0	6.0	8.5	6.0	10.0	8.0	9.5	8.0	8.5	6.5
31	--	--	9.0	6.0	--	--	9.5	7.0	9.5	8.0	--	--
AVG	7.5	4.8	9.4	5.9	8.5	6.3	9.2	7.4	9.5	7.9	8.7	6.4

10249300 SOUTH TWIN RIVER NEAR ROUND MOUNTAIN, NEV.
(Hydrologic bench-mark station)

LOCATION.--Lat 38°53'00", long 117°14'35", in SE¼ sec.22, T.12 N., R.42 E., Nye County, at gaging station on right bank, 600 ft upstream from diversion, 3 miles west of State Highway 8A, and 15 miles northwest of Round Mountain.

DRAINAGE AREA.--20 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1970.
Water temperatures: April 1966 to September 1968, November 1969 to September 1970.
Sediment records: October 1967 to September 1970 (partial records).

EXTREMES.--1969-70:
Water temperatures: Maximum, 16.0°C Aug. 11; minimum, 0.5°C on many days during winter periods.

Period of record:
Water temperatures: Maximum, 17.0°C July 25, 29, 1966; minimum, freezing point on several days in February 1968.

REMARKS.--Temperature recorder stopped Nov. 29 to Dec. 30; range in temperature, 0.5°C to 4.5°C.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
24...	1000	2.8	5.5	18	19	1.6	6.2	.9	72	0	7.0	2.0
NOV.												
25...	1220	2.4	3.0	18	18	1.6	6.0	.7	70	0	7.0	1.0
DEC.												
31...	1050	2.1	0.5	17	19	1.7	6.2	.8	72	0	7.0	1.6
JAN.												
29...	1200	2.0	0.5	17	18	1.6	6.4	.7	66	0	7.0	2.0
MAR.												
12...	1100	2.5	3.5	17	17	1.5	6.1	.7	62	0	9.0	1.6
APR.												
17...	1100	3.2	4.5	17	18	1.4	5.8	.7	65	0	7.0	1.4
MAY												
28...	1130	16	7.0	20	11	.9	5.1	.8	37	0	7.0	1.6
JUNE												
25...	0900	8.2	9.5	19	17	.9	5.7	1.1	64	0	3.0	.8
JULY												
31...	1010	2.6	11.0	21	14	1.1	5.8	.7	58	0	4.0	.6
AUG.												
27...	0715	3.6	12.0	19	16	1.3	6.1	.9	62	0	6.0	1.1
SEPT.												
24...	0855	1.8	8.0	20	17	1.5	6.2	.8	68	0	5.0	1.2

DATE	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	PERCENT SODIUM	ALKA-LINITY AS CACO3 (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	FIELD PH (UNITS)
OCT.												
24...	.2	.0	10	90	.12	54	0	.4	20	59	135	8.1
NOV.												
25...	.2	.0	20	87	.13	52	0	.4	20	57	133	--
DEC.												
31...	.3	.2	40	89	.12	54	0	.4	20	59	137	7.8
JAN.												
29...	.1	.3	0	86	.12	52	0	.4	21	54	133	7.7
MAR.												
12...	.1	.0	10	84	.11	48	0	.4	21	51	127	7.7
APR.												
17...	.1	.1	80	84	.11	51	0	.4	20	53	124	7.6
MAY												
28...	.1	.7	70	65	.09	31	1	.3	14	30	84	7.6
JUNE												
25...	.2	.2	0	80	.11	46	0	.4	21	52	120	7.5
JULY												
31...	.1	.1	0	76	.10	40	0	.4	24	48	104	7.8
AUG.												
27...	.1	.1	10	82	.11	46	0	.4	22	51	119	8.0
SEPT.												
24...	.0	.5	40	86	.12	48	0	.4	21	56	127	8.5

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEM-PERA-TURE (°C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
OCT 24, 1969	1200	5.5	2.8	1	.01
NOV 25.....	1120	3.0	2.4	1	.01
DEC 31.....	1055	.5	2.1	3	.02
JAN 29, 1970	1100	.5	2.0	1	.01
MAR 12.....	1040	3.5	2.5	2	.01
APR 17.....	1100	4.5	3.2	7	.06
MAY 28.....	1130	7.0	16	27	1.2
JUN 25.....	0930	9.5	8.2	5	.11
JUL 31.....	1010	11.0	2.6	4	.03
AUG 27.....	1245	12.0	3.6	8	.08
SEP 24.....	0915	8.0	1.8	4	.02

10249300 SOUTH TWIN RIVER NEAR ROUND MOUNTAIN, NEV.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TOTAL PHOS-PHORUS AS PO4 (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	AMMONIA (NH4) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	DISS-OLVED OXYGEN (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	ARSENIC (AS) (UG/L)	BARIUM (BA) (UG/L)	SILVER (AG) (UG/L)
OCT.										
24...	.02	.02	.00	.13	.13	9.8	.4	0	0	20
NOV.										
25...	.03	.00	.09	.14	.21	11.0	.6	--	--	--
DEC.										
31...	.04	.04	.22	.07	.24	11.4	.0	--	--	--
JAN.										
29...	.09	.05	.06	.09	.14	12.0	--	--	--	--
MAR.										
12...	.15	.09	.00	.65	.65	10.0	.0	--	--	--
APR.										
17...	.34	.34	.04	.16	.19	10.2	.9	--	--	--
MAY										
28...	.09	.03	.15	.12	.24	9.4	.2	0	500	50
JUNE										
25...	.25	.15	.04	.44	.47	11.4	.0	--	--	--
JULY										
31...	.05	.04	.05	.02	.06	9.5	.0	--	--	--
AUG.										
27...	.08	.04	.09	.14	.14	10.4	.9	--	--	--
SEPT.										
24...	.04	.01	.06	.12	.17	9.8	.2	--	--	--

SPECTROGRAPHIC ANALYSES

DATE	ALU-MINUM (AL)	IRON (FE)	MAN-GANESE (MN)	MOLYB-DENUM (MO)	NICKEL (NI)	VANA-DIUM (V)	ZINC (ZN)	BIS-MUTH (BI)	CAD-MIUM (CD)
OCT.									
24...	<2.5	6.5	<2.5	1.0	<.5	<.5	<10	<.5	<2.5
MAY									
28...	200	97	<1.4	<.3	<.3	.9	<5.7	<.3	<1.4

DATE	CO-BALT (CO)	COP-PER (CU)	CHRO-MIUM (CR)	GAL-LIUM (GA)	GERMA-NIUM (GE)	LEAD (PB)	TITA-NIUM (TI)	BERYL-LIUM (BE)
OCT.								
24...	<2.5	<2.5	<2.5	<10	<.5	<2.5	<1.0	<1.0
MAY								
28...	<1.4	<1.4	<1.4	<5.7	<.3	<1.4	3.7	<.6

PESTICIDE ANALYSIS

DATE OF COLLECTION	ALDRIN	DDD	DDE	DDT	DIEL-DRIN	ENDRIN	HEPTA-CHLOR	LINDANE	2,4-D	SILVEX	2,4,5-T
OCT.											
24...A	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OCT.											
24...B	.00	.00	.00	.00	.00	.00	.00	.00	--	--	--

A WATER SAMPLE.
B BOTTOM SEDIMENT.

RADIOCHEMICAL ANALYSES

	DISSOLVED				IN SUSPENDED SEDIMENTS	
DATE OF COLLECTION	URANIUM (UG/L)	RADIUM (PC/L)	GROSS ALPHA (UG/L)	GROSS BETA (PC/L)	GROSS ALPHA (PC/L)	GROSS BETA (PC/L)
OCT.						
24...	2.2	.07	5.4	2.0	<.4	.5
MAY						
28...	.26	.03	1.5	4.5	4.9	2.2

10249300 SOUTH TWIN RIVER NEAR ROUND MOUNTAIN, NEV.--Continued

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

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	--	--	--	--	--	--	0.5	0.5	1.5	1.5	4.5	3.5
2	--	--	--	--	--	--	0.5	0.5	1.0	0.5	4.0	2.0
3	--	--	--	--	--	--	0.5	0.5	2.0	1.0	3.5	1.0
4	--	--	--	--	--	--	0.5	0.5	3.0	2.0	3.5	1.5
5	--	--	--	--	--	--	0.5	0.5	4.0	2.0	3.5	2.0
6	--	--	--	--	--	--	0.5	0.5	4.0	3.0	4.0	1.0
7	--	--	--	--	--	--	1.0	0.5	3.5	3.0	4.5	2.0
8	--	--	--	--	--	--	1.5	1.0	4.0	3.0	5.0	3.0
9	--	--	--	--	--	--	2.0	1.5	4.0	3.0	4.0	1.5
10	--	--	--	--	--	--	2.0	2.0	4.0	4.0	3.0	2.0
11	--	--	--	--	--	--	3.0	2.0	5.5	4.0	3.5	1.5
12	--	--	--	--	--	--	3.0	3.0	4.5	3.5	5.0	2.0
13	--	--	--	--	--	--	3.0	2.0	3.5	3.0	5.5	3.5
14	--	--	--	--	--	--	3.0	2.0	3.5	2.0	5.5	4.0
15	--	--	--	--	--	--	3.0	3.0	3.5	1.5	4.5	2.0
16	--	--	--	--	--	--	4.0	3.0	4.0	3.0	5.0	1.5
17	--	--	--	--	--	--	3.5	3.5	3.5	1.5	4.0	1.5
18	--	--	--	--	--	--	4.0	3.0	1.5	1.0	3.0	0.5
19	--	--	--	--	--	--	3.5	3.0	1.0	0.5	3.5	0.5
20	--	--	--	--	--	--	3.5	3.0	1.5	0.5	4.0	0.5
21	--	--	--	--	--	--	5.0	3.5	3.0	1.5	5.5	1.5
22	--	--	--	--	--	--	5.0	4.5	4.0	3.0	5.5	1.5
23	--	--	--	--	--	--	4.5	4.0	3.5	2.0	6.0	3.0
24	--	--	--	--	--	--	4.0	3.0	4.0	2.0	7.0	3.0
25	--	--	3.5	3.0	--	--	3.0	2.0	4.0	2.0	5.5	2.0
26	--	--	3.5	3.0	--	--	3.5	2.0	4.0	2.0	3.5	2.0
27	--	--	3.5	3.0	--	--	3.5	1.5	4.5	3.0	4.5	1.5
28	--	--	2.0	1.5	--	--	1.5	0.5	4.0	3.5	5.5	1.5
29	--	--	--	--	--	--	0.5	0.5	--	--	5.0	1.5
30	--	--	--	--	--	--	0.5	0.5	--	--	4.0	1.5
31	--	--	--	--	0.5	0.5	1.5	0.5	--	--	3.0	1.5
AVG	--	--	--	--	--	--	2.4	1.8	3.3	2.2	4.4	1.8

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.5	0.5	8.5	3.0	11.5	6.5	12.0	9.5	14.5	10.5	13.5	10.0
2	6.0	2.0	9.5	3.5	12.0	8.0	13.0	9.0	14.5	10.5	13.0	9.5
3	5.5	1.5	10.0	5.0	11.5	8.0	13.0	9.5	15.0	10.5	13.0	9.0
4	6.0	1.5	8.5	5.5	10.5	9.0	13.0	10.0	13.5	12.0	12.0	9.0
5	7.0	3.0	10.0	5.5	10.0	8.5	12.0	11.0	14.5	11.0	9.0	8.0
6	8.0	3.5	7.0	5.5	10.0	9.0	12.0	10.5	15.5	11.0	11.0	8.0
7	7.0	3.5	8.5	5.0	11.5	8.5	12.0	10.0	15.5	11.5	11.5	9.5
8	6.0	3.5	7.0	4.5	10.5	9.0	12.0	10.0	15.0	11.0	13.0	10.0
9	8.0	3.5	9.5	5.5	9.5	8.5	11.5	11.0	15.0	10.5	13.0	9.5
10	8.0	4.5	8.5	4.5	9.0	7.0	11.0	10.5	15.5	11.0	13.0	10.0
11	7.0	4.0	8.0	4.0	9.0	6.0	12.0	9.5	16.0	11.5	13.0	10.0
12	6.5	2.0	8.5	4.0	8.5	6.5	14.0	10.0	14.5	12.0	12.0	9.5
13	4.5	3.0	9.5	5.5	8.0	6.5	14.5	10.5	15.5	13.0	10.0	8.0
14	3.5	2.0	9.0	5.0	7.0	6.5	14.5	11.0	14.5	12.0	9.0	6.5
15	5.5	1.5	10.5	5.0	8.5	6.0	15.0	11.5	13.5	12.0	9.0	6.0
16	4.5	3.0	11.0	6.0	9.5	8.0	15.5	11.5	14.0	11.5	9.5	6.0
17	6.0	3.5	11.0	6.5	10.5	7.0	15.5	11.5	14.0	11.5	10.5	8.0
18	7.0	3.0	10.0	6.5	12.0	9.0	15.5	11.5	13.5	12.0	10.5	8.5
19	4.5	2.0	9.0	6.5	13.0	9.0	15.0	12.0	14.0	12.0	10.0	8.0
20	5.5	1.5	9.0	6.0	13.5	9.5	14.5	13.0	13.5	11.5	8.5	6.5
21	2.0	1.5	10.0	5.5	11.5	9.5	14.5	12.0	13.5	10.5	8.5	7.0
22	4.5	2.0	10.5	6.0	12.0	10.0	14.5	11.0	14.0	11.0	8.5	6.0
23	6.0	1.5	10.5	6.5	13.5	9.5	14.0	10.5	14.0	11.0	9.5	6.5
24	7.0	2.0	8.5	6.0	13.5	9.5	14.5	10.5	14.5	11.0	9.0	8.0
25	8.5	4.0	10.0	6.0	13.5	9.5	14.5	11.5	14.5	10.5	8.0	6.0
26	5.5	3.5	9.5	6.5	13.0	10.5	13.5	11.5	14.0	11.5	8.5	6.5
27	4.0	2.0	10.0	6.0	12.0	10.0	13.0	11.5	13.0	11.5	9.5	7.5
28	5.5	2.0	10.5	6.5	12.0	9.0	14.0	11.0	13.5	11.5	10.0	8.0
29	5.5	2.0	11.0	6.5	9.5	7.0	14.0	11.0	13.5	11.0	10.0	8.5
30	8.0	3.0	11.0	7.0	10.5	6.5	13.5	11.0	13.5	11.0	10.0	8.5
31	--	--	10.5	6.0	--	--	14.5	10.0	14.0	11.0	--	--
AVG	5.9	2.5	9.5	5.5	10.8	8.2	13.6	10.7	14.3	11.2	10.5	8.0

10254450 EAST HIGHLINE CANAL NEAR NILAND, CALIF.

LOCATION.--Lat 33°16'42", long 115°31'32", in SE¼SW¼SW¼ sec. 21, T.10 S., R.14 E., Imperial County, at gaging station 2.8 miles northwest of Niland.

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

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	NITRITE (NO2) (MG/L)	AMMONIA (NH4) (MG/L)
AUG 1969								
13...	1110	33	31.0	1.1	--	--	--	.00
SEP.								
16...	0900	27	28.0	.13	--	--	--	.15
OCT.								
22...	1005	.01	18.0	.19	--	--	--	.07
NOV.								
19...	0935	.01	13.0	.00	--	--	--	.00
DEC.								
17...	0815	.01	12.0	.30	--	--	--	.00
JAN 1970								
19...	1645	10	15.0	.32	--	.32	--	.00
FEB.								
17...	1640	14	18.0	.42	--	.54	.02	.15
MAR.								
16...	1715	36	19.2	.17	--	.49	.03	.41
APR.								
21...	1600	5.7	19.0	.58	--	.87	.01	.37
MAY								
18...	1545	37	28.0	1.1	1.4	1.1	.02	.00
JUNE								
15...	1600	36	27.0	.83	1.5	.94	.01	.14
AUG.								
18...	1600	37	33.0	.54	.95	.58	.03	.05
SEP.								
22...	1600	30	24.0	.42	--	.45	--	.04

DATE	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC CONDUCTANCE (MICROMHOS)
AUG 1969								
13...	.7	.17	.00	.00	850	1.16	75.7	1300
SEP.								
16...	.6	.19	.02	.02	984	1.34	71.7	1480
OCT.								
22...	1.4	.19	.00	.06	952	1.29	.26	1450
NOV.								
19...	1.6	.18	.05	.10	1030	1.40	.28	1610
DEC.								
17...	1.9	.11	.03	.03	1020	1.39	.03	1550
JAN 1970								
19...	1.4	.06	.05	.05	998	1.36	26.9	1540
FEB.								
17...	2.6	.16	.00	.00	1050	1.43	40.3	1570
MAR.								
16...	2.6	.53	.02	.13	--	--	--	--
APR.								
21...	1.3	.23	.03	.07	976	1.33	15.0	1450
MAY								
18...	1.4	.78	.05	.40	914	1.24	91.3	1400
JUNE								
15...	2.5	.10	.07	.07	914	1.24	88.8	1370
AUG.								
18...	1.6	.20	.02	.02	932	1.27	93.1	1390
SEP.								
22...	1.4	.15	.01	.01	932	1.27	75.5	1410

10254450 EAST HIGHLINE CANAL NEAR NILAND, CALIF.--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)
AUG 1969								
13...	.00	.00	--	.00	.00	.00	.00	.00
SEPT.								
16...	.00	.00	--	.00	.00	.00	.00	.00
OCT.								
22...	.00	.00	.04	.00	.00	.00	.00	.00
NOV.								
19...	.00	.00	.02	.00	.00	.00	.00	.00
JAN 1970								
19...	.00	.00	.00	.00	.00	.00	.00	.00
FEB.								
17...	.00	.00	.00	.00	.00	.00	.00	.00
MAY								
18...	.00	.00	.00	.00	.00	.00	.00	.00
JUNE								
15...	.00	.00	.00	.00	.00	.00	.00	.00
JULY								
14...	.00	.00	.00	.00	.00	.00	.00	.00
AUG.								
18...	.00	.00	.00	.00	.00	.00	.00	.00
SEPT.								
22...	.00	.00	.00	.00	.00	.00	.00	.00

DATE	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)	MALA-THION (UG/L)	DI-AZINON (UG/L)
AUG 1969								
13...	.00	.00	.00	--	--	--	--	--
SEPT.								
16...	.00	.00	.00	--	--	--	--	--
OCT.								
22...	.00	.00	.00	--	--	--	--	--
NOV.								
19...	.16	.00	.00	--	--	--	--	--
JAN 1970								
19...	.00	.00	.00	--	--	--	--	--
FEB.								
17...	.00	.00	.01	--	--	--	--	--
MAY								
18...	.00	.00	.00	.00	--	--	--	--
JUNE								
15...	.00	.00	.00	.00	--	--	--	--
JULY								
14...	.00	.00	.00	.00	--	--	--	--
AUG.								
18...	.04	.00	.00	.00	--	--	--	--
SEPT.								
22...	.00	.00	.00	.00	.00	.00	.00	.00

10254580 ALAMO RIVER AT INTERNATIONAL BOUNDARY, NEAR CALEXICO, CALIF.

LOCATION.--Lat 32°40'26", long 115°22'12", in SE¼SE¼NW¼ sec.18, T.17 S., R.15 E., Imperial County, at gaging station at international boundary, 6.5 miles east of Calexico.

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

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	NITRITE (NO2) (MG/L)	AMMONIA (NH4) (MG/L)
AUG 1969								
13...	0905	2.0	28.0	.56	--	--	--	.01
SEP.								
16...	1140	2.0	27.0	.87	--	--	--	.11
OCT.								
22...	1240	2.0	19.5	.67	--	--	--	.07
NOV.								
19...	1450	2.2	17.0	.36	--	--	--	.23
DEC.								
17...	1215	2.2	17.5	.25	--	--	--	.41
JAN 1970								
20...	0900	3.5	14.0	.57	--	.62	--	.06
FEB.								
18...	0900	2.5	15.5	.49	--	.67	.11	.23
MAR.								
17...	0930	2.0	17.5	.42	--	.76	.11	.44
APR.								
22...	1015	2.0	17.8	.36	--	.68	.11	.41
MAY								
19...	0930	1.6	22.5	1.4	1.8	1.4	.12	.03
JUNE								
16...	0800	1.4	20.5	1.0	1.6	1.1	.07	.18
AUG.								
19...	0730	2.1	27.5	.50	.93	.57	.08	.09
SEP.								
22...	1815	2.9	24.0	.60	--	.63	--	.04

DATE	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)
AUG 1969								
13...	1.7	.24	.05	.12	2010	2.73	10.9	3080
SEP.								
16...	.1	.38	.05	.05	2450	3.33	13.2	3630
OCT.								
22...	1.6	.37	.09	.18	2580	3.51	13.9	3860
NOV.								
19...	2.9	.26	.04	.17	2940	4.00	17.5	4380
DEC.								
17...	3.6	1.7	.13	.24	2480	3.37	14.8	3690
JAN 1970								
20...	2.5	.32	.14	.14	2840	3.86	26.8	4240
FEB.								
18...	2.7	.28	.09	.08	2630	3.58	18.1	3860
MAR.								
17...	20	.55	.13	.20	--	--	--	--
APR.								
22...	2.6	.65	.18	.24	3220	4.38	17.4	4720
MAY								
19...	1.4	1.9	.22	.80	2260	3.07	10.3	3450
JUNE								
16...	2.1	.37	.07	.26	2880	3.92	10.9	4370
AUG.								
19...	1.5	.26	.05	.13	2060	2.80	11.7	3060
SEP.								
22...	1.3	.18	.03	.03	2500	3.40	19.6	3690

10254580 ALAMO RIVER AT INTERNATIONAL BOUNDARY, NEAR CALEXICO, CALIF.--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)
AUG 1969								
13...	.00	.00	--	.00	.00	.00	.00	.00
SEPT.								
16...	.00	.01	--	.00	.00	.00	.00	.00
OCT.								
22...	.00	.01	.01	.00	.00	.00	.00	.00
NOV.								
19...	.00	.01	.00	.00	.00	.00	.00	.00
JAN 1970								
20...	.00	.00	.00	.00	.00	.00	.00	.00
FEB.								
18...	.00	.01	.01	.00	.00	.00	.00	.00
MAY								
19...	.00	.04	.05	.01	.00	.00	.00	.00
JUNE								
16...	.00	.01	.00	.00	.00	.00	.00	.00
JULY								
14...	.00	.00	.01	.00	.00	.00	.00	.00
AUG.								
19...	.00	.00	.00	.00	.00	.00	.00	.00
SEPT.								
22...	.00	.00	.00	.00	.00	.00	.00	.00

DATE	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)	MALA-THION (UG/L)	DI-AZINON (UG/L)
AUG 1969								
13...	.00	.00	.00	--	--	--	--	--
SEPT.								
16...	.00	.00	.00	--	--	--	--	--
OCT.								
22...	.00	.00	.00	--	--	--	--	--
NOV.								
19...	.07	.02	.00	--	--	--	--	--
JAN 1970								
20...	.03	.00	.00	--	--	--	--	--
FEB.								
18...	.14	.00	.00	--	--	--	--	--
MAY								
19...	.07	.00	.00	.00	--	--	--	--
JUNE								
16...	.00	.00	.00	.00	--	--	--	--
JULY								
14...	.00	.00	.00	.00	--	--	--	--
AUG.								
19...	.00	.00	.00	.00	--	--	--	--
SEPT.								
22...	.00	.00	.00	.00	.00	.00	.00	.00

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CALIF.

LOCATION.--Lat 32°49'57", long 115°26'09", in SE¼SE¼NE¼ sec.20, T.15 S., R.15 E., Imperial County, at gaging station 3.4 miles northwest of Holtville.

PERIOD OF RECORD.--Chemical analyses: August 1969 to June 1970 (discontinued).

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO JUNE 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	NITRITE (NO2) (MG/L)	AMMONIA (NH4) (MG/L)
AUG 1969								
13...	0945	217	30.0	.97	--	--	--	.01
SEPT.								
16...	1040	166	27.0	.69	--	--	--	17
OCT.								
22...	1140	326	18.8	.68	--	--	--	14
NOV.								
19...	1200	129	15.0	.00	--	--	--	22
DEC.								
17...	1000	197	12.5	4.5	--	--	--	5.9
JAN 1970								
20...	1100	197	14.8	.10	--	10	--	13
FEB.								
18...	0730	148	--	--	--	18	2.9	--
MAR.								
17...	0700	227	17.2	--	--	11	3.1	--
APR.								
22...	0845	294	19.0	2.0	--	10	1.2	10
MAY								
19...	0745	302	23.2	2.3	14	8.8	3.3	8.4
JUNE								
16...	0845	248	22.5	2.0	15	8.2	1.8	8.0

DATE	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC CONDUCTANCE (MICROMHOS)
AUG 1969								
13...	57	1.5	.29	.78	1980	2.69	1160	2920
SEPT.								
16...	23	1.7	.47	.92	2370	3.22	1060	3640
OCT.								
22...	26	3.5	2.0	2.0	2090	2.84	1840	3140
NOV.								
19...	41	1.6	1.4	1.4	3700	5.03	1290	5300
DEC.								
17...	38	5.7	1.8	4.2	2490	3.39	1320	3650
JAN 1970								
20...	30	3.2	1.3	2.7	2390	3.25	1270	3570
FEB.								
18...	18	.90	.82	.87	2970	4.04	1190	4280
MAR.								
17...	8.0	4.5	2.4	2.6	--	--	--	--
APR.								
22...	21	2.8	1.1	2.5	2100	2.86	1670	3070
MAY								
19...	20	7.2	2.0	3.1	2220	3.02	1810	3200
JUNE								
16...	29	1.8	.17	.84	2020	2.75	1350	3060

10254600 ALAMO RIVER AT DROP NO. 9, NEAR HOLTVILLE, CALIF.--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO JUNE 1970

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)
AUG 1969							
13...	.00	.04	--	.06	.02	.00	.00
SEP.							
16...	.00	.02	--	.03	.02	.00	.00
OCT.							
22...	--	.03	.05	.03	.00	.00	.00
NOV.							
19...	.00	.01	.01	.01	.00	.00	.00
JAN 1970							
20...	.00	.02	.02	.01	.00	.00	.00
FEB.							
18...	.00	.00	.01	.00	.00	.00	.00
MAY							
19...	.00	.02	.01	.02	.00	.00	.00
JUNE							
16...	.00	.02	.02	.01	.00	.00	.00

DATE	LINDANE (UG/L)	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)
AUG 1969							
13...	.01	.17	.00	.00	.00	--	.06
SEP.							
16...	.00	1.8	.17	.00	.00	--	.10
OCT.							
22...	.00	1.1	.03	.00	--	.77	.45
NOV.							
19...	.01	.25	.04	.00	--	.04	--
JAN 1970							
20...	.01	2.7	.86	.00	--	.22	.21
FEB.							
18...	.00	.23	2.2	.00	--	--	--
MAY							
19...	.00	2.0	.28	.00	.00	--	--
JUNE							
16...	.00	.90	.00	.00	.00	--	--

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CALIF.

LOCATION.--Lat 33°06'13", long 115°32'38", on line between secs.19 and 20, T.12 S., R.14 E., Imperial County, at gaging station 2.2 miles southwest of Calipatria.

PERIOD OF RECORD.--Chemical analyses: August 1969 to June 1970 (discontinued).

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO JUNE 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	AMMONIA (NH4) (MG/L)	NITRATE (NO3) (MG/L)
AUG 1969								
13...	1030	620	31.0	1.3	--	--	.01	95
SEP.								
16...	0935	495	28.0	1.4	--	--	.23	26
OCT.								
22...	1040	812	18.5	1.4	--	--	2.7	27
NOV.								
19...	1035	348	14.5	3.0	--	--	2.6	29
DEC.								
17...	0845	545	12.5	3.7	--	--	4.6	36
JAN 1970								
19...	1715	596	14.5	.80	--	8.4	9.8	32
FEB.								
17...	1710	460	16.5	--	--	6.4	--	30
MAR.								
16...	1745	788	19.0	--	--	4.6	--	9.0
APR.								
21...	1630	848	18.0	2.3	--	4.3	2.6	20
MAY								
18...	1615	752	27.0	1.0	8.0	1.8	1.1	21
JUNE								
15...	1630	752	24.5	2.6	12	4.9	3.0	28

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CALIF.--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO JUNE 1970

DATE	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)
AUG 1969							
13...	1.5	.01	.57	2660	3.62	4450	3960
SEP.							
16...	1.4	.06	.42	2780	3.78	3720	4140
OCT.							
22...	1.3	.92	.93	2520	3.43	5530	3690
NOV.							
19...	1.1	.34	.43	3640	4.95	2310	5300
DEC.							
17...	2.5	1.4	1.6	2760	3.75	4060	4110
JAN 1970							
19...	2.6	.59	1.8	2880	3.92	4630	4310
FEB.							
17...	1.2	.57	.64	3660	4.98	4550	5120
MAR.							
16...	2.4	1.0	1.0	--	--	--	--
APR.							
21...	3.8	1.0	2.4	2450	3.33	5610	3570
MAY							
18...	6.7	1.2	1.8	2460	3.35	5000	3640
JUNE							
15...	1.9	.21	.74	2240	3.05	4550	3350

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)
AUG 1969							
13...	.00	.04	--	.03	.02	.00	.00
SEP.							
16...	.00	.04	--	.03	.03	.00	.00
OCT.							
22...	--	.03	.04	.02	.00	.00	.00
NOV.							
19...	.00	.03	.03	.01	.00	.00	.00
JAN 1970							
19...	.00	.02	.03	.01	.01	.00	.00
FEB.							
17...	.00	.02	.02	.00	.00	.00	.00
MAY							
18...	.00	.02	.02	.02	.00	.00	.00
JUNE							
15...	.00	.02	.02	.01	.00	.00	.00

DATE	LINDANE (UG/L)	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)
AUG 1969							
13...	.01	.00	.01	.00	--	--	.12
SEP.							
16...	.00	3.6	.72	.00	.04	--	.35
OCT.							
22...	.00	1.3	.03	.00	--	.71	.49
NOV.							
19...	.00	1.8	.02	.00	--	.21	.26
JAN 1970							
19...	.00	.00	.00	.00	--	.10	.07
FEB.							
17...	.00	1.5	15	.03	--	--	--
MAY							
18...	.00	--	--	--	.00	--	.13
JUNE							
15...	.00	.20	.10	.00	.00	--	--

10254730 ALAMO RIVER NEAR NILAND, CALIF.

LOCATION.--Lat 33°12'03", long 115°36'07", in NE¼SW¼NE¼ sec. 22, T.11 S., R.13 E., Imperial County, at gaging station on left bank, 0.6 mile upstream from mouth and 5.8 miles southwest of Niland.

PERIOD OF RECORD.--Chemical analyses: October 1963 to September 1964, October 1966 to September 1967 (partial records), August 1969 to September 1970.

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	NITRITE (NO2) (MG/L)	AMMONIA (NH4) (MG/L)
AUG 1969								
13...	1225	766	31.0	.59	--	--	--	.00
SEP.								
16...	0825	635	27.0	1.1	--	--	--	.12
OCT.								
22...	0855	984	17.8	.99	--	--	--	1.2
NOV.								
19...	0850	416	14.0	5.5	--	--	--	4.5
DEC.								
17...	0730	653	11.5	3.3	--	--	--	3.7
JAN 1970								
19...	1610	766	15.0	.50	--	5.2	--	6.1
FEB.								
17...	1600	535	17.0	.00	--	2.0	3.7	2.5
MAR.								
16...	1545	984	20.0	--	--	6.5	4.7	--
APR.								
21...	1500	1060	19.0	1.8	--	4.3	2.0	3.2
MAY								
18...	1500	917	27.0	1.7	8.0	2.1	4.6	.57
JUNE								
15...	1500	861	24.5	2.2	12	4.3	2.9	2.7
AUG.								
18...	1445	747	31.5	1.5	5.5	1.8	3.4	.37
SEP.								
22...	1515	913	23.0	1.0	--	1.6	--	.66

DATE	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
AUG 1969								
13...	96	1.5	.21	.54	2610	3.55	5400	3670
SEP.								
16...	25	1.3	.05	.37	2850	3.88	4890	4200
OCT.								
22...	28	1.7	1.1	1.1	2430	3.30	6460	3560
NOV.								
19...	34	1.6	.35	.43	3600	4.90	4040	5300
DEC.								
17...	37	3.0	1.3	1.8	2710	3.69	4780	4010
JAN 1970								
19...	33	2.0	.36	1.2	2580	3.51	5340	3930
FEB.								
17...	30	2.1	1.5	1.5	3240	4.41	4680	4670
MAR.								
16...	9.0	2.1	.88	.88	--	--	--	--
APR.								
21...	20	4.1	1.0	2.4	2360	3.21	6750	3460
MAY								
18...	20	7.3	.68	1.2	2400	3.26	5940	3560
JUNE								
15...	31	1.6	.15	.64	2240	3.05	5210	3330
AUG.								
18...	16	1.2	.19	.25	2490	3.39	5020	3610
SEP.								
22...	18	2.3	.54	1.1	2190	2.98	5400	3220

10254730 ALAMO RIVER NEAR NILAND, CALIF.--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)
AUG 1969 13...	.00	.00	.00	--	--	.16	--	--
SEPT. 16...	1.0	.35	.00	.03	--	.28	--	--
OCT. 22...	--	.03	.12	.03	.00	.00	.00	.01
NOV. 19...	.00	.04	.54	.01	.00	.00	.00	.00
JAN 1970 19...	.00	.06	.09	.01	.03	.00	.00	.00
FEB. 17...	.00	.04	.06	.01	.04	.00	.00	.01
MAY 18...	.00	.08	.06	.02	.02	.00	.00	.00
JUNE 15...	.00	.03	.03	.01	.02	.00	.00	.00
JULY 14...	.00	.03	.02	.02	.00	.00	.00	.00
AUG. 18...	.00	.02	.02	.00	.01	.00	.00	.00
SEPT. 22...	.00	.03	.01	.00	.00	.00	.00	.00

DATE	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)	MALA-THION (UG/L)	DI-AZINON (UG/L)
AUG 1969 13...	.00	.05	--	.03	.02	.00	.00	.01
SEPT. 16...	.00	.05	--	.03	.00	.00	.00	.00
OCT. 22...	19	.07	.00	--	.84	.65	--	--
NOV. 19...	.42	.05	.00	--	.27	.15	.15	--
JAN 1970 19...	.04	.12	.00	--	--	.11	--	--
FEB. 17...	1.1	1.7	.00	--	.08	.10	--	--
MAY 18...	.23	.09	.00	.00	--	.04	--	--
JUNE 15...	--	.01	.00	.00	--	--	--	--
JULY 14...	2.2	.12	.00	.00	--	--	--	--
AUG. 18...	.24	.08	.00	.00	.31	.37	--	--
SEPT. 22...	2.2	.08	.00	.00	.62	.59	.00	.00

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CALIF.

LOCATION.--Lat 32°39'57", long 115°30'08", in NE¼SW¼SE¼ sec.14, T.17 S., R.14 E., Imperial County, at gaging station at Second Street bridge, 0.2 mile downstream from international boundary and 0.2 mile west of Calexico.

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

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	AMMONIA (NH4) (MG/L)	NITRATE (NO3) (MG/L)
AUG 1969								
13...	0835	147	31.0	.30	--	--	.31	6.9
SEP.								
16...	1110	156	30.0	1.6	--	--	1.4	.8
OCT.								
22...	1210	108	21.0	2.1	--	--	4.5	.4
29...	--	--	--	--	--	--	--	--
NOV.								
19...	1350	145	19.0	2.6	--	--	4.2	.8
DEC.								
17...	1145	122	15.0	7.4	--	--	3.2	2.5
JAN 1970								
20...	0830	141	14.5	1.2	--	3.2	2.6	2.3
FEB.								
18...	0820	152	16.0	--	--	5.0	--	2.4
MAR.								
17...	0830	169	18.5	--	--	4.0	--	3.7
APR.								
22...	0945	202	17.5	2.6	--	6.0	4.4	1.3
29...	--	--	--	--	--	--	--	--
MAY								
19...	0900	153	--	1.7	2.8	2.7	1.3	--
JUNE								
16...	0715	117	22.5	2.5	4.8	4.5	2.6	.8
AUG.								
19...	0700	123	30.5	1.5	2.2	1.9	.52	.7
20...	--	--	--	--	--	--	--	--
SEP.								
22...	1745	118	26.5	2.7	--	4.8	2.6	.1

DATE	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)
AUG 1969							
13...	1.6	.47	.98	5240	7.13	2080	6970
SEP.							
16...	2.0	.90	1.6	5350	7.28	2250	8500
OCT.							
22...	4.2	3.2	3.4	4740	6.45	1380	7480
29...	--	--	--	--	6.19	--	7580
NOV.							
19...	12	2.5	2.2	6380	8.68	2500	10300
DEC.							
17...	5.6	.76	6.3	5220	7.10	1720	8340
JAN 1970							
20...	2.0	.82	1.4	4750	6.46	1810	7510
FEB.							
18...	2.0	1.3	1.3	6190	8.42	2540	9640
MAR.							
17...	2.1	.94	1.1	--	--	--	--
APR.							
22...	3.6	1.6	1.9	4390	5.97	2390	6660
29...	--	--	--	4220	5.74	--	6420
MAY							
19...	4.3	1.5	2.3	4410	6.00	1820	7140
JUNE							
16...	1.8	.46	.89	4380	5.96	1380	6890
AUG.							
19...	1.1	.10	.26	4190	5.70	1390	6460
20...	--	--	--	4000	5.44	--	6240
SEP.							
22...	4.7	3.0	3.0	4250	5.78	1350	6640

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CALIF.--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)
AUG 1969								
13...	.00	.06	--	.02	.00	.00	.00	.03
SEPT.								
16...	.00	.07	--	.03	.02	.00	.00	.20
OCT.								
22...	--	.45	1.2	.02	.01	--	.00	--
NOV.								
19...	--	--	--	--	--	--	--	--
JAN 1970								
20...	.00	.07	.13	.01	.00	.00	.00	.01
FEB.								
18...	.00	.03	.07	.01	.00	.00	.00	.00
MAY								
19...	.00	.01	.00	.00	.00	.00	.00	.00
JUNE								
16...	.00	.05	.03	.00	.00	.00	.00	.00
JULY								
14...	.00	.01	.00	.02	.00	.00	.00	.00
AUG.								
19...	.00	.03	.02	.00	.00	.00	.00	.00
SEPT.								
22...	.00	.10	.19	.00	.00	.00	.00	.04

DATE	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)	MALA-THION (UG/L)	DI-AZINON (UG/L)
AUG 1969								
13...	.00	.00	.00	--	--	.01	--	--
SEPT.								
16...	.00	.00	.00	.07	--	--	--	--
OCT.								
22...	.00	.00	.00	--	--	--	--	--
NOV.								
19...	.00	.00	.00	--	--	--	--	--
JAN 1970								
20...	.00	.00	.00	--	--	--	--	--
FEB.								
18...	.00	.00	.00	--	--	--	--	--
MAY								
19...	.00	.00	.00	.00	--	--	--	--
JUNE								
16...	.00	.00	.00	.00	--	--	--	--
JULY								
14...	.00	.00	.00	.00	--	--	--	--
AUG.								
19...	.30	.00	.00	.00	--	--	--	--
SEPT.								
22...	.07	.00	.00	.00	.00	.00	.00	.00

10255450 NEW RIVER NEAR IMPERIAL, CALIF.

LOCATION.--Lat 32°54'50", long 115°36'20", in SW¼SW¼SW¼ sec.23, T.14 S., R.13 E., Imperial County, at gaging station at Keystone Road bridge, 4.6 miles northwest of Imperial.

PERIOD OF RECORD.--Chemical analyses: August 1969 to June 1970 (discontinued).

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	NITRITE (NO2) (MG/L)	AMMONIA (NH4) (MG/L)
AUG 1969								
13...	1330	349	31.0	.78	--	--	--	.01
SEP.								
16...	1010	407	27.0	1.9	--	--	--	.23
OCT.								
22...	1115	349	17.8	.94	--	--	--	.75
NOV.								
19...	1120	344	16.0	1.8	--	--	--	1.7
DEC.								
17...	0915	301	13.0	2.5	--	--	--	5.9
JAN 1970								
20...	0730	310	15.0	.60	--	2.3	--	2.2
FEB.								
18...	0700	298	16.0	--	--	7.0	2.6	--
MAR.								
17...	0630	449	18.5	--	--	1.6	2.5	--
APR.								
22...	0745	468	16.5	1.8	--	4.0	1.3	2.8
MAY								
19...	0700	374	24.0	.44	3.3	2.1	2.0	2.1
JUNE								
15...	1715	330	26.0	1.4	5.0	3.2	.68	2.3

DATE	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)
AUG 1969								
13...	14	20	.66	1.3	4220	5.74	3980	6740
SEP.								
16...	3.0	2.0	.28	.58	4290	5.83	4710	6680
OCT.								
22...	9.5	1.7	.86	.82	3840	5.22	3620	6090
NOV.								
19...	5.8	1.7	.25	.64	5090	6.92	4730	8000
DEC.								
17...	18	3.4	1.3	2.6	4490	6.11	3650	7080
JAN 1970								
20...	8.7	2.0	.57	1.3	4820	6.56	4030	7600
FEB.								
18...	8.2	2.2	1.4	1.5	5610	7.63	4530	8710
MAR.								
17...	13	2.5	1.0	1.1	--	--	--	--
APR.								
22...	7.7	3.5	1.2	2.7	3880	5.28	4900	5950
MAY								
19...	2.7	5.0	.79	1.3	3930	5.34	3970	6090
JUNE								
15...	7.0	1.6	.35	.78	3840	5.22	3420	5950

PESTICIDE ANALYSES, AUGUST TO SEPTEMBER 1969

DATE	ALDRIN (UG/L)	DDD (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	METHYL PARA-THION (UG/L)	CHLOR-DANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)
AUG 1969												
13...	.00	.06	.03	.01	.00	.00	.02	.13	--	.24	.00	.01
SEPT.												
16...	.00	.05	.03	.01	.00	.00	.04	.05	.06	.19	.00	.13

10255550 NEW RIVER NEAR WESTMORLAND, CALIF.

LOCATION.--Lat 33°06'17", long 115°39'49", in SW¼SW¼SW¼ sec.19, T.12 S., R.13 E., Imperial County, at gaging station on right bank, 3.5 miles upstream from mouth and 5.2 miles northwest of Westmorland.

PERIOD OF RECORD.--Chemical analyses: October 1963 to September 1964, October 1966 to September 1967 (partial records), August 1969 to September 1970.

REMARKS.--Records of discharge furnished by Imperial Irrigation District.

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	NITRITE (NO2) (MG/L)	AMMONIA (NH4) (MG/L)
AUG 1969								
13...	1250	479	32.0	.63	--	--	--	.01
SEP.								
16...	0755	617	27.0	2.1	--	--	--	.23
OCT.								
22...	0825	619	18.8	.93	--	--	--	.33
NOV.								
19...	0800	390	15.0	.66	--	--	--	.97
DEC.								
17...	0700	483	12.8	2.9	--	--	--	2.2
JAN 1970								
19...	1415	485	16.0	.50	--	1.5	--	1.3
FEB.								
17...	1400	446	18.0	.76	--	1.6	.02	1.0
MAR.								
16...	1520	615	20.5	--	--	2.9	1.5	--
APR.								
21...	1315	706	18.5	2.0	--	4.1	.90	2.7
MAY								
18...	1300	626	27.0	1.3	5.3	2.3	1.8	1.3
JUNE								
15...	1230	530	23.5	2.4	7.5	4.0	.29	2.1
AUG.								
18...	1415	547	31.5	1.4	4.6	1.6	.71	.33
SEP.								
22...	1345	536	23.0	1.6	--	1.7	--	.12

DATE	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL SOL-UBLE PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)
AUG 1969								
13...	11	2.2	.49	.98	3650	4.96	4720	5750
SEP.								
16...	21	1.0	.37	.77	3810	5.18	6350	5940
OCT.								
22...	13	1.9	.64	.69	2940	4.00	4910	4620
NOV.								
19...	11	2.2	.22	.79	4760	6.47	5010	7520
DEC.								
17...	22	3.9	1.8	2.3	3780	5.14	4930	5870
JAN 1970								
19...	19	2.0	.63	1.0	3850	5.24	5040	6020
FEB.								
17...	15	.89	.71	.75	4520	6.15	5440	7090
MAR.								
16...	9.0	1.6	1.4	1.5	--	--	--	--
APR.								
21...	14	3.5	.93	2.1	3380	4.60	6440	5140
MAY								
18...	11	6.1	.76	1.5	3230	4.39	5460	4970
JUNE								
15...	15	2.0	.74	.80	3150	4.28	4510	4840
AUG.								
18...	12	1.9	.74	.74	3120	4.24	4610	4750
SEP.								
22...	10	2.1	.52	.52	3060	4.16	4430	4690

10255550 NEW RIVER NEAR WESTMORLAND, CALIF.--Continued

CHEMICAL ANALYSES, AUGUST 1969 TO SEPTEMBER 1970

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	ODD (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)	LINDANE (UG/L)
AUG 1969								
13...	.00	.04	--	.03	.01	.00	.00	.02
SEPT.								
16...	.00	.09	--	.03	.02	.00	.00	.04
OCT.								
22...	--	.04	.04	.01	.00	.00	.00	.02
NOV.								
19...	.00	.06	.05	.02	.00	.00	.00	.01
JAN 1970								
19...	.00	.03	.04	.01	.00	.00	.00	.00
FEB.								
17...	.00	.03	.05	.01	.00	.00	.00	.00
MAY								
18...	.00	.04	.04	.02	.01	.00	.00	.00
JUNE								
15...	.00	.04	.02	.01	.00	.00	.00	.00
JULY								
14...	.00	.02	.02	.02	.00	.00	.00	.00
AUG.								
18...	.00	.03	.01	.00	.00	.00	.00	.00
SEPT.								
22...	.00	.01	.01	.00	.00	.00	.00	.00

DATE	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLOR-DANE (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)	MALA-THION (UG/L)	DI-AZINON (UG/L)
AUG 1969								
13...	.32	.03	.00	--	--	.25	--	--
SEPT.								
16...	.09	.55	.00	.05	--	.19	--	--
OCT.								
22...	1.6	.02	.00	--	.37	.07	--	--
NOV.								
19...	.14	.05	.00	--	.08	.06	--	--
JAN 1970								
19...	.10	.01	.03	--	.08	.02	--	--
FEB.								
17...	.16	.60	.01	--	--	--	--	--
MAY								
18...	.70	.06	.00	.00	--	.03	--	--
JUNE								
15...	.29	.02	.00	.00	--	--	--	--
JULY								
14...	--	--	--	.00	--	--	--	--
AUG.								
18...	.96	.05	.00	.00	1.2	.92	.21	--
SEPT.								
22...	1.8	.02	.00	.00	3.2	2.5	.00	.00

10278300 LOS ANGELES AQUEDUCT AT OUTLET, AT SAN FERNANDO, CALIF.

LOCATION.--Lat 34°18'46", long 118°29'32" (unsurveyed), Los Angeles County, in Mission de San Fernando substation at Los Angeles Aqueduct outlet at upper end of Van Norman Lake at San Fernando.

PERIOD OF RECORD.--Chemical analyses: October 1966 to September 1967 (partial records), October 1967 to September 1970.

REMARKS.--Records furnished by California Department of Water Resources and reviewed by U.S. Geological Survey. Records of discharge furnished by Los Angeles Department of Water and Power.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	SULFATE (SO4) (MG/L)
OCT.									
21...	300	15.0	11.2	18	23	7.0	31	4.0	40
NOV.									
18...	491	12.8	10.6	21	25	7.0	37	4.0	37
DEC.									
16...	462	8.9	11.7	22	24	8.0	37	4.0	33
JAN.									
20...	568	7.8	11.6	20	27	8.0	36	4.0	33
FEB.									
17...	357	7.8	11.8	23	27	7.0	40	5.0	44
MAR.									
17...	350	10.0	11.4	23	28	8.0	43	5.0	37
APR.									
21...	553	12.2	10.2	23	29	11	44	4.0	41
MAY									
19...	539	16.1	9.8	27	30	8.0	45	5.0	39
JUNE									
23...	725	21.1	8.8	23	28	8.0	42	5.0	34
JULY									
21...	768	23.9	8.2	22	26	6.0	39	4.0	30
AUG.									
18...	768	23.9	8.6	22	24	8.0	33	4.0	28
SEP.									
22...	779	26.1	8.8	25	24	6.0	33	4.0	16

DATE	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	HARD-NESS (CA,MG) (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.									
21...	15	.5	1.0	570	86	42	1.5	322	8.3
NOV.									
18...	16	.6	.5	500	91	46	1.7	345	8.0
DEC.									
16...	15	.6	.4	640	93	45	1.7	348	8.1
JAN.									
20...	16	.5	.3	500	100	43	1.6	376	8.1
FEB.									
17...	18	.5	1.1	720	96	46	1.8	380	--
MAR.									
17...	20	.5	1.0	520	103	46	1.8	404	8.3
APR.									
21...	19	.6	.3	520	118	44	1.8	427	8.3
MAY									
19...	21	.7	.3	630	108	46	1.9	420	8.3
JUNE									
23...	20	.6	.6	480	103	46	1.8	394	8.3
JULY									
21...	16	.3	.3	410	90	47	1.8	358	8.4
AUG.									
18...	14	.3	.1	410	93	42	1.5	322	8.3
SEP.									
22...	16	.5	1.3	500	85	44	1.6	323	8.0

10301500 WALKER RIVER NEAR WABUSKA, NEV.
(Irrigation network station)

LOCATION.--Lat 39°09'10", long 119°05'50", in SE¼NW¼ sec.20, T.15 N., R.26 E., Lyon County, at gaging station on left bank, 600 ft upstream from timber bridge at Julian Ranch, 1.8 miles downstream from Southern Pacific Railroad bridge, 4.6 miles east of Wabuska, and 16 miles upstream from Weber Dam.

DRAINAGE AREA.--2,600 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1968 to October 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: October 1968 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 678 micromhos Nov. 7; minimum daily, 219 micromhos June 7.
Water temperatures: Maximum, 32.0°C July 19; minimum, freezing point on several days during January.

Period of record:
Dissolved solids (1968-69): Maximum, 468 mg/l Dec. 11-14, 1968; minimum, 128 mg/l June 1-30, 1969.
Hardness (1968-69): Maximum, 162 mg/l Dec. 11-14, 1968; minimum, 56 mg/l June 1-30, 1969.
Specific conductance: Maximum daily, 729 micromhos Dec. 13, 1968; minimum daily, 183 micromhos June 26, 1969.
Water temperatures: Maximum, 32.0°C July 19, 1970; minimum, freezing point on several days during December to March each year.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
NOV.												
20...	1035	118	2.5	24	49	12	79	5.4	251	0	89	29
DEC.												
22...	1045	146	3.5	26	45	11	80	5.5	226	0	95	30
JAN.												
28...	1005	855	3.5	16	23	5.0	23	3.0	118	0	21	6.8
MAR.												
02...	1100	238	6.0	22	33	7.4	44	3.8	165	0	53	15
APR.												
10...	1015	50	10.0	25	51	12	84	5.4	244	0	106	34
MAY												
18...	1100	138	16.5	21	35	8.4	45	5.1	171	0	55	17
JUNE												
15...	0945	294	14.5	17	29	7.1	39	4.0	151	0	41	11
JULY												
21...	1020	179	24.5	--	30	6.9	39	4.8	160	0	40	11
AUG.												
18...	1045	70	21.0	28	50	12	56	6.7	200	0	94	25
SEPT.												
24...	1125	43	12.0	--	43	9.5	60	5.0	216	0	67	22

DATE	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
NOV.												
20...	1.0	.4	500	420	413	.57	49	2.6	172	0	659	7.8
DEC.												
22...	1.4	1.9	570	420	406	.57	51	2.8	158	0	651	7.5
JAN.												
28...	.5	1.0	170	165	157	.22	38	1.1	78	0	256	7.3
MAR.												
02...	.7	1.0	240	257	261	.35	45	1.8	113	0	416	7.4
APR.												
10...	1.0	.3	590	452	439	.61	50	2.7	176	0	683	8.1
MAY												
18...	--	.5	420	287	271	.39	43	1.8	122	0	442	7.1
JUNE												
15...	.7	.5	200	231	223	.31	44	1.7	102	0	359	7.6
JULY												
21...	--	1.2	170	250	--	.34	44	1.7	104	0	370	7.1
AUG.												
18...	--	.4	360	--	372	.51	40	1.8	174	10	578	7.2
SEPT.												
24...	.8	.5	390	332	--	.45	46	2.2	146	0	552	7.7

DATE	TOTAL PHOS-PHORUS AS PO4 (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	AMMONIA (NH4) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	COLOR (PLATI-NUM-COBALT UNITS)
NOV.						
20...	.89	.17	.03	.84	.86	20
DEC.						
22...	1.1	.49	.05	.90	.94	3
JAN.						
28...	.95	.41	.00	.31	.31	--
MAR.						
02...	.48	.36	.00	1.2	1.2	5
APR.						
10...	.64	.43	.08	.33	.39	10
MAY						
18...	.83	.57	.09	1.1	1.2	--
JUNE						
15...	.78	.38	.00	.57	.57	10
JULY						
21...	.64	.64	.01	.74	.75	10
AUG.						
18...	.70	.56	.00	.90	.90	16
SEPT.						
24...	.54	.43	.06	.42	.47	--

10301500 WALKER RIVER NEAR WABUSKA, NEV.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	467	635	--	473	312	400	404	607	300	263	476	435
2	454	642	630	437	316	403	435	584	284	297	472	404
3	462	639	630	365	317	385	536	616	250	319	492	459
4	456	641	633	358	328	363	541	650	246	340	485	463
5	459	655	632	435	359	361	541	608	243	417	533	455
6	442	654	616	463	359	366	593	552	240	418	484	427
7	431	678	622	464	355	372	603	556	219	379	461	435
8	439	669	622	477	354	347	---	551	226	411	477	435
9	463	648	608	473	348	336	673	534	226	411	492	445
10	541	650	634	481	355	333	638	549	244	468	490	518
11	539	641	645	458	350	335	634	527	286	431	435	541
12	542	644	613	470	350	359	535	543	308	427	458	538
13	555	635	625	460	363	394	505	524	331	452	520	602
14	596	634	638	426	369	409	520	592	345	478	561	529
15	--	651	612	415	366	400	502	568	338	521	551	528
16	582	632	612	412	368	346	506	563	344	526	462	444
17	588	637	622	417	374	348	541	511	378	514	397	444
18	568	627	648	323	386	360	529	456	406	523	447	452
19	563	635	608	297	366	363	489	453	415	391	404	454
20	565	616	616	316	358	367	476	454	244	386	427	473
21	572	609	640	357	355	377	469	539	248	377	477	518
22	576	612	638	310	359	374	523	529	268	415	474	499
23	587	625	647	311	373	376	540	561	223	410	472	470
24	589	565	612	268	386	378	582	548	221	484	508	501
25	590	565	471	260	391	375	628	550	222	475	500	563
26	602	616	500	260	400	396	628	471	237	507	467	494
27	601	569	458	255	405	404	676	423	237	485	466	479
28	597	608	397	252	405	420	613	256	235	507	432	589
29	606	560	384	270	--	419	596	289	238	488	433	492
30	633	606	430	299	--	376	568	327	274	505	466	538
31	634	--	434	312	--	394	--	298	--	484	465	--
AVG	543	624	582	373	361	375	552	509	275	435	473	487

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	7.0	3.0	0.0	5.0	9.0	12.0	19.0	22.0	19.0	24.0	21.0
2	18.0	11.0	3.0	4.0	7.0	7.0	12.0	20.5	20.0	27.0	19.0	23.0
3	13.0	8.0	4.0	0.0	8.0	7.0	12.5	20.0	17.0	23.0	26.0	16.5
4	12.0	18.0	1.0	0.0	7.5	6.0	16.0	23.0	20.0	25.0	24.5	17.0
5	12.0	10.0	3.0	0.0	8.0	8.5	18.0	19.0	20.0	30.0	30.0	18.0
6	12.0	9.0	4.0	1.0	8.0	10.5	15.5	15.0	21.0	26.0	25.0	22.0
7	12.0	7.0	4.0	0.0	8.0	11.0	16.0	17.0	20.0	25.0	27.0	22.0
8	12.0	6.0	4.0	0.0	8.5	8.0	--	15.5	16.0	22.0	24.5	23.0
9	12.0	8.0	3.0	4.0	8.0	9.0	14.5	17.0	18.0	21.0	27.5	22.0
10	11.0	7.0	3.0	5.0	8.0	9.5	10.5	18.0	17.0	23.0	29.5	24.0
11	9.0	8.0	5.0	4.0	10.0	8.0	13.0	18.0	15.0	26.0	27.5	25.0
12	10.0	9.0	3.0	4.0	9.0	12.0	17.0	21.0	17.0	28.0	30.0	17.0
13	9.0	5.0	5.0	5.0	7.5	14.0	10.5	19.0	17.0	24.0	27.0	17.0
14	6.0	8.0	4.0	5.0	7.0	12.0	9.0	18.5	18.0	27.0	24.5	15.0
15	--	8.0	2.0	2.0	8.0	10.0	14.0	23.0	20.0	27.0	27.0	16.0
16	11.0	8.0	4.0	6.0	8.0	12.0	16.0	22.5	21.0	28.0	25.0	15.0
17	9.0	6.0	3.0	7.0	8.0	9.5	12.0	25.0	23.0	26.0	26.0	14.0
18	8.0	5.0	5.0	10.0	7.5	9.0	13.5	19.0	22.0	29.0	27.0	20.0
19	10.0	6.0	4.0	7.0	6.5	10.0	14.0	18.0	25.0	32.0	24.0	--
20	10.0	4.0	3.0	6.0	5.5	11.0	13.0	20.0	25.0	26.0	19.0	17.0
21	12.0	6.0	0.7	5.0	8.0	12.0	10.0	23.0	22.0	25.0	24.0	11.5
22	12.0	5.0	0.5	7.0	9.0	12.0	10.5	23.0	22.0	25.0	27.0	16.0
23	13.0	9.0	8.0	7.0	6.5	13.5	14.0	19.0	22.0	25.0	23.5	18.0
24	12.0	6.0	4.0	5.0	8.0	14.0	16.5	21.5	24.0	25.0	24.0	17.0
25	12.0	4.0	5.0	5.0	9.8	12.0	10.0	26.0	22.0	25.0	27.5	15.0
26	10.0	5.0	3.0	6.0	9.5	12.5	8.0	20.5	23.0	25.0	25.0	19.0
27	11.0	4.0	4.0	6.0	11.0	15.0	10.0	18.0	20.0	25.0	25.5	21.0
28	11.0	3.0	0.1	5.0	7.0	12.0	9.0	19.0	19.0	26.0	26.0	18.0
29	10.0	4.0	3.0	3.0	--	8.0	17.0	21.0	17.0	24.0	25.0	19.5
30	10.0	4.0	0.1	4.5	--	10.0	14.0	15.0	17.0	27.0	22.5	20.0
31	11.0	--	0.1	4.5	--	8.0	--	20.5	--	26.0	21.0	--
AVG	11.3	6.9	3.1	4.1	7.9	10.3	13.0	19.8	20.0	25.5	25.3	18.6

10309000 EAST FORK CARSON RIVER NEAR GARDNERVILLE, NEV.

LOCATION.--Lat 38°50'50", long 119°42'10", in SW¼NE¼ sec.2, T.11 N., R.20 E., Douglas County, temperature recorder at gaging station on left bank, 0.1 mile downstream from Horseshoe Bend, 2 miles east of Mud Lake Reservoir, 4.5 miles downstream from Bryant Creek, and 7 miles southeast of Gardnerville.

DRAINAGE AREA.--341 sq mi.

PERIOD OF RECORD.--Water temperatures: July 1955 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 24.0°C July 19; minimum, freezing point on several days during December to February.

Period of record:
Water temperatures: Maximum (1955-65, 1966-70), 29.5°C Aug. 7, 1960; minimum (1955-63, 1963-67, 1968-70), freezing point on many days during winter periods.

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

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	12.0	9.0	5.5	2.0	1.0	1.0	0.5	2.0	0.5	5.5	3.0
2	16.0	11.5	9.0	5.5	2.0	1.0	1.0	0.5	2.0	0.0	3.0	1.0
3	13.0	9.0	9.5	5.5	2.0	1.5	1.0	0.5	3.0	1.0	4.5	1.0
4	11.5	6.5	9.5	6.5	2.0	1.5	0.5	0.0	4.0	2.0	4.0	1.0
5	11.5	6.5	9.0	7.0	2.0	1.5	0.0	0.0	4.0	2.0	4.5	1.0
6	11.5	6.5	8.0	6.5	2.0	1.5	0.0	0.0	4.0	2.0	5.5	1.5
7	13.0	7.0	6.5	5.0	2.0	1.0	0.0	0.0	4.0	1.5	5.5	2.0
8	13.5	9.0	7.0	4.5	3.5	1.5	0.0	0.0	4.0	1.5	6.0	3.5
9	13.5	9.0	6.5	4.5	3.5	2.0	0.0	0.0	3.5	3.0	4.5	2.0
10	11.5	9.0	6.5	4.0	4.0	2.0	1.5	0.0	3.5	3.0	4.5	1.5
11	11.0	7.0	6.5	4.0	4.0	3.0	1.5	1.0	5.5	3.0	4.0	2.0
12	10.5	6.0	7.0	4.5	4.5	3.0	1.5	0.5	5.0	3.5	6.5	3.0
13	10.0	6.0	7.0	4.5	4.5	4.0	3.5	1.0	3.5	1.5	8.5	5.0
14	8.0	6.5	6.5	4.5	4.5	2.0	3.5	1.0	3.0	0.5	8.5	5.5
15	8.0	6.5	6.0	4.5	3.5	2.0	1.0	0.5	3.0	1.0	7.0	4.0
16	10.0	8.0	6.5	5.0	3.5	1.5	2.0	1.5	3.0	1.0	6.5	3.5
17	9.0	6.5	5.5	3.0	3.5	2.0	2.0	1.0	3.0	1.0	6.5	4.5
18	8.0	6.5	4.0	2.0	5.0	3.0	3.0	1.5	2.0	0.5	5.0	2.0
19	9.0	5.0	4.0	2.0	5.0	4.0	3.0	1.5	2.0	0.5	5.0	1.0
20	9.5	5.5	4.5	2.0	5.0	4.5	3.5	2.0	2.0	0.0	5.5	1.5
21	10.0	6.0	5.0	3.5	5.0	3.5	3.5	3.0	3.0	0.5	6.5	3.0
22	11.0	6.5	5.0	3.0	3.5	1.5	3.5	2.0	4.5	1.5	6.5	3.5
23	10.0	7.0	4.5	2.0	3.5	2.0	3.0	2.0	4.5	1.5	8.0	4.5
24	9.5	7.0	4.5	2.0	4.5	3.5	3.0	1.5	4.5	2.0	8.0	4.5
25	9.5	5.5	4.0	2.0	4.5	3.0	1.5	0.5	5.0	2.0	7.0	4.0
26	8.5	6.0	4.0	1.5	3.0	1.0	2.0	1.0	5.0	2.0	6.0	3.5
27	8.0	6.0	3.5	1.5	1.5	1.0	3.0	2.0	5.5	3.0	6.0	2.0
28	9.0	5.5	3.5	1.5	1.0	0.5	2.0	0.0	5.5	4.5	6.5	3.0
29	8.5	5.0	3.0	1.5	1.0	0.5	1.0	0.0	--	--	6.0	3.5
30	8.5	5.0	2.0	1.5	1.0	0.5	1.0	0.0	--	--	5.5	3.5
31	8.5	5.0	--	--	1.0	0.0	1.0	0.5	--	--	4.0	3.0
AVG	10.5	6.9	5.9	3.6	3.1	1.9	1.7	0.8	3.6	1.6	5.8	2.8

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.5	1.5	11.0	6.5	13.5	9.0	16.0	11.5	19.5	14.0	19.0	15.0
2	8.0	4.0	11.5	6.5	13.5	9.0	18.0	13.5	20.0	14.0	19.0	15.0
3	7.0	4.0	11.5	8.0	14.0	9.5	17.0	14.5	20.5	15.0	19.0	15.0
4	8.0	3.5	11.0	8.0	14.0	9.5	18.0	14.5	20.5	15.0	17.0	14.5
5	9.0	5.0	10.5	6.0	12.0	9.0	19.0	15.0	20.0	14.5	16.5	13.5
6	8.5	5.0	10.0	6.0	14.5	9.5	18.5	15.0	20.0	14.5	18.0	13.5
7	8.0	5.0	10.0	5.0	14.5	9.5	18.0	14.5	19.5	14.5	19.5	15.0
8	8.0	5.0	9.5	6.0	14.0	10.0	19.0	14.5	19.5	13.5	20.0	15.5
9	8.0	4.5	11.5	6.5	12.0	9.0	18.5	15.0	20.0	14.5	19.5	15.5
10	9.0	5.5	10.5	6.0	13.0	9.0	18.5	14.0	20.5	15.0	20.0	15.0
11	8.0	5.0	9.5	5.5	13.0	9.0	19.0	14.5	20.5	15.5	19.5	15.0
12	8.0	4.0	9.5	5.0	13.0	9.0	20.0	15.5	21.0	16.0	18.5	15.0
13	7.0	4.5	12.0	7.0	12.0	8.5	20.5	16.0	20.5	16.0	15.5	11.5
14	5.0	2.0	12.0	8.0	11.5	9.5	20.5	16.0	22.0	14.5	15.5	10.5
15	6.0	2.0	12.0	6.5	13.5	9.5	21.0	17.0	23.0	17.0	15.5	10.5
16	6.0	4.0	13.5	7.0	15.5	11.0	20.5	16.5	23.0	17.0	16.0	10.5
17	6.5	4.5	13.0	7.0	16.0	11.5	21.0	15.5	23.0	18.5	17.0	11.5
18	8.0	4.5	12.0	8.0	16.5	12.0	23.0	16.5	23.5	19.5	16.5	12.0
19	9.0	5.0	11.5	8.5	16.5	12.0	24.0	18.0	23.0	19.0	15.5	12.0
20	8.0	4.5	12.0	7.0	16.5	13.0	23.5	18.5	22.0	18.0	14.5	9.5
21	6.5	4.0	13.0	8.0	16.5	13.0	22.0	17.0	21.0	17.0	15.0	10.0
22	6.5	2.0	13.0	8.5	15.5	12.0	21.0	15.0	21.5	17.0	15.5	9.0
23	8.0	3.5	13.0	8.0	16.0	11.5	21.0	15.0	21.5	17.0	16.5	9.5
24	9.0	5.0	13.0	7.0	16.0	12.0	21.0	15.0	20.0	16.0	16.0	10.0
25	10.0	6.0	13.5	8.0	16.0	12.0	21.0	15.5	20.5	16.5	14.5	8.0
26	9.0	4.0	14.0	8.5	14.0	12.0	20.5	15.0	20.5	16.5	14.5	7.5
27	4.5	2.0	12.0	7.0	14.5	11.0	19.5	14.5	20.5	17.0	15.5	8.0
28	6.5	4.0	12.0	7.0	14.5	11.0	19.0	14.5	20.0	18.0	16.0	8.5
29	8.5	4.5	13.5	8.5	14.0	9.5	19.5	14.0	20.5	18.0	16.5	9.5
30	10.5	6.5	13.5	9.0	14.0	10.5	20.0	14.0	20.5	17.0	16.0	9.5
31	--	--	13.5	8.5	--	--	20.0	14.5	19.5	16.0	--	--
AVG	7.6	4.1	11.8	7.1	14.3	10.4	19.9	15.1	20.8	16.1	16.9	11.8

10312020 CARSON RIVER NEAR SILVER SPRINGS, NEV.
(Irrigation network station)

LOCATION.--Lat 39°17'35", long 119°15'05", in NE¼SE¼ sec. 35, T.17 N., R.24 E., Lyon County, on U.S. Highway 95 at Weeks Bridge, 4.5 miles downstream from gaging station at Fort Churchill and approximately 8.5 miles south of Silver Springs.

DRAINAGE AREA.--1,450 sq mi, approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: October 1962 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: October 1962 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 466 micromhos Dec. 10; minimum daily, 90 micromhos Dec. 27.

Period of record:
Dissolved solids (1962-69): Maximum, 472 mg/l Nov. 1-13, 1966; minimum, 70 mg/l June 22-30, 1967.
Hardness (1962-69): Maximum, 224 mg/l Aug. 1-31, 1963; minimum, 28 mg/l June 22-30, 1967.
Specific conductance: Maximum daily, 685 micromhos Aug. 17, 1963; minimum daily, 81 micromhos July 3, 1967.
Water temperatures (1962-68): Maximum, 22.0°C July 24, 25, 27, 1968; minimum (1962-67), freezing point on many days during winter periods.

REMARKS.--Records of discharge given for Carson River near Fort Churchill (station 10312000).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
23...	1345	245	11.5	22	29	7.3	24	4.1	116	0	48	8.2
DEC.												
01...	1000	169	0.0	22	34	7.2	30	3.3	124	0	63	6.9
JAN.												
05...	1100	184	0.0	23	28	7.5	26	3.3	114	0	48	8.2
FEB.												
09...	1415	541	5.5	21	23	5.8	18	2.2	90	0	38	5.7
MAR.												
19...	1100	447	5.5	19	21	5.0	18	2.0	79	0	40	5.7
APR.												
22...	1055	378	8.0	20	24	5.6	22	2.6	94	0	46	6.2
MAY												
25...	1230	1460	14.5	16	11	2.7	6.9	1.9	48	0	10	2.0
JUNE												
22...	1030	699	20.0	20	17	4.3	14	2.5	79	0	21	2.5
JULY												
23...	1345	13	18.0	--	49	12	43	4.6	180	0	94	8.8
AUG.												
24...	1245	324	22.0	--	51	13	47	5.0	183	0	102	13
SEPT.												
21...	1525	2.2	15.0	--	54	10	49	4.6	192	0	99	12

DATE	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.												
23...	.3	.3	150	202	200	.27	33	1.0	102	7	309	7.6
DEC.												
01...	.4	.1	160	234	228	.32	35	1.2	114	12	360	7.4
JAN.												
05...	.5	1.1	150	216	201	.29	35	1.1	101	7	322	7.3
FEB.												
09...	.3	1.2	90	170	159	.23	32	.9	82	8	247	7.6
MAR.												
19...	.2	.0	140	158	150	.21	34	.9	73	8	227	7.2
APR.												
22...	.4	.2	210	178	173	.24	36	1.1	83	6	267	7.7
MAY												
25...	--	.6	90	82	75	.11	27	.5	38	0	109	6.5
JUNE												
22...	.2	.4	150	135	121	.18	32	.8	60	0	201	6.8
JULY												
23...	.2	.1	90	362	--	.49	35	1.4	172	24	520	7.6
AUG.												
24...	--	.7	120	372	--	.51	35	1.5	180	30	559	7.4
SEPT.												
21...	--	.0	--	388	--	.53	37	1.6	176	18	580	8.1

10312020 CARSON RIVER NEAR SILVER SPRINGS, NEV.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TOTAL PHOS-PHORUS AS PO4 (MG/L)	ORTHO PHOS-PHATE (PO4) (MG/L)	AMMONIA (NH4) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	COLOR (PLATI-NUM-COBALT UNITS)
OCT.						
23...	.50	.42	.00	.76	.76	8
DEC.						
01...	.63	.19	.05	.27	.31	--
JAN.						
05...	.52	.44	.23	.53	.71	2
FEB.						
09...	.60	.34	.00	.15	.15	10
MAR.						
19...	.62	.39	.00	1.1	1.1	20
APR.						
22...	.58	.46	.04	.22	.25	20
MAY						
25...	.76	.40	.00	.89	.89	--
JUNE						
22...	.87	.43	.03	.72	.74	--
JULY						
23...	.47	.37	.22	.32	.49	--
AUG.						
24...	.31	.27	.00	.39	.39	--
SEPT.						
21...	.21	.18	.06	.18	.23	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1960
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	326	334	335	319	256	256	196	198	144	--	--	--
2	331	343	--	329	258	257	202	200	147	--	--	--
3	333	342	337	322	258	258	217	200	148	--	--	--
4	337	343	334	265	258	258	216	201	148	--	--	--
5	336	342	323	266	258	259	212	200	148	--	--	--
6	337	344	322	267	258	259	212	201	227	--	--	--
7	337	344	227	265	257	258	204	200	221	--	--	--
8	338	343	392	265	258	260	193	201	227	--	--	--
9	338	363	337	266	258	260	194	201	227	--	--	--
10	338	343	466	266	258	259	178	201	228	--	--	--
11	337	347	--	206	260	259	179	203	226	--	--	--
12	337	342	336	207	259	260	178	201	227	--	--	--
13	337	342	356	266	259	258	178	201	228	--	--	--
14	336	347	335	267	258	256	194	201	227	--	--	--
15	336	368	268	256	258	243	177	209	227	--	--	--
16	338	347	--	257	258	243	147	172	228	--	--	--
17	339	349	311	258	257	228	178	175	227	--	--	--
18	339	344	309	218	257	240	148	167	227	--	--	--
19	338	344	317	218	257	230	178	118	229	--	--	--
20	338	353	301	235	257	237	153	117	226	--	--	--
21	337	353	220	232	262	232	179	116	227	--	--	--
22	343	354	111	179	258	239	178	131	227	--	--	--
23	336	353	260	183	256	243	179	119	221	--	--	--
24	336	354	217	179	256	241	179	118	228	--	--	--
25	337	353	--	180	256	240	178	120	225	--	--	--
26	337	354	136	179	256	241	178	121	226	--	--	--
27	326	354	90	181	258	197	178	122	226	--	--	--
28	331	354	221	239	258	205	178	224	176	--	--	--
29	336	354	240	218	--	196	178	225	178	--	--	--
30	341	354	278	239	--	201	178	227	176	--	--	--
31	335	--	285	235	--	201	--	--	--	--	--	--
AVG	336	348	283	240	257	241	183	176	208	--	--	--

10312020 CARSON RIVER NEAR SILVER SPRINGS, NEV.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	0.0	--	0.0	1.0	4.0	2.0	5.5	14.0	--	--	--
2	--	1.0	--	0.0	2.0	5.0	6.0	5.0	13.0	--	--	--
3	--	1.0	--	0.0	3.0	4.0	6.0	5.5	14.0	--	--	--
4	--	1.5	--	0.0	2.0	5.0	4.0	6.0	14.0	--	--	--
5	--	1.0	--	0.0	3.0	5.0	7.0	6.0	13.0	--	--	--
6	--	1.5	--	0.0	4.0	4.0	9.0	6.0	14.0	--	--	--
7	--	2.0	--	0.0	5.0	4.0	7.0	5.5	14.0	--	--	--
8	--	2.0	--	1.0	4.0	4.0	7.0	6.0	15.0	--	--	--
9	--	1.5	--	1.0	5.0	5.0	7.0	6.0	14.0	--	--	--
10	2.0	2.0	--	1.0	5.0	5.0	7.0	6.0	14.0	--	--	--
11	2.0	3.0	--	1.5	4.0	5.0	6.0	6.5	15.0	--	--	--
12	2.0	2.0	--	2.0	5.0	6.0	6.0	6.5	15.0	--	--	--
13	2.0	1.5	--	2.0	4.0	6.5	7.0	7.0	16.0	--	--	--
14	2.0	1.5	--	4.0	5.0	7.0	6.0	8.5	16.0	--	--	--
15	2.5	2.0	--	3.0	4.0	6.0	5.0	9.5	17.0	--	--	--
16	--	1.5	--	3.0	3.0	6.0	6.0	12.0	16.0	--	--	--
17	--	2.0	--	3.0	5.0	3.0	5.0	14.0	17.0	--	--	--
18	--	3.0	--	3.5	4.0	5.0	5.5	17.0	17.0	--	--	--
19	--	2.0	--	4.0	5.0	7.0	6.0	14.0	17.0	--	--	--
20	--	2.0	--	5.0	3.0	5.0	5.0	12.0	18.0	--	--	--
21	--	2.0	--	6.0	5.0	7.0	6.0	11.0	18.0	--	--	--
22	--	3.0	--	5.0	4.0	5.5	6.0	12.0	17.0	--	--	--
23	--	1.5	--	5.0	5.0	5.0	5.0	12.0	18.0	--	--	--
24	--	2.0	6.0	6.0	5.0	5.0	5.5	13.0	17.0	--	--	--
25	--	2.0	--	5.0	5.0	4.0	5.0	11.0	18.0	--	--	--
26	--	2.0	5.0	4.0	5.0	3.0	5.0	12.0	18.0	--	--	--
27	--	1.5	6.0	5.0	5.0	--	4.5	12.0	19.0	--	--	--
28	--	3.0	3.0	6.0	4.0	4.0	5.0	12.0	17.0	--	--	--
29	--	2.0	0.0	1.5	--	5.5	5.0	13.0	18.0	--	--	--
30	--	2.0	0.0	5.0	--	5.0	5.0	12.5	19.0	--	--	--
31	--	--	0.0	1.0	--	4.5	--	--	--	--	--	--
AVG	--	1.8	--	2.6	4.0	5.0	5.7	9.5	16.0	--	--	--

HUMBOLDT RIVER BASIN

10335000 HUMBOLDT RIVER NEAR RYE PATCH, NEV.
(Irrigation network station)

LOCATION.--Lat 40°28'00", long 118°18'20", in SE¼NE¼ sec.18, T.30 N., R.33 E., Pershing County, at gaging station 1,000 ft downstream from Rye Patch Dam and 1.5 miles northwest of Rye Patch.

DRAINAGE AREA.--16,100 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: December 1951 to September 1958, October 1959 to September 1961, May 1962 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: December 1951 to September 1958, October 1959 to September 1961, May 1962 to September 1970.

EXTREMES.--Period of record (1951-58, 1959-61, 1962-69):
Dissolved solids: Maximum, 2,190 mg/l Sept. 1-5, 1954; minimum, 253 mg/l June 24, 1956.
Hardness: Maximum, 482 mg/l Sept. 1-5, 1954; minimum, 86 mg/l Jan. 25, 1958.
Specific conductance: Maximum daily, 4,010 micromhos Sept. 2, 1954; minimum daily, 384 micromhos June 24, 1956.
Water temperatures: Maximum (1951-54, 1956-58, 1959-61, 1962-68), 25.5°C Sept. 21, 1958; minimum (1951-54 1956-58, 1959-61, 1962-67, 1968-69), 0.5°C on many days during winter periods.

REMARKS.--Flow completely regulated by Rye Patch Reservoir.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SILICA (SIO2) (MG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.												
22...	1340	133	11.5	37	44	15	125	18	300	8	70	89
NOV.												
27...	1200	14	3.5	34	43	15	126	--	308	0	79	86
DEC.												
29...	1130	17	2.2	33	45	15	129	16	308	0	77	94
FEB.												
25...	1245	13	10.5	33	43	16	133	18	298	0	77	100
MAR.												
25...	0930	161	6.5	34	43	16	133	16	312	0	85	99
MAY												
21...	1640	410	12.0	36	42	16	135	16	304	0	87	101
JUNE												
24...	1700	440	17.0	35	41	15	135	16	301	0	78	106
JULY												
21...	1330	694	21.0	--	40	16	133	16	296	0	76	97
AUG.												
25...	1020	218	21.5	35	38	16	135	17	298	0	72	96

10335000 HUMBOLDT RIVER NEAR RYE PATCH, NEV.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	BORON (B) (UG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.												
22...	.9	.2	490	564	556	.77	58	4.2	172	0	893	8.5
NOV.												
27...	.9	.1	500	562	--	.76	61	4.2	169	0	906	8.2
DEC.												
29...	1.1	.2	570	566	563	.77	59	4.3	174	0	914	8.3
FEB.												
25...	.9	.0	550	604	565	.82	60	4.4	174	0	922	8.3
MAR.												
25...	.8	--	560	580	581	.79	60	4.4	174	0	923	8.2
MAY												
21...	--	.2	580	588	584	.80	61	4.5	171	0	950	7.7
JUNE												
24...	.9	.2	440	598	575	.81	61	4.6	164	0	919	8.2
JULY												
21...	--	--	260	598	--	.81	61	4.5	166	0	908	8.0
AUG.												
25...	1.1	.2	410	590	558	.80	62	4.6	161	0	913	8.1

DATE	TOTAL PHOSPHORUS AS PO4 (MG/L)	ORTHO PHOSPHATE (PO4) (MG/L)	AMMONIA (NH4) (MG/L)	ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	COLOR (PLATINUM-COBALT UNITS)
OCT.						
22...	.35	.24	.00	.86	.86	12
NOV.						
27...	.38	.05	.03	.61	.63	--
DEC.						
29...	.30	.25	.04	.66	.69	4
FEB.						
25...	.31	.30	.04	1.5	1.6	8
MAR.						
25...	.36	.35	.00	1.8	1.8	30
MAY						
21...	.65	.40	.00	.72	.72	--
JUNE						
24...	.35	.24	.04	.54	.57	5
AUG.						
25...	.27	.19	.00	.50	.50	16

PESTICIDE ANALYSES

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDT (UG/L)	DIELDRIN (UG/L)	ENDRIN (UG/L)	HEPTACHLOR (UG/L)	HEPTACHLOR EPOXIDE (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	SILVEX (UG/L)	2,4,5-T (UG/L)	CHLORDANE (UG/L)
OCT.												
01...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	--
NOV.												
03...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	--
DEC.												
01...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	--
JAN.												
02...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	--
FEB.												
02...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	--
MAR.												
03...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	--
APR.												
01...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	--
MAY												
01...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00
JUNE												
01...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	--
JULY												
01...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
AUG.												
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00

10335000 HUMBOLDT RIVER NEAR RYE PATCH, NEV.--Continued-

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	903	--	--	924	911	--	--	--	942	--	940	--
2	905	--	--	917	917	--	--	--	949	--	920	--
3	899	--	--	930	918	--	--	--	948	--	916	--
4	902	--	--	927	915	--	--	--	953	--	916	--
5	908	--	--	931	915	--	--	--	954	--	915	--
6	904	--	--	931	914	--	--	--	951	--	916	--
7	910	--	--	932	919	--	--	--	--	--	919	900
8	900	--	--	932	914	912	--	--	--	--	917	908
9	900	--	--	932	914	927	--	--	954	--	917	915
10	905	--	--	931	914	927	960	--	947	--	917	918
11	899	--	--	932	914	929	959	--	951	--	913	913
12	900	--	--	933	915	930	956	--	948	--	917	914
13	903	--	--	931	912	930	960	--	943	--	914	916
14	904	--	--	929	912	933	963	--	945	--	913	914
15	900	--	--	932	913	930	964	--	946	--	916	921
16	894	--	--	932	916	922	964	--	946	--	915	917
17	899	--	--	932	916	936	964	--	947	--	912	914
18	893	--	--	932	914	939	961	--	942	928	909	913
19	899	--	--	923	913	939	967	--	943	933	911	912
20	902	--	--	927	915	940	967	--	945	935	913	912
21	904	--	--	926	939	940	971	--	947	926	912	907
22	899	--	--	929	922	932	967	--	943	930	912	895
23	898	--	--	932	921	936	965	--	945	931	918	921
24	897	--	--	921	923	941	971	--	939	928	914	916
25	902	--	--	921	923	944	960	--	943	933	912	920
26	901	--	--	922	921	935	965	--	942	935	910	924
27	905	--	--	922	922	935	962	--	945	925	911	920
28	905	--	--	923	918	936	965	--	947	923	909	920
29	907	--	--	923	--	945	963	--	937	925	910	918
30	909	--	--	922	--	923	960	--	952	926	910	918
31	905	--	--	922	--	927	--	--	--	923	910	--
AVG	901	--	--	927	917	932	--	--	946	--	914	914

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	--	--	9.0	5.0	--	--	--	15.0	--	20.5	--
2	15.5	--	--	9.0	5.0	--	--	--	15.0	--	20.5	--
3	15.5	--	--	8.0	5.0	--	--	--	15.0	--	20.5	--
4	15.5	--	--	8.0	5.0	--	--	--	15.0	--	21.0	--
5	15.0	--	--	7.0	6.0	--	--	--	15.0	--	21.0	--
6	15.0	--	--	7.0	6.0	--	--	--	15.0	--	21.0	--
7	15.0	--	--	8.0	6.0	--	--	--	15.0	--	21.0	19.0
8	15.0	--	--	8.0	6.0	7.0	--	--	15.0	--	20.5	19.0
9	15.0	--	--	9.0	6.0	7.0	--	--	15.0	--	20.0	18.5
10	15.0	--	--	9.0	7.0	7.0	7.5	--	15.0	--	20.0	18.5
11	15.0	--	--	9.0	7.0	7.0	7.5	--	16.0	--	20.0	18.0
12	15.0	--	--	9.0	7.0	7.0	7.5	--	16.0	--	21.0	18.0
13	15.0	--	--	7.0	7.0	7.0	7.5	--	16.0	--	21.0	18.0
14	15.0	--	--	7.0	7.0	7.5	7.5	--	16.0	--	21.0	17.0
15	15.0	--	--	6.0	7.0	7.5	7.5	--	16.0	--	21.0	17.0
16	15.0	--	--	6.0	7.0	7.5	7.5	--	16.0	--	21.0	17.0
17	13.5	--	--	6.0	7.0	7.5	8.0	--	16.0	--	21.0	17.0
18	13.5	--	--	6.0	7.0	7.5	8.0	--	16.0	20.0	21.0	17.0
19	13.0	--	--	6.0	7.0	7.5	8.0	--	16.0	20.0	21.0	17.0
20	13.0	--	--	6.0	7.0	7.0	8.0	--	16.0	20.0	21.0	16.5
21	12.5	--	--	6.0	7.0	7.0	8.0	--	17.0	21.0	21.0	16.5
22	12.0	--	--	6.0	7.0	7.0	8.0	--	16.0	21.0	21.0	16.5
23	12.0	--	--	6.0	7.0	7.0	8.0	--	16.0	20.5	21.0	16.5
24	12.0	--	--	6.0	7.0	7.0	8.5	--	16.0	20.5	21.0	16.5
25	11.0	--	--	6.0	7.0	7.0	8.5	--	17.0	20.5	21.0	16.0
26	11.0	--	--	5.0	7.0	7.0	8.5	--	17.0	20.5	21.0	15.0
27	11.0	--	--	5.0	7.0	7.0	8.5	--	17.0	21.0	21.0	15.0
28	11.0	--	--	5.0	7.0	6.5	8.5	--	17.0	21.0	21.0	15.0
29	11.0	--	--	5.0	--	6.5	8.5	--	17.0	21.0	21.0	15.0
30	11.0	--	--	5.0	--	7.0	8.0	--	17.0	21.0	21.0	15.0
31	11.0	--	--	5.0	--	7.0	8.0	--	--	20.0	21.0	--
AVG	13.5	--	--	6.7	6.5	7.0	7.9	--	15.9	--	20.8	16.8

10336698 THIRD CREEK NEAR CRYSTAL BAY, NEV.

LOCATION.--Lat 39°14'26", long 119°56'44", in SW¼NE¼ sec.22, T.16 N., R.18 E., Washoe County, at gaging station 50 ft upstream from culvert on Lakeshore Boulevard, 600 ft upstream from mouth, and 3 miles east of Crystal Bay.

DRAINAGE AREA.--6.0 sq mi.

PERIOD OF RECORD.--*Specific conductance:* October 1969 to September 1970 (partial records).
Sediment records: October 1969 to September 1970 (partial records).

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

DATE	TIME	SPECIFIC CONDUCT-ANCE	DATE	TIME	SPECIFIC CONDUCT-ANCE	DATE	TIME	SPECIFIC CONDUCT-ANCE	DATE	TIME	SPECIFIC CONDUCT-ANCE
OCT			DEC			APR			MAY		
15...	1500	74	20...	1015	62	02...	1300	78	26...	1615	29
16...	0950	63	20...	1400	65	04...	1030	75	26...	1800	29
17...	1055	59	20...	1700	60	04...	1515	74	JUN		
19...	1245	67	21...	1030	56	08...	1505	84	01...	1605	30
19...	1645	64	21...	1300	56	11...	1500	82	02...	1800	26
22...	0730	68	23...	1430	57	15...	1420	72	04...	1650	29
30...	1410	63	JAN			23...	1130	70	04...	1815	26
NOV			16...	0945	52	23...	1315	71	07...	1725	31
04...	1345	71	16...	1225	53	23...	1535	73	07...	1845	29
05...	1515	67	21...	1000	58	23...	1715	75	13...	1745	40
05...	1700	69	21...	1255	58	MAY			24...	1100	39
08...	1530	60	22...	0845	57	02...	1610	65	JUL		
09...	1145	62	27...	1220	68	03...	1545	61	06...	1625	50
16...	1215	63	FEB			03...	1750	58	24...	1315	71
20...	1445	60	27...	1645	79	05...	1415	55	30...	1400	70
23...	1615	60	MAR			05...	1730	50	AUG		
DEC			12...	1445	80	18...	1445	37	14...	1015	85
02...	1150	63	22...	1445	72	18...	1730	34	25...	1420	82
08...	0915	62	22...	1800	74	18...	1900	31	SEP		
08...	1430	65	24...	1250	80	19...	1045	36	11...	1435	80
12...	1340	62	24...	1545	68	23...	1430	36	22...	1440	80
19...	1510	75	24...	1800	71	23...	1730	31			
19...	1730	70	31...	1430	78	23...	1930	30			

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	TOTAL 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
OCT 15, 1969	1500	5.0	5.0	70	.94	52	71	86	94	96	98	99	99	99	100	--	SBWC
OCT 16.....	0950	4.5	7.9	40	.85	--	--	--	--	--	--	--	--	--	--	--	
OCT 16.....	1200	5.0	7.9	50	1.1	--	--	--	--	--	--	--	--	--	--	--	
OCT 17.....	1055	3.0	9.0	21	.51	--	--	--	--	--	--	--	--	--	--	--	
OCT 19.....	1245	5.0	4.8	14	.18	--	--	--	--	--	--	--	--	--	--	--	
OCT 19.....	1645	5.5	5.5	19	.28	--	--	--	--	--	--	--	--	--	--	--	
OCT 22.....	0730	4.0	4.6	6	.07	--	--	--	--	--	--	--	--	--	--	--	
OCT 30.....	1410	9.0	3.9	7	.07	--	--	--	--	--	--	--	--	--	--	--	
NOV 4.....	1345	9.0	2.3	15	.09	--	--	--	--	--	--	--	--	--	--	--	
NOV 5.....	1515	4.0	4.6	28	.35	--	--	--	--	--	--	--	--	--	--	--	
NOV 5.....	1700	3.5	4.8	59	.76	--	--	--	--	--	--	--	--	--	--	--	
NOV 8.....	1530	5.0	5.0	10	.14	--	--	--	--	--	--	--	--	--	--	--	
NOV 9.....	1145	4.0	4.8	3	.04	--	--	--	--	--	--	--	--	--	--	--	
NOV 16.....	1215	4.5	4.8	4	.05	--	--	--	--	--	--	--	--	--	--	--	
NOV 20.....	1445	6.5	4.4	3	.04	--	--	--	--	--	--	--	--	--	--	--	
NOV 23.....	1615	4.5	5.0	10	.14	--	--	--	--	--	--	--	--	--	--	--	
DEC 2.....	1150	2.0	3.2	5	.04	--	--	--	--	--	--	--	--	--	--	--	
DEC 8.....	0915	.5	3.4	11	.10	--	--	--	--	--	--	--	--	--	--	--	
DEC 8.....	1430	2.0	3.9	251	2.6	--	--	--	--	--	--	--	--	--	--	--	
DEC 12.....	1340	3.0	3.9	33	.35	--	--	--	--	--	--	--	--	--	--	--	
DEC 19.....	1510	4.0	12	2280	74	50	57	69	87	95	97	99	100	--	--	--	VPWC
DEC 19.....	1730	3.5	9.0	1270	31	--	--	--	--	--	--	--	--	--	--	--	
DEC 20.....	1015	3.0	32	3670	317	42	51	66	80	88	92	96	98	100	--	--	VPWC
DEC 20.....	1400	3.5	13	909	32	--	--	--	--	--	--	--	--	--	--	--	
DEC 20.....	1700	4.0	12	357	12	--	--	--	--	--	--	--	--	--	--	--	

10336698 THIRD CREEK NEAR CRYSTAL BAY, NEV.--Continued

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	TOTAL SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS INDICATED
DEC 21.....	1030	4.5	23	1700	106	32	39	48	61	69	74	82	87	94	100	--	VPWC
DEC 21.....	1300	1.5	33	2110	188	--	--	--	--	--	--	--	--	--	--	--	
DEC 23.....	1430	.0	6.9	40	.75	--	--	--	--	--	--	--	--	--	--	--	
JAN 16, 1970	0945	1.0	22	1470	87	14	19	26	32	40	48	59	68	79	96	100	VPWC
JAN 16.....	1225	.5	23	1380	86	--	--	--	--	--	--	--	--	--	--	--	
JAN 21.....	1000	1.5	18	2090	102	--	--	--	--	--	--	--	--	--	--	--	
JAN 21.....	1255	2.0	19	2300	118	--	--	--	--	--	--	--	--	--	--	--	
JAN 22.....	0845	3.0	25	2430	164	--	--	--	--	--	--	--	--	--	--	--	
JAN 27.....	1220	.0	10	137	3.7	--	--	--	--	--	--	--	--	--	--	--	
FEB 27.....	1645	5.5	7.6	454	9.3	--	--	--	--	--	--	--	--	--	--	--	
MAR 12.....	1445	9.0	5.5	292	4.3	--	--	--	--	--	--	--	--	--	--	--	
MAR 22.....	1445	10.0	10	867	23	--	--	--	--	--	--	--	--	--	--	--	
MAR 22.....	1800	5.5	10	756	20	--	--	--	--	--	--	--	--	--	--	--	
MAR 24.....	1250	11.0	9.0	380	9.2	--	--	--	--	--	--	--	--	--	--	--	
MAR 24.....	1545	10.0	13	1610	57	--	--	--	--	--	--	--	--	--	--	--	
MAR 24.....	1800	6.0	12	780	25	--	--	--	--	--	--	--	--	--	--	--	
MAR 31.....	1430	7.0	7.2	138	2.7	--	--	--	--	--	--	--	--	--	--	--	
APR 2.....	1300	9.5	6.2	236	4.0	--	--	--	--	--	--	--	--	--	--	--	
APR 4.....	1030	3.5	6.2	243	4.1	--	--	--	--	--	--	--	--	--	--	--	
APR 4.....	1515	10.0	6.9	296	5.5	--	--	--	--	--	--	--	--	--	--	--	
APR 8.....	1505	9.5	7.6	365	7.5	--	--	--	--	--	--	--	--	--	--	--	
APR 11.....	1500	10.0	7.6	231	4.7	--	--	--	--	--	--	--	--	--	--	--	
APR 15.....	1420	6.5	9.8	448	12	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1130	4.5	8.5	228	5.2	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1315	4.5	9.2	273	6.8	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1535	8.5	10	749	20	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1715	5.5	9.8	494	13	--	--	--	--	--	--	--	--	--	--	--	
MAY 2.....	1610	14.5	9.2	155	3.9	--	--	--	--	--	--	--	--	--	--	--	
MAY 3.....	1545	14.5	10	288	7.8	--	--	--	--	--	--	--	--	--	--	--	
MAY 3.....	1750	11.5	12	706	23	6	9	12	15	19	23	30	40	56	71	85	SBWC
MAY 5.....	1415	13.5	12	326	11	--	--	--	--	--	--	--	--	--	--	--	
MAY 5.....	1730	10.5	15	1420	58	--	--	--	--	--	--	--	--	--	--	--	
MAY 18.....	1445	13.0	25	1090	74	--	--	--	--	--	--	--	--	--	--	--	
MAY 18.....	1730	10.5	35	2720	257	--	--	--	--	--	--	--	--	--	--	--	
MAY 18.....	1900	8.0	41	1840	204	1	1	2	3	6	9	12	21	45	68	85	SBWC
MAY 19.....	1045	4.5	27	1140	83	--	--	--	--	--	--	--	--	--	--	--	
MAY 23.....	1430	12.0	26	1690	119	--	--	--	--	--	--	--	--	--	--	--	
MAY 23.....	1730	10.5	37	1620	162	--	--	--	--	--	--	--	--	--	--	--	
MAY 23.....	1930	5.5	41	1940	215	--	--	--	--	--	--	--	--	--	--	--	
MAY 26.....	1615	12.0	51	2030	280	--	--	--	--	--	--	--	--	--	--	--	
MAY 26.....	1800	8.5	53	2430	348	3	4	6	8	10	11	14	23	47	72	89	SBWC
JUN 1.....	1605	11.5	49	674	89	--	--	--	--	--	--	--	--	--	--	--	
JUN 2.....	1800	9.5	68	2220	408	2	3	4	7	9	11	13	20	42	65	81	SPWC
JUN 4.....	1650	12.0	59	1440	229	--	--	--	--	--	--	--	--	--	--	--	
JUN 4.....	1815	10.0	62	1660	278	--	--	--	--	--	--	--	--	--	--	--	
JUN 7.....	1725	13.0	53	1260	180	--	--	--	--	--	--	--	--	--	--	--	
JUN 7.....	1845	10.5	55	602	89	--	--	--	--	--	--	--	--	--	--	--	
JUN 13.....	1745	6.0	27	530	39	19	21	33	39	47	48	50	53	60	78	100	SPWC
JUN 24.....	1100	11.0	21	105	6.0	--	--	--	--	--	--	--	--	--	--	--	
JUL 6.....	1625	16.0	8.5	34	.78	--	--	--	--	--	--	--	--	--	--	--	
JUL 24.....	1315	20.0	3.2	24	.21	--	--	--	--	--	--	--	--	--	--	--	
JUL 30.....	1400	20.0	2.7	22	.16	--	--	--	--	--	--	--	--	--	--	--	
AUG 14.....	1015	12.0	1.9	35	.18	--	--	--	--	--	--	--	--	--	--	--	
AUG 25.....	1420	20.0	1.9	25	.13	--	--	--	--	--	--	--	--	--	--	--	
SEP 11.....	1435	18.5	2.1	11	.06	--	--	--	--	--	--	--	--	--	--	--	
SEP 22.....	1440	14.5	1.7	12	.06	--	--	--	--	--	--	--	--	--	--	--	

10336700 INCLINE CREEK NEAR CRYSTAL BAY, NEV.

LOCATION.--Lat 39°14'25", long 119°56'38", in SW¼NE¼ sec.22, T.16 N., R.18 E., Washoe County, at gaging station 500 ft upstream from culvert on Lakeshore Boulevard, 1,000 ft upstream from mouth just downstream from confluence with major tributary, and 3 miles east of Crystal Bay.

DRAINAGE AREA.--7.0 sq mi.

PERIOD OF RECORD.--Specific conductance: October 1969 to September 1970 (partial records).
Sediment records: October 1969 to September 1970 (partial records).

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

DATE	TIME	SPECIFIC CONDUCTANCE	DATE	TIME	SPECIFIC CONDUCTANCE	DATE	TIME	SPECIFIC CONDUCTANCE	DATE	TIME	SPECIFIC CONDUCTANCE
OCT			DEC			MAR			MAY		
15...	1445	68	19...	1715	65	24...	1755	80	23...	1415	44
16...	0945	65	20...	0950	53	31...	1445	72	23...	1715	39
16...	1215	67	20...	1400	54	APR			23...	1915	39
17...	1045	66	20...	1645	53	02...	1245	72	26...	1600	39
19...	1230	66	21...	1015	49	04...	1015	69	26...	1745	38
19...	1645	65	21...	1245	49	04...	1505	67	JUN		
22...	0725	64	23...	1415	64	08...	1450	80	02...	1750	40
30...	1400	65	JAN			11...	1445	77	04...	1640	41
NOV			16...	0915	49	15...	1430	64	04...	1805	40
04...	1415	65	16...	1210	55	23...	1115	67	07...	1710	44
05...	1500	65	21...	0950	54	23...	1300	67	13...	1710	46
05...	1700	66	21...	1245	55	23...	1525	67	24...	1110	50
08...	1515	66	22...	0830	53	23...	1715	65	JUL		
09...	1120	65	27...	0955	70	MAY			06...	1610	53
18...	1200	66	27...	1100	70	02...	1600	56	24...	1300	56
20...	1500	66	FEB			03...	1530	56	30...	1345	59
23...	1620	65	27...	1700	72	03...	1730	48	AUG		
DEC			MAR			05...	1430	52	14...	1000	71
02...	1030	66	12...	1430	73	05...	1745	45	25...	1400	83
08...	0900	65	22...	1430	72	18...	1430	45	SEP		
08...	1415	64	22...	1750	70	18...	1715	40	11...	1420	64
12...	1330	66	24...	1245	74	18...	1845	39	22...	1445	66
19...	1450	99	24...	1530	68	19...	0905	44			

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	TOTAL 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
OCT 15, 1969	1445	5.0	9.2	328	8.1	38	47	60	68	75	79	86	95	99	100	--	SPWC
OCT 16.....	0945	5.0	8.0	143	3.1	--	--	--	--	--	--	--	--	--	--	--	--
OCT 16.....	1215	5.0	7.4	842	17	--	--	--	--	--	--	--	--	--	--	--	--
OCT 17.....	1045	3.5	6.5	65	1.1	--	--	--	--	--	--	--	--	--	--	--	--
OCT 19.....	1230	5.0	6.1	23	.38	--	--	--	--	--	--	--	--	--	--	--	--
OCT 19.....	1645	5.0	7.4	113	2.3	--	--	--	--	--	--	--	--	--	--	--	--
OCT 22.....	0725	4.0	6.3	17	.29	--	--	--	--	--	--	--	--	--	--	--	--
OCT 30.....	1400	8.5	4.2	50	.57	--	--	--	--	--	--	--	--	--	--	--	--
NOV 4.....	1415	8.0	4.9	41	.54	--	--	--	--	--	--	--	--	--	--	--	--
NOV 5.....	1500	4.0	6.6	411	7.3	--	--	--	--	--	--	--	--	--	--	--	--
NOV 5.....	1700	3.5	6.6	223	4.0	--	--	--	--	--	--	--	--	--	--	--	--
NOV 8.....	1515	4.5	5.9	74	1.2	--	--	--	--	--	--	--	--	--	--	--	--
NOV 9.....	1120	4.0	5.9	8	.13	--	--	--	--	--	--	--	--	--	--	--	--
NOV 16.....	1200	5.0	5.6	4	.06	--	--	--	--	--	--	--	--	--	--	--	--
NOV 20.....	1500	5.0	5.9	165	2.6	--	--	--	--	--	--	--	--	--	--	--	--
NOV 23.....	1620	3.5	4.3	17	.20	--	--	--	--	--	--	--	--	--	--	--	--
DEC 2.....	1030	2.0	4.9	25	.33	--	--	--	--	--	--	--	--	--	--	--	--
DEC 8.....	0900	.5	3.0	29	.23	--	--	--	--	--	--	--	--	--	--	--	--
DEC 8.....	1415	2.0	3.2	18	.16	--	--	--	--	--	--	--	--	--	--	--	--
DEC 12.....	1330	3.0	3.0	79	.64	--	--	--	--	--	--	--	--	--	--	--	--

10336700 INCLINE CREEK NEAR CRYSTAL BAY, NEV.--Continued

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	TOTAL SEDIMENT CONCENTRATION (MG/L)	TOTAL SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE: PERCENT FINER THAN THE SIZE (IN MILLIMETERS) .002	.004	.008	.016	.031	.062	.125	.250	.500	INDICATED 1.00	INDICATED 2.00	METHOD OF ANALYSIS
DEC 19.....	1450	4.0	18	6470	314	34	42	52	68	79	86	92	97	99	100	--	VPWC
DEC 19.....	1715	3.0	14	1620	61	--	--	--	--	--	--	--	--	--	--	--	
DEC 20.....	0950	3.0	29	6460	506	29	32	38	48	58	65	74	83	92	100	--	VPWC
DEC 20.....	1400	3.5	22	2240	133	--	--	--	--	--	--	--	--	--	--	--	
DEC 20.....	1645	4.0	18	1320	64	--	--	--	--	--	--	--	--	--	--	--	
DEC 21.....	1015	4.5	28	6130	463	14	19	26	32	40	46	53	61	70	83	98	SPWC
DEC 21.....	1245	1.5	44	5260	625	--	--	--	--	--	--	--	--	--	--	--	
DEC 23.....	1415	.0	6.8	364	6.7	--	--	--	--	--	--	--	--	--	--	--	
JAN 16, 1970	0915	1.5	41	4500	498	5	8	11	15	20	26	40	60	78	95	100	VPWC
JAN 16.....	1210	1.0	38	3920	402	--	--	--	--	--	--	--	--	--	--	--	
JAN 21.....	0950	2.0	29	1740	136	--	--	--	--	--	--	--	--	--	--	--	
JAN 21.....	1245	2.0	32	3690	319	--	--	--	--	--	--	--	--	--	--	--	
JAN 22.....	0830	3.0	45	1880	228	--	--	--	--	--	--	--	--	--	--	--	
JAN 27.....	0955	.5	13	117	4.1	--	--	--	--	--	--	--	--	--	--	--	
JAN 27.....	1100	.5	12	72	2.3	--	--	--	--	--	--	--	--	--	--	--	
FEB 27.....	1700	4.5	10	175	4.7	--	--	--	--	--	--	--	--	--	--	--	
MAR 12.....	1430	8.0	8.7	412	9.7	--	--	--	--	--	--	--	--	--	--	--	
MAR 22.....	1430	9.5	14	382	14	--	--	--	--	--	--	--	--	--	--	--	
MAR 22.....	1750	5.0	14	498	19	--	--	--	--	--	--	--	--	--	--	--	
MAR 24.....	1245	8.5	14	286	11	--	--	--	--	--	--	--	--	--	--	--	
MAR 24.....	1530	9.0	18	430	21	--	--	--	--	--	--	--	--	--	--	--	
MAR 24.....	1755	5.5	20	468	25	--	--	--	--	--	--	--	--	--	--	--	
MAR 31.....	1445	5.0	12	218	7.1	--	--	--	--	--	--	--	--	--	--	--	
APR 2.....	1245	8.0	12	152	4.9	--	--	--	--	--	--	--	--	--	--	--	
APR 4.....	1015	3.5	12	110	3.6	--	--	--	--	--	--	--	--	--	--	--	
APR 4.....	1505	9.0	14	232	8.8	--	--	--	--	--	--	--	--	--	--	--	
APR 8.....	1450	8.5	14	154	5.8	--	--	--	--	--	--	--	--	--	--	--	
APR 11.....	1445	9.0	14	193	7.3	--	--	--	--	--	--	--	--	--	--	--	
APR 15.....	1430	6.0	14	163	6.2	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1115	4.5	10	104	2.8	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1300	6.5	13	427	15	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1525	6.5	14	498	19	--	--	--	--	--	--	--	--	--	--	--	
APR 23.....	1715	5.0	14	448	17	--	--	--	--	--	--	--	--	--	--	--	
MAY 2.....	1600	11.5	16	341	15	--	--	--	--	--	--	--	--	--	--	--	
MAY 3.....	1530	13.0	17	432	20	--	--	--	--	--	--	--	--	--	--	--	
MAY 3.....	1730	9.5	21	674	38	8	11	16	21	27	38	53	70	85	99	100	VBWC
MAY 5.....	1430	12.0	17	330	15	--	--	--	--	--	--	--	--	--	--	--	
MAY 5.....	1745	9.5	25	1660	112	--	--	--	--	--	--	--	--	--	--	--	
MAY 18.....	1430	11.5	22	295	18	--	--	--	--	--	--	--	--	--	--	--	
MAY 18.....	1715	10.0	30	1040	84	--	--	--	--	--	--	--	--	--	--	--	
MAY 18.....	1845	9.5	32	622	54	--	--	--	--	--	--	--	--	--	--	--	
MAY 19.....	0905	5.0	23	250	16	--	--	--	--	--	--	--	--	--	--	--	
MAY 23.....	1415	12.0	25	388	26	--	--	--	--	--	--	--	--	--	--	--	
MAY 23.....	1715	11.5	29	696	54	--	--	--	--	--	--	--	--	--	--	--	
MAY 23.....	1915	6.5	27	346	25	--	--	--	--	--	--	--	--	--	--	--	
MAY 26.....	1600	13.5	28	210	16	--	--	--	--	--	--	--	--	--	--	--	
MAY 26.....	1745	12.0	31	814	68	--	--	--	--	--	--	--	--	--	--	--	
JUN 2.....	1750	13.0	25	128	8.6	--	--	--	--	--	--	--	--	--	--	--	
JUN 4.....	1640	14.5	22	88	5.2	--	--	--	--	--	--	--	--	--	--	--	
JUN 4.....	1805	9.5	23	68	4.2	--	--	--	--	--	--	--	--	--	--	--	
JUN 7.....	1710	10.5	20	37	2.0	--	--	--	--	--	--	--	--	--	--	--	
JUN 13.....	1710	6.5	27	1050	77	45	57	73	82	85	87	87	89	91	94	96	SPWC
JUN 24.....	1110	11.5	12	100	3.2	--	--	--	--	--	--	--	--	--	--	--	
JUL 6.....	1610	16.0	8.4	46	1.0	--	--	--	--	--	--	--	--	--	--	--	
JUL 24.....	1300	17.0	7.3	529	10	34	47	76	93	96	97	98	98	100	--	--	SPWC
JUL 30.....	1345	16.0	7.6	78	1.6	--	--	--	--	--	--	--	--	--	--	--	
AUG 14.....	1000	11.5	5.2	38	.53	--	--	--	--	--	--	--	--	--	--	--	
AUG 25.....	1400	18.5	4.9	22	.29	--	--	--	--	--	--	--	--	--	--	--	
SEP 11.....	1420	15.5	4.6	53	.66	--	--	--	--	--	--	--	--	--	--	--	
SEP 22.....	1445	11.5	4.9	22	.29	--	--	--	--	--	--	--	--	--	--	--	

10343500 SAGEHEN CREEK NEAR TRUCKEE, CALIF.
(Hydrologic bench-mark station)

LOCATION.--Lat 39°25'54", long 120°14'07", in NE¼NE¼ sec.7, T.18 N., R.16 E., Nevada County, at gaging station on left bank, 2.2 miles upstream from bridge on State Highway 89 and 7.5 miles north of Truckee.

DRAINAGE AREA.--10.8 sq mi.

PERIOD OF RECORD.--Chemical analyses: May 1968 to September 1970.
Sediment records: May 1968 to September 1970 (partial records).

REMARKS.--Additional cooperative studies with University of California, Berkeley, Calif., are being conducted. These include biological sampling of streambed biota and periodic photographic log of stream channel. Data available in district office, Menlo Park, Calif.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	SILICA (SiO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
JAN.												
26...	1530	42	2.0	--	17	40	5.3	2.0	2.3	.7	30	0
MAY												
11...	1430	39	8.0	--	20	30	5.6	1.9	2.4	.8	31	0
JUNE												
29...	1015	14	10.0	--	24	10	8.4	2.8	3.5	1.1	47	0
SEP.												
17...	1120	3.3	7.5	9.6	--	5	--	--	--	--	--	--

DATE	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	AMMONIA (NH4) (MG/L)	NITRATE (NO3) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)
JAN.											
26...	1.0	.2	.0	--	--	--	.2	--	--	50	44
MAY											
11...	1.0	.4	.0	.36	.36	.00	.2	.32	.11	0	47
JUNE											
29...	1.0	.2	.1	--	--	--	--	--	--	60	64
SEP.											
17...	--	--	--	.35	.35	.00	.0	.04	.02	--	--

DATE	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	PH (UNITS)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	DELAYED COLI-FORM (COL-ONIES PER 100 ML)	IMME-DIATE COLI-FORM (COL-ONIES PER 100 ML)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)
JAN.												
26...	.06	4.99	21	0	18	.2	7.3	--	--	--	--	--
MAY												
11...	.06	4.95	22	0	19	.2	7.3	--	--	--	--	--
JUNE												
29...	.09	2.42	32	0	18	.3	7.6	--	--	--	--	--
SEP.												
17...	--	--	--	--	--	--	--	.4	26	10	2	6.0

DATE	TIME	DIS-CHARGE (CFS)	WATER TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	DATE	TIME	DIS-CHARGE (CFS)	WATER TEMPER-ATURE (DEG C)	AIR TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)
OCT						APR					
06...	1220	3.8	6.0	--	124	07...	1625	34	6.0	11.0	63
15...	1535	10	16.0	--	118	13...	1415	27	10.0	9.0	65
20...	1540	6.1	6.0	--	114	MAY					
27...	1545	4.4	7.0	6.0	116	05...	1535	63	10.0	16.0	54
NOV						11...	0835	40	3.0	1.0	56
03...	1530	4.4	6.0	18.0	117	11...	1430	39	8.0	19.0	54
09...	1635	5.4	4.0	9.0	112	18...	1525	63	12.0	18.0	52
17...	1115	4.6	2.0	0.0	119	26...	1035	43	10.0	18.0	53
DEC						JUN					
01...	1645	4.0	2.0	3.0	121	16...	0800	20	6.0	8.0	69
09...	1315	4.0	2.0	2.0	121	22...	1115	16	15.0	23.0	77
15...	1530	4.4	3.0	9.0	119	29...	1015	14	10.0	9.0	78
22...	0915	19	1.0	0.0	72	JUL					
29...	1135	12	0.0	3.0	86	13...	1215	5.9	16.0	22.0	99
JAN						28...	1625	4.1	17.0	21.0	115
20...	1335	29	2.0	5.0	63	AUG					
26...	1530	42	2.0	2.0	52	03...	0830	3.9	8.0	12.0	118
FEB						10...	0700	4.1	8.0	9.0	122
02...	1045	26	6.0	3.0	60	19...	1500	3.1	17.5	25.0	123
09...	1400	16	4.0	7.0	70	24...	0730	3.4	7.0	6.5	129
16...	1315	14	4.0	2.0	75	31...	0730	3.3	7.5	9.0	129
MAR						SEP					
02...	1515	12	2.0	6.0	81	07...	0700	3.4	7.7	8.0	125
09...	1315	11	3.0	4.0	86	15...	1530	3.4	12.0	17.0	128
16...	1600	16	5.0	1.0	78	17...	1120	3.3	7.5	--	--
24...	1525	24	6.0	15.0	72	21...	0630	3.3	5.0	0.0	129
31...	1510	18	5.0	1.0	68						

10343500 SAGEHEN CREEK NEAR TRUCKEE, CALIF.--Continued

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
OCT 6, 1969	1220	6.0	3.8	1	.01
OCT 15.....	1535	16.0	10	11	.36
OCT 20.....	1540	6.0	6.1	1	.02
OCT 27.....	1545	7.0	4.4	1	.01
NOV 3.....	1530	6.0	4.4	1	.01
NOV 10.....	1635	4.0	5.4	1	.01
NOV 17.....	1115	2.0	4.6	1	.01
DEC 1.....	1645	2.0	4.0	1	.01
DEC 9.....	1315	2.0	4.0	1	.01
DEC 15.....	1530	3.0	4.4	1	.01
DEC 22.....	0915	1.0	19	3	.15
DEC 29.....	1135	0.0	12	1	.03
JAN 20, 1970	1335	2.0	29	5	.39
JAN 26.....	1530	2.0	42	4	.50
FEB 2.....	1045	6.0	26	4	.28
FEB 9.....	1400	4.0	16	3	.13
FEB 12, 1970	0925	1.0	16	2	.09
FEB 16.....	1315	4.0	14	4	.15
FEB 23.....	1315	2.0	12	7	.23
MAR 2.....	1515	2.0	12	4	.13
MAR 9.....	1315	3.0	11	4	.12
MAR 16.....	1600	5.0	16	5	.22
MAR 17.....	1410	5.0	15	3	.12
MAR 24.....	1525	6.0	24	11	.71
MAR 31.....	1510	5.0	18	5	.26
APR 7.....	1625	6.0	34	10	.95
APR 13.....	1415	10.0	27	7	.53
MAY 5.....	1535	10.0	63	15	2.4
MAY 11.....	0835	3.0	40	4	.45
MAY 11.....	1345	8.0	39	2	.21
JUL 31.....	1505	16.0	3.4	1	.01
AUG 13.....	1530	16.5	3.3	2	.02

10345900 TRUCKEE RIVER AT FLORISTON, CALIF.
(Irrigation network station)

LOCATION.--Lat 39°23'40", long 120°01'25", in NW¼SW¼ sec.30, T.18 N., R.18 E., Nevada County, at bridge at Floriston, 0.2 mile upstream from flume diversion, 1.8 miles upstream from Farad, and 2.5 miles upstream from gage at Farad.

DRAINAGE AREA.--932 sq mi (at gaging station).

PERIOD OF RECORD.--Chemical analyses: January 1964 to September 1969 (daily), October 1969 to September 1970 (monthly).
Water temperatures: January 1964 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 112 micromhos Dec. 12; minimum daily, 61 micromhos May 25.
Water temperatures: Maximum, 19.5°C July 23.

Period of record:
Dissolved solids (1964-69): Maximum, 85 mg/l Dec. 1-21, 1964; minimum, 45 mg/l Dec. 22-31, 1964.
Hardness (1964-69): Maximum, 43 mg/l Mar. 1-31, 1964; minimum, 18 mg/l Dec. 22-31, 1964.
Specific conductance (1964-66, 1967-70): Maximum daily, 141 micromhos Feb. 3, 1964; minimum daily, 39 micromhos Dec. 23, 1964.
Water temperatures: Maximum, 20.0°C July 24, 1964; minimum (1964-69), freezing point on several days during winter periods.

REMARKS.--Records of discharge given for Truckee River at Farad, Calif (station 10346000). Chemical-quality samples collected by Sierra Pacific Power Company. Prior to October 1965, published as "at Farad".

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	SILICA (SIO2) (MG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
OCT.										
22...	1500	409	10.0	15	--	8.6	2.8	5.1	1.5	48
NOV.										
25...	1050	409	4.5	14	--	9.4	3.0	6.5	1.9	56
JAN.										
05...	1435	374	1.0	16	--	9.8	3.1	6.1	1.5	50
FEB.										
10...	1430	2230	5.0	13	--	8.6	2.5	5.5	1.6	46
MAR.										
18...	1205	2650	5.5	14	0	8.5	2.6	5.6	1.4	44
APR.										
22...	1120	658	7.0	18	80	8.8	2.8	4.2	1.2	43
MAY										
25...	1100	2270	8.5	16	--	6.3	1.8	3.2	.9	32
JUNE										
22...	1535	975	15.5	16	0	7.0	2.0	3.8	1.2	36
JULY										
23...	1605	745	19.5	--	0	8.8	2.6	5.3	1.6	50
AUG.										
24...	1545	564	17.0	--	--	8.5	2.6	5.3	1.6	44
SEP.										
22...	1545	571	13.0	--	--	9.0	2.7	6.0	1.5	53

10345900 TRUCKEE RIVER AT FLORISTON, CALIF.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	AMMONIA (NH4) (MG/L)	NITRATE (NO3) (MG/L)	PHOSPHATE (PO4) (MG/L)	DISSOLVED ORTHO PHOSPHATE (PO4) (MG/L)
OCT.										
22...	0	3.0	1.9	.0	.33	.33	.00	.0	.03	.03
NOV.										
25...	0	3.0	2.0	.2	.21	.23	.03	.0	.04	.00
JAN.										
05...	0	4.0	3.8	.2	.00	.04	.05	.4	.07	.07
FEB.										
10...	0	4.0	1.8	.0	.26	.26	.00	.0	.28	.19
MAR.										
18...	0	6.0	2.4	.0	.65	.65	.00	.0	.26	.17
APR.										
27...	0	3.0	2.1	.2	.20	.23	.04	.1	.13	.11
MAY										
25...	0	5.0	2.0	--	.16	.16	.00	.0	.30	.17
JUNE										
22...	0	4.0	.8	.2	.27	.41	.18	.0	.19	.14
JULY										
23...	0	1.0	1.3	--	.16	.19	.04	.1	.16	.07
AUG.										
24...	0	3.0	1.6	--	.41	.41	.00	.1	.34	.30
SEP.										
22...	0	2.0	2.0	--	.24	.27	.04	.0	.07	.06

DATE	DISSOLVED BORON (B) (UG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)
OCT.										
22...	0	60	.08	66.3	33	24	.4	92	7.5	4
NOV.										
25...	40	70	.10	77.3	36	27	.5	105	7.1	4
JAN.										
05...	0	69	.09	69.7	38	25	.4	103	7.2	2
FEB.										
10...	100	55	.07	331	32	26	.4	90	7.4	2
MAR.										
18...	20	63	.09	281	32	27	.4	91	7.2	10
APR.										
22...	40	79	.11	140	34	21	.3	86	7.8	10
MAY										
25...	70	54	.07	171	23	22	.3	63	6.7	--
JUNE										
22...	0	54	.07	142	26	23	.3	79	6.8	4
JULY										
23...	0	70	.10	141	32	25	.4	104	7.1	4
AUG.										
24...	0	60	.08	91.4	32	25	.4	89	7.2	--
SEP.										
22...	50	66	.09	102	34	27	.5	97	7.1	--

10345900 TRUCKEE RIVER AT FLORISTON, CALIF.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	94	99	--	87	93	97	88	62	86	94	88
2	82	95	106	--	87	92	92	73	63	88	93	89
3	83	96	101	--	86	94	89	80	64	89	92	89
4	82	95	104	--	86	94	87	78	64	88	93	89
5	84	97	100	103	93	91	85	76	63	89	93	89
6	81	96	101	--	92	--	84	75	62	89	95	89
7	82	97	102	--	91	--	84	79	64	88	94	88
8	83	97	102	--	91	99	89	--	64	91	92	89
9	82	96	--	--	92	97	89	75	75	89	92	98
10	82	96	109	107	91	95	89	74	79	93	92	98
11	83	96	104	107	92	93	89	68	78	93	91	98
12	82	100	112	107	91	92	88	68	77	94	92	99
13	82	100	105	107	91	91	89	68	78	92	91	98
14	--	100	104	88	91	92	88	67	76	89	95	98
15	--	100	--	89	90	92	88	67	76	91	93	99
16	--	100	--	90	89	92	80	75	77	89	94	95
17	90	101	102	--	90	--	80	64	82	91	94	96
18	90	101	105	--	90	91	81	66	86	90	94	95
19	90	100	103	--	91	96	81	67	72	91	94	98
20	--	100	--	--	91	95	82	--	73	91	94	97
21	95	101	--	--	91	98	82	--	76	93	94	96
22	98	100	--	--	92	--	82	74	75	99	94	99
23	94	100	--	--	91	--	82	78	79	104	94	96
24	94	101	--	--	92	--	82	76	--	94	94	98
25	--	101	--	--	95	--	102	61	78	90	93	96
26	--	100	--	--	98	--	93	62	88	90	94	96
27	92	101	--	--	92	--	89	64	84	93	94	96
28	100	100	--	--	92	--	90	--	--	94	94	99
29	91	100	--	--	--	--	--	--	88	93	96	96
30	91	101	--	--	--	--	--	--	92	93	95	96
31	91	--	--	--	--	--	--	--	--	--	89	--
AVG	87	98	--	--	90	--	86	71	74	91	93	94

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	8.0	4.5	--	7.0	4.5	5.5	8.0	9.0	12.0	15.0	15.0
2	10.0	7.5	3.0	--	7.0	4.0	5.5	10.0	10.0	12.0	15.0	14.0
3	10.0	8.0	3.0	--	7.0	3.5	6.0	9.0	9.0	14.0	15.5	14.0
4	10.0	8.0	3.0	--	7.0	4.0	6.5	8.0	9.0	15.0	16.0	13.0
5	10.0	8.5	4.0	1.0	5.0	4.0	8.0	10.0	10.0	15.0	16.5	12.0
6	10.0	5.5	5.0	--	5.0	--	8.5	9.0	10.0	15.0	15.5	15.0
7	10.0	5.0	4.0	--	5.0	--	7.0	8.0	12.0	16.0	15.0	15.5
8	10.0	5.5	5.0	--	5.0	4.0	9.0	8.0	10.0	15.0	15.0	15.0
9	9.0	5.5	--	--	5.0	4.0	9.0	7.0	14.0	15.0	14.0	15.0
10	9.0	6.0	5.0	4.5	5.5	4.0	9.0	7.0	--	16.0	18.0	15.5
11	9.0	5.5	5.0	5.0	5.5	4.0	9.0	7.0	--	15.0	17.5	16.0
12	9.0	5.0	5.0	5.0	5.5	4.5	7.0	7.0	--	15.0	17.0	13.0
13	9.0	5.0	5.0	4.5	5.5	4.5	7.5	7.0	--	15.0	16.0	14.0
14	--	5.0	5.0	4.0	4.0	5.5	5.5	8.0	--	18.0	16.5	13.0
15	--	5.0	--	4.0	4.0	5.0	6.0	8.0	--	18.0	17.0	13.5
16	--	5.0	--	4.0	4.0	5.0	6.0	7.0	14.0	14.0	17.0	15.0
17	9.0	4.5	5.0	--	4.0	--	5.5	7.0	15.0	14.0	17.5	15.0
18	7.0	5.0	5.0	--	3.5	5.5	7.0	8.0	15.0	15.0	16.0	16.0
19	7.0	4.5	1.0	--	4.0	6.0	7.5	8.0	15.0	17.0	17.0	12.0
20	--	4.5	--	--	--	6.5	7.5	8.0	15.0	17.0	--	10.0
21	7.5	4.5	--	--	4.5	7.0	6.0	8.0	15.0	19.0	16.0	9.5
22	8.0	4.5	--	--	4.5	--	6.0	8.0	15.0	17.0	15.5	10.0
23	8.0	4.5	--	--	4.5	--	6.5	9.0	15.0	19.5	16.0	10.0
24	8.0	4.5	--	--	5.0	--	6.5	8.0	--	16.0	16.5	10.0
25	--	4.5	--	--	5.0	--	7.0	7.0	13.0	17.0	17.0	12.0
26	--	4.5	--	--	5.0	--	5.0	7.0	10.0	17.0	17.0	12.0
27	8.0	4.5	--	--	4.0	--	3.0	8.0	11.0	16.0	17.5	13.0
28	7.5	4.5	--	--	5.0	--	3.0	--	11.0	16.0	17.0	12.5
29	8.0	4.5	--	--	--	--	--	--	10.0	16.0	16.5	13.0
30	8.5	4.5	--	--	--	--	--	--	9.0	16.0	15.0	11.5
31	8.0	--	--	--	--	--	--	--	--	--	13.0	--
AVG	8.7	5.3	--	--	5.0	--	6.6	7.9	12.0	15.6	16.1	13.1

10351650 TRUCKEE RIVER AT WADSWORTH, NEV.

LOCATION.--Lat 39°38'19", long 119°16'09", in SW¼SW¼ sec.34, T.21 N., R.24 E., Washoe County, temperature recorder at gaging station on right bank, 0.2 mile northeast of Wadsworth and 0.5 mile downstream from bridge on U.S. Highway 40.

DRAINAGE AREA.--1,719 sq mi.

PERIOD OF RECORD.--Water temperatures: July 1965 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 28.5°C July 20, Aug. 11, 12; minimum, 1.0°C on several days during December and January.

Period of record:
Water temperatures: Maximum, 28.5°C July 20, Aug. 11, 12, 1970; minimum, 1.0°C on several days during December and January of most years.

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

DAY	OCT		NOV		DEC		JAN		FEB		MAR	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	15.0	12.0	10.0	7.0	5.5	3.5	1.5	5.0	4.0	7.0	6.0
2	17.0	14.0	12.0	10.0	7.0	5.5	3.0	1.0	4.5	4.0	6.0	4.5
3	14.5	11.5	12.0	10.0	6.5	5.5	2.0	1.0	5.5	4.5	6.0	4.0
4	14.0	10.0	12.0	10.0	6.5	5.5	1.5	1.0	6.5	5.5	5.5	5.0
5	14.0	10.0	12.0	10.5	6.5	5.0	1.0	1.0	6.0	5.5	6.0	4.5
6	14.5	10.0	10.5	10.0	6.5	5.5	1.0	1.0	6.5	5.5	7.0	5.5
7	14.5	10.5	10.0	9.0	7.0	6.0	1.5	1.0	6.5	5.5	7.0	6.0
8	14.5	12.0	10.5	9.0	7.0	6.5	2.0	1.0	6.5	5.5	6.5	6.0
9	15.0	11.5	10.5	8.5	6.5	6.0	4.5	2.0	6.5	6.0	6.5	5.5
10	14.5	12.0	10.5	8.5	7.0	6.0	5.0	4.0	6.5	5.5	6.5	5.5
11	13.5	10.0	10.5	8.5	8.0	7.0	5.0	4.5	8.0	6.5	6.5	5.5
12	13.5	10.0	11.0	9.0	8.0	8.0	5.0	4.0	8.0	6.5	8.0	5.5
13	13.5	9.5	11.0	9.0	9.5	8.5	5.5	4.5	6.5	5.0	10.0	8.0
14	12.0	10.0	11.0	9.0	9.0	8.0	6.0	5.0	6.0	4.5	10.0	8.5
15	10.5	9.5	10.0	8.5	8.5	6.0	5.0	3.5	5.5	5.0	9.0	7.0
16	11.0	9.0	10.0	9.0	7.0	5.5	5.0	3.5	6.5	5.0	9.0	6.5
17	10.0	9.0	9.0	8.0	7.0	5.5	5.0	3.5	6.0	4.5	9.0	7.0
18	10.0	9.5	8.5	6.0	8.5	6.5	4.5	4.0	5.0	4.0	7.0	5.5
19	11.5	9.0	8.5	6.0	8.5	7.0	5.0	4.5	5.0	4.0	6.5	5.0
20	12.0	9.0	8.5	6.0	9.5	8.0	5.0	5.0	5.0	4.0	7.0	5.5
21	13.5	10.0	9.0	7.0	9.0	6.0	6.0	5.0	6.0	4.5	9.5	6.5
22	14.5	11.0	9.0	7.0	6.0	4.0	6.0	4.5	6.5	5.0	9.0	7.0
23	14.5	11.0	8.5	7.0	5.5	4.0	5.0	4.5	6.5	5.5	10.0	8.0
24	14.0	11.5	8.5	6.5	6.0	5.0	5.0	4.0	6.5	5.5	10.5	8.5
25	13.5	11.0	8.5	6.5	5.5	5.0	4.0	3.5	7.0	5.0	10.0	8.5
26	13.0	10.5	8.5	6.5	5.0	4.0	5.0	4.0	7.0	5.5	9.5	8.5
27	12.0	10.5	8.5	6.5	4.0	3.5	5.0	4.5	8.0	6.0	9.5	7.0
28	12.0	10.5	8.0	6.0	3.5	2.0	4.5	3.5	7.0	6.5	10.5	7.0
29	11.5	9.5	7.0	5.5	2.0	1.5	3.5	3.5	--	--	9.5	7.0
30	12.0	9.5	6.5	5.5	3.0	1.5	4.5	3.5	--	--	8.5	6.0
31	12.0	9.5	--	--	2.0	1.0	4.5	4.0	--	--	7.0	5.5
AVG	13.2	10.5	9.7	7.9	6.5	5.3	4.1	3.2	6.2	5.1	8.0	6.3

DAY	APR		MAY		JUN		JUL		AUG		SEP	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	5.0	16.5	10.5	21.0	12.0	19.0	15.0	25.0	17.0	23.0	15.5
2	11.0	6.5	19.5	11.5	22.0	15.0	20.0	18.0	26.0	17.0	22.5	15.5
3	11.5	8.5	20.5	12.0	21.0	15.0	21.0	18.5	26.0	18.0	22.5	15.5
4	12.0	8.0	20.5	14.5	21.5	14.5	21.0	18.5	25.5	19.0	18.5	15.0
5	14.0	8.5	20.0	14.0	20.0	14.5	22.0	19.0	28.0	18.5	18.0	12.5
6	14.0	9.5	16.5	13.0	19.5	15.0	22.0	19.0	28.0	19.5	21.0	14.5
7	13.5	9.5	18.0	11.0	21.0	14.0	22.0	20.5	28.0	19.5	22.5	16.0
8	13.0	10.0	14.5	11.0	18.0	13.5	23.0	19.5	26.5	18.0	22.5	16.0
9	13.5	10.0	15.5	10.0	15.0	11.5	21.0	19.0	28.0	19.0	21.5	15.0
10	14.0	10.5	15.0	9.5	15.5	11.0	20.5	18.5	28.0	19.5	22.5	15.0
11	14.0	9.5	15.5	9.5	16.5	11.0	24.5	18.0	28.5	20.0	22.5	15.5
12	13.5	9.5	15.5	9.0	16.5	12.0	25.5	19.5	28.5	20.0	21.0	15.0
13	11.0	8.5	17.0	10.5	15.5	12.0	25.5	19.0	28.0	19.5	17.5	12.5
14	10.5	7.0	19.0	11.5	16.0	12.0	26.0	19.5	27.0	19.0	17.5	11.0
15	10.0	7.0	20.5	12.0	18.5	12.0	27.0	20.0	27.0	19.0	18.0	12.0
16	9.5	8.0	21.0	13.5	18.5	14.5	27.0	20.0	28.0	20.0	18.5	12.0
17	10.5	8.0	20.0	13.5	21.5	14.0	26.5	18.0	27.0	20.5	19.0	13.5
18	11.5	7.0	16.0	13.5	24.0	15.0	26.5	20.0	26.5	20.5	19.5	14.5
19	12.0	9.0	16.0	12.0	25.5	16.5	28.0	20.0	27.0	20.0	16.5	12.5
20	11.5	8.5	17.0	10.5	26.0	17.0	28.5	21.0	27.0	19.5	16.0	11.0
21	10.5	8.5	20.0	11.0	25.5	18.5	26.5	20.5	26.5	19.5	17.0	12.5
22	10.0	7.0	19.5	13.0	25.5	17.0	26.5	18.0	28.0	20.0	17.5	11.5
23	12.0	8.0	20.0	13.5	25.5	17.0	27.0	21.0	27.0	20.0	18.0	12.0
24	13.0	9.0	21.5	13.0	26.0	18.0	27.0	21.5	26.0	18.0	17.0	12.0
25	14.5	9.5	21.0	13.5	25.5	19.0	27.0	20.0	26.5	19.0	15.5	11.0
26	11.5	9.0	20.5	14.5	24.0	18.0	27.0	20.5	26.0	19.0	16.0	10.0
27	9.0	6.5	16.5	14.0	22.0	15.0	26.5	20.0	26.0	20.0	17.0	10.5
28	8.5	5.5	19.5	11.5	18.0	15.0	25.0	19.0	25.5	19.5	18.0	11.0
29	10.5	6.0	20.5	12.0	16.0	14.5	25.0	17.0	26.0	19.0	18.5	12.0
30	14.0	9.0	20.5	14.0	16.5	14.5	25.5	17.0	25.0	19.5	18.5	12.5
31	--	--	19.5	12.0	--	--	20.5	18.0	23.5	16.5	--	--
AVG	11.7	8.2	18.4	12.0	20.5	14.6	24.5	19.1	26.7	19.1	19.1	13.1

10356500 SUSAN RIVER AT SUSANVILLE, CALIF.

LOCATION.--Lat 40°25'03", long 120°40'15", in SW¼NE¼ sec.31, T.30 N., R.12 E., Lassen County, at gaging station 0.5 mile west of Susanville and 1.1 miles upstream from Piute Creek.

DRAINAGE AREA.--184 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1951 to September 1958 (partial records), October 1958 to September 1970.

REMARKS.--Records furnished by California Department of Water Resources and reviewed by U.S. Geological Survey.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.											
16...	0655	34	5.0	11.0	--	--	5.6	--	92	--	2.0
NOV.											
19...	0815	14	0.0	12.4	--	--	4.9	--	96	--	.8
DEC.											
09...	1535	16	6.1	11.4	--	--	5.9	--	109	--	.8
JAN.											
13...	1505	268	1.1	12.3	--	--	3.7	--	48	--	2.5
FEB.											
10...	1540	226	5.0	12.1	--	--	3.7	--	53	--	.9
MAR.											
10...	1610	190	5.6	12.0	--	--	4.3	--	56	--	1.4
APR.											
15...	1435	193	6.0	11.6	--	--	2.8	--	42	--	.0
MAY											
13...	1755	228	12.0	9.8	7.2	3.5	3.0	.9	46	.0	.0
JUNE											
18...	0700	100	14.0	9.3	--	--	2.2	--	42	--	.9
JULY											
15...	0700	71	17.2	8.4	--	--	2.6	--	42	--	.5
AUG.											
04...	1400	33	20.0	8.3	--	--	3.4	--	73	--	.3
SEP.											
01...	1505	18	20.0	8.7	--	--	3.7	--	61	--	.0

DATE	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
16...	--	50	--	--	84	9	75	13	.3	148	7.8
NOV.											
19...	--	0	--	--	71	0	79	13	.3	158	7.8
DEC.											
09...	--	0	--	--	75	0	89	15	.3	172	7.7
JAN.											
13...	--	50	--	--	38	0	39	17	.3	89	7.1
FEB.											
10...	--	20	--	--	40	0	43	17	.3	93	7.4
MAR.											
10...	--	100	--	--	42	0	46	18	.3	98	7.7
APR.											
15...	--	0	--	--	43	9	34	12	.2	78	7.5
MAY											
13...	.0	0	70	43.1	32	0	38	16	.2	76	7.7
JUNE											
18...	--	50	--	--	36	2	34	12	.2	70	7.8
JULY											
15...	--	50	--	--	32	0	34	15	.2	72	7.6
AUG.											
04...	--	60	--	--	53	0	60	12	.2	114	7.8
SEP.											
01...	--	90	--	--	47	0	50	15	.2	103	7.9

10387100 CHEWAUCAN RIVER NEAR VALLEY FALLS, OREG.

LOCATION.--Lat 42°30'57", long 120°15'03", in SW¼ sec.21, T.35 S., R.21 E., Lake County, downstream from dam at Clark and Johnson Ranch, downstream from Crooked Creek 2.7 miles northeast of Valley Falls.

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

REMARKS.--Prior to October 1968, published as station 10386850.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM PLUS PO-TAS-SIUM (NA+K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.								
23...	1700	40	11	4.0	11	77	0	.0
NOV.								
14...	1600	42	11	4.0	A14	87	0	.0
JAN.								
26...	1500	800	8.0	2.0	A14	58	0	4.0
FEB.								
19...	1630	180	13	5.0	A24	99	0	9.0
MAR.								
24...	1630	150	12	4.0	A18	89	0	6.0
APR.								
24...	1630	30	18	7.0	A30	150	0	10
MAY								
20...	1700	200	7.0	3.0	A9.0	58	0	.0
JUNE								
24...	1630	100	17	6.0	A20	123	0	8.0
SEP.								
17...	1530	5.0	16	5.0	A16	110	0	5.0

DATE	CHLO-RIDE (CL) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	ALKA-LINITY AS CACO3 (MG/L)	TEMPER-ATURE (DEG C)
OCT.							
23...	2.0	42	0	130	7.1	63	9.0
NOV.							
14...	3.0	44	0	150	7.4	71	9.0
JAN.							
26...	1.0	30	0	100	7.1	48	2.5
FEB.							
19...	10	--	--	210	7.8	81	3.5
MAR.							
24...	5.0	46	0	190	7.7	73	9.0
APR.							
24...	4.0	74	0	270	7.3	123	9.0
MAY							
20...	.0	28	0	100	7.3	48	14.5
JUNE							
24...	2.0	69	0	220	7.1	101	21.0
SEP.							
17...	1.0	62	0	191	7.3	90	16.0

A ESTIMATED.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG/L)	SODIUM (NA) (MG/L)	POTAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
BEAR RIVER BASIN												
10011500 BEAR RIVER NEAR UTAH-WYOMING STATE LINE (LAT 40 57 58 LONG 110 51 04)												
DEC 05...	--	45	--	37	8.8	2.5	.5	156	0	3.8	2.2	--
MAR 10...	--	52	--	42	7.8	2.5	.6	171	0	4.2	2.8	--
JUN 09...	--	1050	--	5.2	1.2	1.0	.6	20	0	2.5	2.2	--
10020300 BEAR RIVER BELOW RESERVOIR, NEAR WOODRUFF, UTAH (LAT 41 30 20 LONG 111 00 50)												
DEC 05...	--	18	--	48	23	27	2.6	258	0	20	29	--
MAR 10...	--	28	--	53	23	24	2.4	260	5	20	24	--
JUN 09...	--	952	--	25	14	5.8	1.6	141	0	10	6.4	--
10026500 BEAR RIVER NEAR RANDOLPH, UTAH (LAT 41 48 02 LONG 111 04 20)												
DEC 04...	--	60	--	58	32	31	1.9	321	0	32	36	--
MAR 11...	--	75	--	61	29	40	2.1	280	13	34	52	--
JUN 08...	--	700	--	43	23	25	3.3	252	0	24	25	--
10041000 THOMAS FORK NEAR WYOMING-IDAHO STATE LINE (LAT 42 24 10 LONG 111 01 30)												
DEC 04...	--	17	--	66	25	167	1.2	258	0	60	260	--
MAR 03...	--	18	--	76	21	207	1.1	266	0	60	325	--
JUN 10...	--	103	--	63	17	50	1.1	259	7	25	66	--
10042700 THOMAS FORK NEAR BORDER, WYO (LAT 42 12 56 LONG 111 04 17)												
APR 23...	--	53	11	73	24	108	1.7	286	0	66	151	.1
JUN 25...	--	38	9.3	66	28	78	1.8	299	0	56	105	.2
AUG 17...	--	7.7	2.0	55	24	81	1.7	244	0	43	119	.1
10079500 BEAR RIVER AT ALEXANDER, IDAHO (LAT 42 38 45 LONG 111 41 55)												
JAN 14...	--	681	8.6	55	51	33	4.2	374	0	68	36	.3
JUN 16...	--	800	12	56	26	23	2.5	263	0	45	25	.2
AUG 18...	--	962	.0	38	55	40	5.0	345	0	71	44	.3
10090450 WEST CACHE CANAL AT CORNISH, UTAH (LAT 41 59 10 LONG 111 57 14)												
DEC 08...	--	2.0	--	106	50	86	8.0	414	0	112	134	--
MAR 12...	--	.50	--	92	41	7[illegible]	10	373	0	100	114	--
JUN 12...	--	120	--	59	27	.	5.1	295	0	44	48	--
10095400 CUB RIVER AT FRANKLIN, IDAH[illegible] (LAT 42 00 50 LONG 111 49 10)												
DEC 08...	--	12	--	56	24	21	3.0	302	0	7.5	16	--
MAR 12...	--	23	--	55	16	14	2.6	242	7	12	9.9	--
JUN 12...	--	350	--	40	10	3.6	1.3	173	0	8.5	1.1	--
AUG 04...	--	3.0	--	42	21	34	7.7	283	0	7.5	28	--
10098800 WORM CREEK NEAR FAIRVIEW, IDAHO (LAT 42 00 15 LONG 111 51 00)												
DEC 08...	--	5	--	64	40	31	9.4	421	0	17	24	--
MAR 03...	--	6	--	71	37	47	14	416	0	26	52	--
JUN 06...	--	7	--	45	19	9.7	5.1	248	0	8.0	6.0	--
10125500 MALAD RIVER AT WOODRUFF, IDAHO (LAT 42 02 00 LONG 112 14 00)												
DEC 09...	--	36	--	136	23	625	52	478	0	160	1100	--
MAR 05...	--	70	--	119	70	511	45	478	0	208	850	--
JUN 11...	--	24	--	141	60	936	86	548	0	98	1580	--
AUG 04...	--	17	--	172	66	1520	115	499	0	55	2600	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTIT-UENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
BEAR RIVER BASIN												
10011500 BEAR RIVER NEAR UTAH-WYOMING STATE LINE (LAT 40 57 58 LONG 110 51 04)												
DEC 05...	--	140	132	.19	17.0	128	0	.1	260	7.3	--	--
MAR 10...	--	150	144	.20	21.1	138	0	.1	257	8.2	--	--
JUN 09...	--	30	23	.04	85.0	18	2	.1	34	7.1	--	--
10020300 BEAR RIVER BELOW RESERVOIR, NEAR WOODRUFF, UTAH (LAT 41 30 20 LONG 111 00 50)												
DEC 05...	--	295	277	.40	14.3	216	4	.8	504	7.5	--	--
MAR 10...	--	290	279	.39	21.9	228	6	.7	502	8.3	--	--
JUN 09...	--	146	132	.20	375	121	5	.2	242	7.9	--	--
10026500 BEAR RIVER NEAR RANDOLPH, UTAH (LAT 41 48 02 LONG 111 04 20)												
DEC 04...	--	362	349	.49	58.6	276	13	.8	626	7.7	--	--
MAR 11...	--	370	368	.50	74.9	274	23	1.0	648	8.4	--	--
JUN 08...	--	292	267	.40	552	204	0	.8	478	8.1	--	--
10041000 THOMAS FORK NEAR WYOMING-IDAHO STATE LINE (LAT 42 24 10 LONG 111 01 30)												
DEC 04...	--	724	--	--	32.3	268	56	4.4	1290	8.1	0.0	--
MAR 03...	--	860	--	--	41.8	276	58	5.4	1500	8.2	1.0	--
JUN 10...	--	364	--	--	101	226	2	1.5	635	8.4	9.5	--
10042700 THOMAS FORK NEAR BORDER, WYO. (LAT 42 12 56 LONG 111 04 17)												
APR 23...	.00	592	--	--	86.0	280	46	2.8	1030	7.9	6.0	--
JUN 25...	.20	512	--	--	52.5	280	35	2.0	876	7.5	20.0	--
AUG 17...	.00	452	--	--	9.46	236	36	2.3	829	7.8	18.0	--
10079500 BEAR RIVER AT ALEXANDER, IDAHO (LAT 42 38 45 LONG 111 41 55)												
JAN 14...	.02	447	--	--	822	347	40	.8	755	8.2	.5	--
JUN 26...	.21	326	--	--	704	246	31	.6	551	7.4	8.5	--
AUG 18...	.01	429	--	--	1110	321	38	1.0	753	7.4	19.0	--
10090450 WEST CACHE CANAL AT CORNISH, UTAH (LAT 41 59 10 LONG 111 57 14)												
DEC 08...	--	770	--	--	4.16	470	131	1.7	1250	8.0	3.0	--
MAR 12...	--	676	--	--	.91	400	94	1.6	1100	7.8	10.0	--
JUN 12...	--	378	--	--	122	250	15	1.0	644	8.1	14.5	--
10095400 CUB RIVER AT FRANKLIN, IDAHO (LAT 42 00 5J LONG 111 49 10)												
DEC 08...	--	290	--	--	9.40	240	0	.6	481	7.5	.5	11.5
MAR 12...	--	242	--	--	15.0	201	0	.4	425	8.4	3.0	12.0
JUN 12...	--	169	--	--	160	140	0	.1	268	7.9	7.0	10.7
AUG 04...	--	293	--	--	2.37	190	0	1.1	504	8.0	22.0	4.8
10098800 WORM CREEK NEAR FAIRVIEW, IDAHO (LAT 42 00 15 LONG 111 31 00)												
DEC 08...	--	444	--	--	59.9	324	0	.7	711	8.1	2.5	--
MAR 03...	--	461	--	--	74.7	330	0	1.1	786	8.2	4.5	--
JUN 06...	--	215	--	--	40.6	192	0	.3	395	8.0	10.0	--
10125500 MALAD RIVER AT WOODRUFF, IDAHO (LAT 42 02 00 LONG 112 14 00)												
DEC 09...	--	2480	--	--	241	640	248	11	4160	7.9	8.5	--
MAR 05...	--	2090	--	--	395	585	193	9.2	3420	8.0	10.0	9.7
JUN 11...	--	3350	--	--	217	600	151	17	5540	8.1	22.0	7.8
AUG 04...	--	4870	--	--	224	700	291	25	7960	8.0	27.0	10.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
					BEAR RIVER BASIN--CONTINUED							
10127300 BEAR RIVER AT MIGRATORY BIRD REFUGE, NEAR BRIGHAM CITY, UTAH (LAT 41 48 49 LONG 112 15 50)												
OCT												
02...A	1600	450	52	63	404	29	363	15	--	133	625	--
NOV												
05...	1330	650	48	45	112	11	336	0	--	47	174	--
DEC												
09...	1030	1130	56	48	114	11	368	0	--	55	170	--
JAN												
13...	1330	1400	68	44	98	9.9	379	0	--	54	144	--
FEB												
06...	1030	870	68	42	126	13	372	0	--	65	185	--
MAR												
05...	1300	815	72	44	158	9.1	349	11	--	52	250	--
APR												
09...	1100	550	73	36	133	12	360	0	--	52	210	--
MAY												
11...	1330	1600	52	37	62	8.5	305	0	--	33	96	--
JUN												
11...	1200	1600	47	24	89	8.9	254	0	--	30	138	--
AUG												
04...	1030	190	38	57	706	40	328	0	--	80	1160	--

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
					SALTON SEA BASIN							
10256000 WHITEWATER RIVER AT WHITE WATER, CALIF. (LAT 33 56 48 LONG 116 38 24)[B]												
DEC												
15...	1215	41	40	12	11	4.0	174	0	143	26	3.0	.9
MAR												
19...	0845	30	42	10	11	3.0	164	4	141	26	3.0	.8
JUN												
22...	1130	8.7	40	12	12	4.0	170	0	139	31	4.0	.9
SEP												
21...	1230	7.5	40	11	12	4.0	160	0	131	31	4.0	1.0
					MOJAVE RIVER BASIN							
10261100 MOJAVE RIVER AT THE FORKS, NEAR CEDAR SPRINGS, CALIF. (LAT 34 20 35 LONG 117 14 01)[B]												
OCT												
20...	0915	13	27	6.0	25	2.0	134	0	110	24	8.0	1.4
JAN												
21...	1230	15	27	6.0	21	2.0	128	0	105	17	8.0	.8
APR												
16...	1330	25	22	6.0	19	2.0	113	0	93	13	8.0	.8
JUL												
23...	0930	8.7	28	7.0	43	4.0	127	0	104	49	18	1.9
10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CALIF. (LAT 34 34 23 LONG 117 19 11)[B]												
OCT												
20...	1215	40	37	8.0	45	18	204	0	167	40	24	.6
JAN												
21...	1345	37	35	9.0	47	26	207	0	170	44	25	.6
APR												
16...	1445	38	40	10	45	14	206	0	169	44	26	.5
JUL												
23...	0830	14	44	12	47	7.0	206	0	169	53	32	.5
					WALKER LAKE BASIN							
10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CALIF. (LAT 38 19 40 LONG 119 12 50)[B]												
APR												
16...	1225	125	20	4.4	14	--	106	0	--	--	3.0	--
SEP												
22...	1320	120	27	3.0	12	--	117	0	--	--	1.2	--
10296000 WEST WALKER RIVER NEAR COLEVILLE, CALIF. (LAT 38 22 47 LONG 119 26 57)[B]												
APR												
16...	1100	210	8.5	2.4	4.0	--	42	0	--	--	1.6	--
SEP												
22...	1215	54	15	2.6	7.4	--	69	0	--	--	1.8	--

A INCLUDES 10 MG/L OF SILICA (SIO2).
B DATA FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES AND REVIEWED BY U.S. GEOLOGICAL SURVEY.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTIT-UENTS (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
BEAR RIVER BASIN--CONTINUED												
10127300 BEAR RIVER AT MIGRATORY BIRD REFUGE, NEAR BRIGHAM CITY, UTAH (LAT 41 48 49 LONG 112 15 50)												
OCT 02...	--	1540	1510	2.05	1870	390	69	8.9	2660	8.5	--	--
NOV 05...	--	637	602	.87	1120	304	28	2.8	1120	7.7	--	--
DEC 09...	--	644	635	.88	1970	336	34	2.7	1140	8.1	--	--
JAN 13...	--	617	604	.84	2330	348	37	2.3	1080	8.2	--	--
FEB 06...	--	695	682	.95	1630	342	37	3.0	1200	8.0	--	--
MAR 05...	--	761	751	1.03	1680	360	56	3.6	1350	8.4	--	--
APR 09...	--	709	693	.96	1050	327	32	3.5	1220	8.1	--	--
MAY 11...	--	442	438	.60	1910	282	32	1.6	749	7.5	--	--
JUN 11...	--	478	462	.65	2070	216	8	2.6	838	8.0	--	--
AUG 04...	--	2200	2240	3.05	1130	332	63	17	3900	8.2	--	--

DATE	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
SANTON SEA BASIN												
10256000 WHITEWATER RIVER AT WHITE WATER, CALIF. (LAT 33 56 48 LONG 116 38 24)[B]												
DEC 15...	1.5	0	193	21.4	149	6	13	.4	339	8.3	13.9	9.0
MAR 19...	2.0	0	183	14.8	146	5	14	.4	328	8.5	8.9	9.9
JUN 22...	1.5	0	189	4.44	149	10	14	.4	340	7.6	26.1	--
SEP 21...	.0	0	191	3.87	145	14	15	.4	331	8.1	23.9	8.4
MOJAVE RIVER BASIN												
10261100 MOJAVE RIVER AT THE FORKS, NEAR CEDAR SPRINGS, CALIF. (LAT 34 20 35 LONG 117 14 01)[B]												
OCT 20...	.3	30	160	5.62	92	0	36	1.1	284	8.0	11.7	9.7
JAN 21...	.3	30	161	6.52	92	0	33	1.0	272	8.0	9.4	11.7
APR 16...	.5	40	142	9.58	80	0	33	.9	241	8.0	11.7	10.4
JUL 23...	19	140	247	5.80	99	0	47	1.9	397	6.9	22.8	6.5
10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CALIF. (LAT 34 34 23 LONG 117 19 11)[B]												
OCT 20...	4.2	60	280	30.2	125	0	40	1.7	479	7.9	18.3	7.7
JAN 21...	6.7	70	314	31.4	124	0	39	1.8	514	8.3	15.6	8.8
APR 16...	7.8	80	304	31.2	141	0	38	1.6	491	8.1	15.6	8.2
JUL 23...	3.5	110	309	11.7	159	0	38	1.6	518	7.9	22.8	7.3
WALKER LAKE BASIN												
10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CALIF. (LAT 38 19 40 LONG 119 12 50)[B]												
APR 16...E	--	--	--	--	68	--	--	--	192	F7.9	8.0	9.3
SEP 22...G	--	--	--	--	80	--	--	--	213	F7.6	14.0	7.6
10296000 WEST WALKER RIVER NEAR COLEVILLE, CALIF. (LAT 38 22 47 LONG 119 26 57)[B]												
APR 16...H	--	--	--	--	31	--	--	--	74	F7.3	3.5	10.6
SEP 22...J	--	--	--	--	48	--	--	--	130	F8.0	11.0	10.4

E INCLUDES 20 MG/L OF TURBIDITY.
F FIELD DETERMINATION.
G INCLUDES 70 MG/L OF TURBIDITY.
H INCLUDES 4 MG/L OF TURBIDITY.
J INCLUDES 1 MG/L OF TURBIDITY.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
CARSON RIVER BASIN												
10308200 EAST FORK CARSON RIVER NEAR MARKLEEVILLE, CALIF. (LAT 38 42 50 LONG 119 45 50)[B]												
APR												
16...	1000	425	10	2.9	6.7	--	52	0	--	--	2.8	--
SEP												
22...	1000	68	12	2.9	7.8	--	63	0	--	--	3.3	--
10310000 WEST FORK CARSON RIVER AT WOODFORDS, CALIF. (LAT 38 46 10 LONG 119 49 55)[B]												
APR												
16...	0930	188	6.2	2.1	3.0	--	34	0	--	--	1.0	--
SEP												
22...	0900	26	7.6	1.7	3.8	--	40	0	--	--	.5	--
PYRAMID AND WINNEMUCCA LAKES BASIN												
10346000 TRUCKEE RIVER AT FARAD, CALIF. (LAT 39 25 41 LONG 120 01 59)[B]												
APR												
17...	0930	695	8.2	2.8	3.8	1.4	44	0	36	3.3	3.3	--
SEP												
23...	0730	570	9.7	--	6.1	--	52	0	43	--	2.4	--
10347800 PEAVINE CREEK NEAR RENO, NEV. (LAT 39 32 35 LONG 119 51 55)												
DEC												
21...C	1345	.10	20	4.5	7.8	3.1	74	0	--	19	1.4	.5
JAN												
16...D	1015	.70	17	6.7	9.5	2.8	14	0	--	71	1.6	.2

B DATA FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES AND REVIEWED BY U.S. GEOLOGICAL SURVEY.
C INCLUDES 32 MG/L OF SILICA (SIO2).
D INCLUDES 19 MG/L OF SILICA (SIO2).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
CARSON RIVER BASIN												
10208200 EAST FORK CARSON RIVER NEAR MARKLEEVILLE, CALIF. (LAT 38 42 50 LONG 119 45 50)												
APR												
16...K	--	--	--	--	37	--	--	--	99	F7.5	1.5	11.0
SEP												
22...J	--	--	--	--	42	--	--	--	119	F7.5	9.0	10.2
10310000 WEST FORK CARSON RIVER AT WOODFORDS, CALIF. (LAT 38 46 10 LONG 119 49 55)												
APR												
16...H	--	--	--	--	24	--	--	--	56	F7.4	1.0	11.3
SEP												
22...J	--	--	--	--	26	--	--	--	70	F7.3	7.0	10.2
PYRAMID AND WINNEMUCCA LAKES BASIN												
10346000 TRUCKEE RIVER AT FARAD, CALIF. (LAT 39 25 41 LONG 120 01 59)												
APR												
17...	.00	0	59	111	32	0	20	.3	83	7.9	6.0	10.4
SEP												
23...	--	--	--	--	34	0	35	.5	97	7.9	11.0	9.6
10347800 PEAVINE CREEK NEAR RENO, NEV. (LAT 39 32 35 LONG 119 51 55)												
DEC												
21...	--	110	L124	--	--	--	--	--	177	7.4	--	--
JAN												
16...	--	100	M155	--	--	--	--	--	206	6.7	--	--

F FIELD DETERMINATION.
H INCLUDES 4 MG/L OF TURBIDITY.
J INCLUDES 1 MG/L OF TURBIDITY.
K INCLUDES 6 MG/L OF TURBIDITY.
L SUM OF CONSTITUENTS.
M SUM OF CONSTITUENTS, 135 MG/L.

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

DATE	TIME	WATER TEMPERATURE (°C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
PYRAMID AND WINNEMUCCA LAKES BASIN																	
10347800 PEAVINE CREEK NEAR RENO, NEV. (LAT 39 32 35 LONG 119 51 55)																	
DEC 21 1969	1345	4.5	E.10	6530	AE 1.8	--	--	--	--	--	--	--	--	--	--	--	
JAN 14 1970	1125	4.0	.03	9030	A .73	74	77	83	92	97	100	--	--	--	--	--	SPWC
JAN 16.....	1015	4.5	.86	1200	A 2.8	92	95	97	98	99	100	--	--	--	--	--	SPWC
JAN 16.....	1120	4.5	1.2	1390	A 4.5	--	--	--	--	--	--	--	--	--	--	--	
JAN 16.....	1200	4.5	1.2	1460	A 4.7	--	--	--	--	--	--	--	--	--	--	--	
JAN 16.....	1230	4.5	1.2	1490	A 4.8	--	--	--	--	--	--	--	--	--	--	--	
JAN 16.....	1340	4.5	1.3	1450	A 5.1	83	89	98	98	98	100	--	--	--	--	--	SPWC
JAN 16.....	1415	4.5	1.3	1450	A 5.1	--	--	--	--	--	--	--	--	--	--	--	
JAN 16.....	1445	4.5	1.3	1420	A 5.0	--	--	--	--	--	--	--	--	--	--	--	
JAN 17.....	0945	3.5	1.4	1020	A 3.9	94	96	97	98	98	100	--	--	--	--	--	SPWC
JAN 17.....	1150	4.5	1.7	909	A 4.2	--	--	--	--	--	--	--	--	--	--	--	
JAN 17.....	1725	5.0	1.7	756	A 3.5	--	--	--	--	--	--	--	--	--	--	--	
JAN 19.....	1400	--	.51	402	A .55	--	--	--	--	--	--	--	--	--	--	--	
JAN 21.....	1425	7.0	.15	281	A .11	--	--	--	--	--	--	--	--	--	--	--	
JAN 22.....	0930	7.0	.15	251	A .10	--	--	--	--	--	--	--	--	--	--	--	
JAN 23.....	1215	6.0	.05	216	A .03	--	--	--	--	--	--	--	--	--	--	--	
JAN 25.....	1445	4.5	1.1	726	A 2.2	--	--	--	--	--	--	--	--	--	--	--	
JAN 26.....	0950	3.0	.67	594	A 1.1	--	--	--	--	--	--	--	--	--	--	--	
JAN 29.....	1425	4.0	.67	368	A .67	--	--	--	--	--	--	--	--	--	--	--	
FEB 4.....	1345	6.5	.05	536	A .67	--	--	--	--	--	--	--	--	--	--	--	
FEB 18.....	1600	5.0	.01	82	A 0	--	--	--	--	--	--	--	--	--	--	--	
10351700 TRUCKEE RIVER NEAR NIXON, NEV. (LAT 39 46 40 LONG 119 20 10)																	
OCT 5 1969	1225	10.0	45	6	.73	--	--	--	--	--	--	--	--	--	--	--	
NOV 10.....	1515	9.0	37	3	.30	--	--	--	--	--	--	--	--	--	--	--	
DEC 15.....	1430	6.5	33	2	.18	--	--	--	--	--	--	--	--	--	--	--	
DEC 22.....	1230	5.0	2010	797	4330	27	37	48	61	71	77	90	100	--	--	--	VPWC
JAN 17 1970	1230	4.0	3530	894	8520	21	28	36	43	51	60	74	93	99	100	--	VPWC
JAN 17.....	1600	4.0	3280	732	6480	--	--	--	--	--	--	--	--	--	--	--	
JAN 19.....	1510	4.5	1780	164	788	--	--	--	--	--	--	--	--	--	--	--	
JAN 22.....	1430	5.0	5770	2380	37100	18	20	26	35	43	54	77	93	99	100	--	VPWC
JAN 22.....	1630	5.5	5980	2090	33700	--	--	--	--	--	--	--	--	--	--	--	
JAN 23.....	0930	5.5	4280	862	9960	--	--	--	--	--	--	--	--	--	--	--	
JAN 25.....	1145	3.5	4930	620	8250	13	17	23	28	35	43	59	83	99	100	--	VBWC
FEB 24.....	1515	7.0	1910	90	464	--	--	--	--	--	--	--	--	--	--	--	
MAR 30.....	1310	5.5	691	23	43	--	--	--	--	--	--	--	--	--	--	--	
MAY 4.....	1300	19.0	140	11	4.2	--	--	--	--	--	--	--	--	--	--	--	
JUN 1.....	1330	16.5	206	53	29	--	--	--	--	--	--	--	--	--	--	--	
JUL 2.....	1255	15.5	1070	94	272	--	--	--	--	--	--	--	--	--	--	--	
AUG 5.....	1310	20.0	81	22	4.8	--	--	--	--	--	--	--	--	--	--	--	
SEP 3.....	1400	20.0	78	12	2.5	--	--	--	--	--	--	--	--	--	--	--	

A TOTAL SEDIMENT.
E ESTIMATED.

INDEX

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